

Participation in Broadband Society

Edited by Leopoldina Fortunati / Julian Gebhardt / Jane Vincent

Jo Pierson / Enid Mante-Meijer / Eugène Loos
(eds.)

New Media Technologies and User Empowerment

Volume 6



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Recent developments in new media have led to the rise of what has become known as 'social media'. The shift towards mass self-communication has lowered the technological thresholds for everyday users to connect and to become 'produsers' in media life. However, the question is to what extent users interacting in this ecosystem are empowered – and not disempowered – to express their creativity and concerns and to obtain a prominent role in new media design and innovation.

« This collection provides numerous and refreshing insights into the claims about the ever more proactive role of users of ICT. It is a welcome and useful contribution to the field. »

Leslie Haddon (LSE – London School of Economics and Political Sciences)

« This work explores the rhetoric of user empowerment that surrounds Web 2.0. A very welcome addition to this field of research. »

Axel Bruns (author of *Blogs, Wikipedia, Second Life and Beyond: From Production to Produsage*)

Jo Pierson is Professor at the Vrije Universiteit Brussel – Department of Communication Studies / SMIT (Studies on Media, Information and Telecommunication) .

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Introduction: New Media Technologies and User Empowerment. Is there a Happy Ending?

Empowerment

Empowerment is a term that is so widely used in science, business, civil society and policy that it risks becoming an oxymoron: everybody talks about it but nobody dares ask what it really means, let alone carry out studies on this in a consistent and empirically reliable way. In general, empowerment refers to the capacity of individuals, communities and/or groups to access and use their personal/collective power, authority and influence, and to employ that strength when engaging with other people, institutions or society. It encourages people to gain the skills and knowledge that will allow them to overcome obstacles in life or work and ultimately, help them develop within themselves or in society (Wikipedia, accessed 14.07.2010). Empowerment is a multi-dimensional social process that helps people gain control over their lives. It is a process that fosters power in people for use in their lives, in their communities and in their society, by acting on issues they define as important (Page & Czuba 1999). The approach to empowerment proposed by Page & Czuba (1999) is based on a literature review, in which three major components to understanding empowerment are highlighted. In the first place, empowerment is multi-dimensional, in that it occurs within sociological, psychological, economic, and other dimensions. Second, empowerment occurs at various levels, such as individual, group, and community. Third, empowerment is by definition a social process, since it occurs in relationship to others.

This book deals with an additional dimension of empowerment whereby users try to gain control over their lives in relation to New Media Technologies and Information and Communication Technology (ICT). It provides a rich and diverse account of both empirical and conceptual/theoretical studies on the use and acceptance of media and ICT – as well as rejection and non-use – by ordinary people in their everyday lives. It builds upon earlier research in this area, a pioneering strand of which was labeled the “domestication approach” (Silverstone & Haddon 1996; Silverstone 2005, 2006). This book looks at these processes from a particular angle: the active role and contribution of users in the innovation process (Von Hippel 2005), the latter being conceived of as the interactive and social process of developing, designing, producing, marketing, adopting and using new media and ICT (Silverstone & Haddon 1996). The book shows that the new roles that are being taken up by users are strongly linked to user empowerment in the sense of users taking control in processes where they traditionally were not expected to play a role. This leads us to raise two key questions: Are users now becoming actors with an influence amongst many

other actors involved? Or rather: Are users taking over control from others in certain areas?

The evidence provided in this book helps us to address both questions. In the next two sections, an overview of the contributions to this book is presented according to the major questions raised above, thus not in the order as presented in the table of contents. A first series of contributions deals with users as active contributors to the innovation process. They look at understanding everyday users and usages in context and in practice and/or at the role users play in the development, design and adoption of new media and ICT. A second series of contributions deals with the impact of user contributions in the media domain in the wider sense, revealing the changing roles of users and their impact on power relations and control in the media sector. In the next section of this introduction, additional evidence from our own research is presented to document further whether user empowerment is taking place in the domains of work, politics, education and government and if so, how. In the last section, it is argued that while full empowerment has not been reached through ICT, the underlying processes and activities involving millions of people who are now connected online, cannot and should not be ignored either.

Users as active contributors in the innovation process

The chapter by *Mante-Meijer and Loos* (Innovation and the Role of Push and Pull) looks at changing user roles from the angle of how the innovation process is affected. In particular, it looks at the interaction between innovation that is pushed by technologists, economy and politics and the active role of users in the uptake, rejection, use and/or re-invention of the innovation. Using the theoretical frameworks of Weick (“enacted environment”) and Giddens (“duality of structure”), they observe a dynamic sense-making process between societal structure and user practice. This is part of a choice making process: people can be forced (pushed) or enticed (pulled) into certain actions. In this process, enablers and constraints are found. Based on an analysis of several cases the chapter concludes that, due to this interaction and choice making process, there is a lag between supply and use of technological innovations. Push can only be successful if the right enablers are brought into play and the innovation fits the capabilities and sense making of potential users.

The chapter by *Kerr, De Paoli and Storni* (Rethinking the Role of Users in ICT Design: Reflections for the Internet) reports on work from an interdisciplinary project which explores the design of future telecommunications services, networks and applications, particularly focusing on the internet. The authors refer to Woolgar and others, who find that every process of innovation, design and development can be characterized as a struggle between competing conceptions of the user and that there is a diversity of users and practices in which users and non-users can be disruptive and dangerous, but also provide

value and drive innovation. They also refer to Van Dijck, who argues for a more critical view of Social Media, as many users play relatively inactive roles (lurking, viewing, rating, etc.) and do not create or design themselves. However, there is also the role of the design of ICTs in regulating/controlling user behaviour and user profiles, as the authors show on the basis of two contrasting case studies. The “Multics system” provides an example of a trusted system in which protection and security prevail over user freedom. The open hardware “Arduino case”, on the other hand, foresees multiple user roles with little separation between users and designers. The authors conclude that there are no clear-cut, easy answers as to whether we are really moving towards more user freedom (“drift”) or rather towards a restriction of this freedom. Further empirical research on the role of users in internet design is needed.

Stewart and Claeys (Problems and Opportunities of Interdisciplinary Work Involving Users in Speculative Research for Innovation of Novel ICT Applications) focus on some of the challenges faced by multidisciplinary teams working on interdisciplinary research into innovation in ICT applications, based on their personal experiences. There are generally four main disciplines brought to bear in research on speculative applications of ICT: engineering, design, social science and business development. Each has its own approach to formulating questions and providing answers, methodologically, culturally and even philosophically. They also have different ways of reflecting on these practices. The key question for this chapter is thus not only what difficulties can arise in interdisciplinary research involving users, but also how the methods and outputs of user research can make interdisciplinary research more successful. The authors provide an overview of the most commonly used research methods and the value generated by the different disciplines. They argue that there is a need to better define and understand these divergences, to identify pitfalls and also to highlight the creative and analytical opportunities arising from the involvement of users in interdisciplinary research.

Vangenck, Pierson, Van den Broeck and Lievens (User-driven Innovation in the Case of Three Dimensional Urban Environments) argue that a thorough understanding of media technology users has become vital in technological design and development, in order to increase the chances of new products and services living up to the expectations, characteristics and practices of future (end) users. Theoretically, the authors envisage linking the perspectives of “User-Centred Design” (UCD) and “User-Driven Innovation” (UDI) with the domestication approach that looks at how media technologies are domesticated in people’s everyday lives. The URBAN project, which deals with the effective and efficient handling of 3D data for urban environments, is used as a case study. The authors observe no easy match between current and future user practices (identified by means of the domestication framework) and the objectives and expectations of technological project partners, who are mainly concerned with fine-tuning and experimenting with the basic technology of 3D modelling. However, it is possible to combine both approaches, first by

identifying innovation opportunities from the users' point of view and second, by allowing all the stakeholders involved to steer the development process in an iterative way. This could lead to a more thorough understanding of users which would result in finding new opportunities to create value, and a systematic/planned involvement of users throughout the entire innovation process.

Collaborative design involving ordinary users is also discussed by *Marttila, Hyypä and Kommonen* (Co-Design of a Software Toolkit for Media Practices: P2P-Fusion Case Study). They describe and analyse the development of an open source software toolkit for creating audiovisual Social Media applications which were to be co-designed by communities of everyday people. The authors acknowledge that, in practice, co-design for a large, distributed and multi-disciplinary project is far from simple, requiring, amongst others, a carefully planned strategy for continuous and effective mobilization of the co-design partners. Other challenges relate to a common understanding and timely use of mature enough prototypes. The authors show, however, that despite its challenges, design for openness and for designability is something that designers, technology developers and institutions need to learn, because in the rapidly evolving global and open digital ecosystem, only collaborative and designable systems and components will be able to respond to the increasingly sophisticated demands of the evolution of the practices of people.

The chapter by *Ely, Frohlich and Green* (Uncertainty, Upheavals and Upgrades: Digital-DIY during Life-change) provides an interesting angle on the dynamics of change in dealing with digital technologies when life changes occur. What they refer to as "The Problem of Digital-DIY" can crop up when people experiencing life changes configure and re-configure their domestic entertainment, information and communication technologies. The chapter describes pilot studies and empirical research into people going through a life change, and makes it clear that this not only involves a broad social network, real and virtual, but also that digital-DIY is studded with "problem-solving" opportunities just like those found in traditional DIY activity. The authors conclude that digital-DIY is a very "social" activity that reconnects not only artefacts but also people. Moreover, experts, non-users and non-experts alike give their advice, guidance and support. In most cases, there is a real sense of satisfaction on completing the technical set-up, although tensions also arise when the community activity is undermined by significant infrastructure problems with power, cabling and broadband connectivity. The authors conclude that there is still much to do to support even the most knowledgeable users.

Although the internet is becoming widespread in Hungary, too, *Szekely and Urban* (Over the Innovators and Early Adopters: Incentives and Obstacles of Internet Usage) investigate the incentives and obstacles of internet usage and non-usage, linked to the different user groups identified by Rogers in his work on the diffusion of innovations. Internet usage today is highly influenced by

age, education and social status, and as a result, incentives and obstacles can be very varied, depending on these differences. This chapter reports on qualitative research on non-users. Though non-users do not deny the general importance of ICT, they see the more negative characteristics of ICT developments, and in particular those related to physiological effects, mental effects and social effects. Non-users have stereotypes about users: they sit in front of computers all day, and they only have virtual relationships. Interestingly, non-users accept the information and communication functions of the internet, but they consider the entertainment aspects to be harmful, causing serious addiction. Also negative images in the media deter people even more. The authors argue that the reasons for refusing to use ICT are complex, and as result, that strategies to tackle these need to take that complexity into account. They propose an approach to change the attitudes of non-adopters by focussing on the practical aspects of the internet and its strength in information provision.

The chapter by *Törnqvist* (In Search of Elks and Birds: Two Case Studies on the Creative Use of ICT in Sweden) describes and analyses two case studies on how users can function as innovators by using already-established ICTs in creative ways. The two cases are about mobile recreational activities in nature, namely elk hunting and bird watching. The chapter demonstrates that the social context plays a significant role in the introduction and use of ICT and that the development takes place in interaction between individuals. Companies wanting to innovate without a knowledge of the social and cultural structures in which the innovation will take place, face high risks of failure. The difference between the two case studies is that in the case of elk hunting, the hunting association and its web editor are the main actors driving the development of ICT creative uses while in the case of bird watchers, the main actors are both producing users and everyday users (different bird watchers with different technological knowledge and competence) who are active during different development stages. The author argues that, in the process of innovation, both enabling and constraining factors can emerge, depending on which “virtual pocket of local order” the user belongs to. Though everyday users are not innovators in the sense that they (mainly) produce an artefact, they do expand the use of existing equipment and resources which they already are familiar with.

Stewart, Coyne, Travlou, Wright and Ekeus (The Memory Space and the Conference: Exploring Future Uses of Web2.0 and Mobile Internet through Design Interventions) dig into the possibilities of Web2.0 and personal mobile media for collective memory practices. The chapter explores experiments with a “Memory Space”, which concentrate on the building and testing of a tool to make the intense and multilayered experience of a conference more productive and reorienting. It particularly taps into the use of place and space as key elements in producing and linking to memories of encounters and ideas. It suggests new ways to record and access informal conversations and encounters using mobile messaging, social networking, text, images, voice and video, and linking these with the formal and informal physical spaces of conferences using

the web, GPS, and mobile phone interfaces, thereby creating a much richer record of a conference than formal conference proceedings and private memories. The authors argue that memory practices will probably be radically changed by new media, as we will be able to recall not only “facts” from the Web, or communicate in real-time, but also selectively leave and reuse all sorts of traces of our public and private activities. On the spatial dimension, we have a range of new ways of activating our experience and use of space and place using new ICT that are being widely explored. They suggest that the junction of the two domains of space and place opens up considerable scope for design, technical development and academic enquiry.

Changing roles of users impacting power and control in the media sector

The chapter by *Frissen and Slot* (The Return of the Bricoleur: Redefining Media Business) focuses on the transformation of the traditional media audience since the 1980s and the resulting substantial changes in user/producer relations that have taken place within the media and entertainment domain. To understand this changed role of users, the authors point to a return of the user as “bricoleur” (Lévi Strauss), as opposed to the user as consumer separated from the producer as engineer. Based on evidence from five specific Social Media transitions (P2P file-sharing, podcasting, interactive television, citizen journalism/blogging and internet community games) impacting the media domain (music, radio, broadcasting, the press, gaming) it is concluded that this role of the user as “bricoleur” represents a fundamental shift in user/producer relations.

The chapter by *Proulx and Heaton* (Forms of User Contribution in Online Communities: Mechanisms of Mutual Recognition between Contributors) analyses the types of online user contributions that emerge in five different Social Media applications: i.e. in the collaborative encyclopedia Wikipedia; online citizen journalism; the practices of free software developers; the immersive universe Second Life and audio podcasting. Proulx and Heaton are seeking the unique social form that transcends these new collaborative practices for internet-based content creation and exchange. The author refers to a shift to “participative culture” practices (Jenkins) and to “produsage” (Bruns) to account for these active user roles. A regime of “conflictual cooperation” between mainstream media and new, individualized mass communication media is observed. Which of the two possible scenarios (continuation versus disruption) will prevail remains an open question.

The chapter by *Slot* (Web Roles Re-examined: Exploring User Roles in the Media Environment) examines user roles in online media entertainment. The author refers to both positive views (e.g. Leadbeater, Tapscott & Williams) on active users in the area of web 2.0 as opposed to the passive consumers in the traditional media domain, and to more critical approaches to user empowerment (e.g. Keen, Dreyfus) pointing to problems related to quality, truth, reliability and

triviality. The author then draws on her own empirical research (an online user survey) to further deal with the key questions of how important these new user roles are and whether user empowerment is truly a disruptive development. Slot argues that, like no other media before, computers and the internet have lowered the threshold for a very large group of users to take on a variety of roles in the media domain on a large scale. The internet is more integrated into people's lives than ever. Overall, it seems that users are very active online. Consumption and communication roles (more traditional audience roles) are the most popular online. The variety within these roles is large and users engage in these activities very often. Other less traditional roles are carried out by many users, but less often, and a distinction can be made in this case between more active and less active sub-roles. Less active sub roles like customizing, selling, voting and sending content to others via e-mail are more important than activities like writing a weblog or making a website. Slot concludes that the 90-9-1 rule (90% audience or lurkers – 9% contributors – 1% creators) developed by Nielson does not adequately account for the diverse and dynamic picture that emerges when describing user activities in the online media entertainment domain.

The chapter by *Bannier* (The Musical Network 2.0 & 3.0) examines the changes brought to the musical network by current Web 2.0 applications and future Web 3.0 applications, paying particular attention to the role of the user in the processes of creativity, reproduction, distribution and consumption, which together constitute the musical network. Based on a theoretical reflection and a literature review, the author shows that all processes within the musical network are indeed affected by the rise of current and future Social Media. Networks of creativity are changing, now that relations between artists and fans are becoming more direct, leaving the traditional music industry actors to one side. Artists are becoming prosumers as they are able to produce their own albums. This also affects the networks of reproduction as, with digital technologies (e.g. MP3), music is becoming detached from physical support, making room for knowledge-based semantic processes such as filtering, navigating, tagging, etc. The distribution network has also changed now that music can be distributed digitally via internet-based networks, reducing the cost of distribution to almost nothing. Finally, the networks of consumption, covering those places in which musical products are purchased, are becoming connected to all the other networks. Before, record companies and other music industry actors influenced every network, but now they are influenced by the internet user. The same developments can be seen with the advent of Web 3.0. Although Web 3.0 applications may provide users with fewer online content generation possibilities at the expense of the data and metadata they create, their aim is to provide the user with personalised and enriched content.

The chapter by *Picone* (Mapping Users' Motivations and Thresholds for Casually "Produsing" News) presents the results of a diary study and in-depth interviews with 18 respondents on their motivations and thresholds for engaging with the news or becoming "producers". The author makes a conceptual

distinction between consumption (non self-publishing), casual production (occasional self-publishing) and structural production (continuous self-publishing). This chapter focuses on casual engagement with the news, rather than on the more structural activities like blogging about news or citizen journalism. The author argues that production and consumption of news are very distinct activities in the mind of the consumer and that user motivations for engaging with news can be articulated along three dimensions: social (social reflex), personal (self-confidence) and substantive (news content). An additional dimension related to producing news-related user-generated content is the role of the authority of the producer. The author stresses that the consumption/production dimension does not imply linearity. A consumer is not at all bound to become a “produser”. The author concludes that a better understanding of the news “produser” role is not only needed academically but that this could also help the news industry to turn the current crisis into an opportunity.

Other high impact areas of Social Media: Work, politics, education and government

During the last few years, researchers – including myself – at the European Commission’s Institute for Prospective Technological Studies (IPTS) have undertaken extensive research on the socio-economic impacts of Social Computing, Web 2.0 or Social Media on the European economy and society. Our research has looked into the emergence, breakthrough and use (Ala-Mutka 2008; Cachia 2008; Pascu 2008), and impact – both actual and potential – of Social Media applications in multiple domains and/or sectors: media, entertainment and ICT sector (Punie et al. 2009b); business, work and enterprises (Lindmark 2009); government and administrations as well politics and society (Misuraca 2009; Punie et al. 2009a); education and learning (Ala-Mutka 2010; Redecker et al. 2010), inclusion and integration (Kluzer & Haché 2009); health (Valverde 2009); mobile (Feijóo 2009) and identity (Lusoli & Cachia 2009).

On the basis of this multi-sector evidence (Punie et al. 2009b), we summarized the actual and potential impacts of Social Media according to two trends that are especially relevant for user empowerment. First, new collaboration models, in which users play new roles in content creation (e.g. user-generated content), in providing peer support (e.g. *PatientsLikeMe*) and in service delivery (e.g. *PatientOpinion*) are driving bottom-up social innovation processes. The open, user-centric and participative functions of Social Media applications enable new horizontal collaboration models to emerge which attract users across sectors, institutions and geographical locations, because they are perceived to be empowering by these actors. Second, Social Media-enabled collaboration is giving rise to the creation of collective knowledge as a new

peer-created resource (e.g. *Wikipedia*, *PeerToPatent*) and allows several actors – governments, politicians, civil society, intermediaries and citizens – to use it for new purposes, including the achievement of public goals (e.g. *Theyworkforyou*, *Wikileaks*, *Fixmystreet*, etc.). Users join Social Media applications to create, review, refine, enhance and share information around specific topics of interest, e.g. professional, health-related or political. Collective knowledge is thus gathered by employees, citizens and governments, patients and doctors, and teachers and learners, allowing them to use it for new purposes, including the achievement of public goals (Centeno et al. 2009).

As documented in Punie et al. (2009b), both new user roles and collective intelligence gathering have emerged in:

- **Workplaces**, both public and private, where employees play an active role and join interest communities outside the organisational framework in order to have better access to and jointly build new knowledge, improve skills, keep informed about the activities of others, and find out about new jobs or recruit new colleagues. Social Media tools are being increasingly adopted in enterprises to generate and use new knowledge to improve internal work processes, products and services. Concretely, access to user-generated knowledge available on professional social networking sites such as *LinkedIn*, increases the cost efficiency of recruitment processes. Customer-generated knowledge on product performance, usability and design is used by enterprises to improve product characteristics. Employees are increasingly using Social Media peer-produced knowledge to upgrade their skills and knowledge and for networking. Also, the availability of user-generated knowledge on product and service quality (e.g. as on *Tripadvisor*) empowers consumers in their purchasing choices, and increases product competition on quality and price. Overall, these elements could positively contribute to increasing enterprise competitiveness.

- **Politics and society**, where citizens and groups of citizens organise collective action across borders and cultures. Citizens organise themselves to support and complement public organisations. Examples include citizens collaborating in disaster management, or controlling politicians and governments (e.g. *Theyworkforyou*). Social Media collective knowledge can enhance political participation. Social Media empower users and civil organisations to build, manage, access and distribute government and political information, lowering the barriers for the citizen participation and engagement in policy and political decision-making. Social Media also provide tools to gather citizens' opinions on a massive scale. This more comprehensive consultative process allows for better-informed public decision making. Websites like *Peer to Patent*, *Fixmystreet*, and *MyBikeLane* provide diverse examples of information generated by citizens on the basis of their own local or specialised knowledge, opinions, and needs, which can be effectively used by governments to provide higher quality services that are more citizen-centred and cost-efficient.

- **Education and learning**, where students collaborate among themselves and with teachers, inside and outside formal education boundaries, and also across borders. Social Media support the creation of and access to learning materials such as on-line encyclopaedias, multimedia and immersive environments and podcasts by learners and teachers. These materials can be developed in a collaborative and distributed process, and delivered with flexibility. Examples of applications which support this process include the language learning site *LiveMocha* and the educational material sharing site *Connexions (cnx.org)*. Collaborative learning models open up alternative learning channels by linking learners to experts, researchers and practitioners. Teachers co-develop teaching content and pedagogic methods and provide peer support. Social networks and communities of interest arise around common learning interests and facilitate learning by providing social and cognitive guidance and support. Examples of educational applications include *Cloudworks*, a site for sharing learning and teaching ideas and experiences, *interactivewhiteboardlessons*, a teachers' resource site for interactive teaching, and *RezEd.org*, a resource site on virtual worlds for learning.

- **Government and public administration**, where various stakeholders collaborate on service provision, policy development and enforcement. Examples of such applications include *PeerToPatent*, which harnesses the knowledge of citizen-experts to improve patent quality; *Theyworkforyou*, where citizens track the activities of elected and unelected representatives in government; *Intellipedia*, which links the US intelligence community and provides a peer-to-peer content creation platform. Other applications include *Fixmystreet*, which allows people to report and discuss problems such as speeding cars and broken pavements, and *Mybikelane*, which allows people to report cars which have parked illegally in bike lanes. Social Media user-created knowledge also has a positive impact on multiple facets of public health and healthcare. From the patient perspective, Social Media-enabled user-created knowledge on health facilitates and stimulates self-care and responsibility by empowering both patients and healthy citizens. Social Media communities developed around targeted illnesses, such as in *Patientslikeme*, also provide improved access to medical information, care and social support. From the doctors' perspective, collective knowledge created by doctors can enhance medical knowledge and, as a result, healthcare quality. An example of this application is *Ganfyd*, a user-generated and evolving medical text book. From the health management perspective, the collection of patient experiences through Social Media applications, such as in *PatientOpinion*, provides a tool to improve health service quality management. Knowledge created by wiki tools also helps to organise a coherent, collective and more effective answer to pandemic diseases.

- Social Media provide new tools for **social support and social inclusion**. This is particularly important for groups at risk of exclusion, for instance, in the socio-economic integration and participation of immigrants and ethnic minorities (IEM). In particular, Social Media can support the integration of local and immigrant communities and help them find jobs. Social Media can also provide social networking tools and content that help IEM to maintain and develop connections with friends and relatives in the country of origin. Applications in this area include *CousCous Global*, a website that allows young people all over the world to engage in intercultural dialogue through ICT-mediated debates. However, the need for specific skills to be able to benefit from the advantages of Social Media also brings the risk of a new level of digital divide. Indirectly, Social Media tools also empower Civil Society Organisations (NGOs, voluntary groups, associations, etc.) which play a significant role in fighting social exclusion. Concretely, it enables easier participation, wider knowledge aggregation and broader dissemination, and consequently improves resource collection and utilisation and operational efficiency. Examples of applications in this domain include *Avaaz.org*, a new global web movement to improve the world, and *Mobileactive.org*, a community of people and organisations using mobile phones for social impact.

- **The media sector**, where users collect, report and distribute information about events (Cf. infra). In this way, users produce citizen journalism (e.g. *Twitter*) and become producers of user-generated content (UGC). New user roles are creating novel opportunities for public and private organisations to incorporate user-created *content* and new *actors* into their value chain. Hence, bottom-up user-driven organisational innovation together with dis-intermediation and re-intermediation processes are taking place, transforming the roles of actors and their relationships. For example, learners are taking an active role in their learning as co-creators and evaluators and, as a result, the teacher's role is evolving towards empowering learners to make use of the available resources and tools for their learning. Patients are taking a more active role in managing their health and are becoming much savvier on health and healthcare, which stimulates self-care and responsibility and changes the nature of the patient-doctor relationship. Users are sharing their healthcare experiences, becoming new actors in the quality management value chain of healthcare institutions. Finally, citizens have also become new content providers for the media industry, a trend further reinforced by real-time mobile applications “on-the-go”.

This user-driven innovation often challenges the role and functioning of private and public organisations, and thus becomes a potential driver for disruptive change. For instance, changes brought about by Social Media defy traditional actors in the media and publishing industry as discussed above. Changes in learning and teaching are also challenging existing education and training structures and practices. Additionally, Social Media provide

opportunities for mass collaboration among citizens, which in turn demands that public organisations and governance processes are more accountable and transparent.

Finally, social innovation is also generated as it is now possible to address effectively sub-critical (long tail) needs which have been until now relatively intractable due to invisible demand or dispersed user communities. Social Media production, sharing and collaboration tools can connect scattered user groups and individuals who share the same interests allowing, for instance, research and advances on rare diseases, the connection of dispersed communities of ethnic minorities or citizen organisations to act as pressure groups around a very specific or minority topic.

The two major trends observed here are based on an analysis of emerging practices and potential uses of Social Media and thus still need to become much more widespread to really have significant and disruptive impacts. Moreover, to realize the full potential of Social Media, a number of challenges need to be addressed: security, safety and privacy risks; the need for institutional innovation and spontaneous and self-governing mechanisms, new skills and digital competences for all actors using these tools. To reap the benefits of Social Media, public sector leaders, decision makers and companies will need to commit to a more open, transparent, dynamic and broader-based dialogue with citizens and consumers. Traditional boundaries will become blurred and new governance models will need to be agreed (Centeno et al. 2009).

Outlook

The practices and examples mentioned above and the many contributions in this book show strong potential for user empowerment and changes in service delivery. There is, however, counter-evidence that existing players and institutions are using Social Media to maintain and/or reinforce their positions or to continue with "business as usual". The debate on empowerment vs. commodification was recently re-activated by Castells and Fuchs: the former argues that a new power struggle is emerging between the global corporate multimedia networks and the creative audience (Castells 2009) and the latter wonders if there is room for real counter-power and autonomy or is it rather about the total commodification of human creativity (Fuchs 2009)?.

This book provides an important contribution to the debate. It delivers evidence for the argument that neither empowerment nor commodification truly reflect the reality, but rather that this is a specific combination and articulation of both, depending on the context, the type of users, their everyday environment, their resources and on the type of technologies, their purpose, their state of development and many other factors and actors. These specific constellations make it very necessary, but also very difficult, to reach a clear conclusion on user empowerment, which also depends on how the latter is defined and made

operational. This book, therefore, argues in favour of continued attention for and research on user empowerment and new media technologies. And while no happy ending has (yet) been reached, the activities and contributions of millions of people who are now connected online, enabling them to act together on issues they regard as important, cannot and should not be ignored.

Note: The views expressed in this chapter are those of the writer and do not necessarily represent an official position of the European Commission. Neither the European Commission nor any person acting on behalf of the Commission is responsible for the use which might be made of this publication.

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Part 1 - Theoretical Perspectives on User Involvement and Empowerment

Innovation and the Role of Push and Pull

Introduction

In 2000, the European Council and the Commission presented the “Action Plan eEurope – An information society for all”, which contained a number of defined actions, clustered around three main objectives. These were (1) a cheaper, faster, secure internet, (2) investing in people and skills and (3) stimulating the use of the internet. The Plan envisioned the evolution of the “Broadband Society”: a society in which broadband technology has become the universal medium used by all people in Europe. Widespread broadband deployment would yield benefits for all citizens and would give Europe an innovative competitive edge in today’s globalizing society. According to the Action Plan, the eEurope targets and broadband society were to have been realised by the year 2010.

Now, having reached the year 2010, we see that both governments and technologists have developed a plethora of activities in this direction. Nevertheless, eEurope is still a far away goal. A mismatch remains between society and technology, with technology considerably outpacing societal use of its possibilities. What could be the reasons behind the lag between technological possibilities and their actualisation?

To understand the reasons for this gap, it is necessary to look at how technological innovations find their way into the everyday lives of individuals and groups of citizens. Weick (1969, 2001) and Giddens (1984) respectively introduced the concepts of “enacted environment” and “duality of structure”. When confronted with demands in their environment, people make sense of structure, “a recursively organised set of rules and resources” (Giddens 1984, 25) by “enacting” their environment. This sense making results in practices, which in turn influence structure (“duality of structure”) and is part of a choice-making process: people can be forced (pushed by other instances) or enticed (pulled) into certain practices.

In this process, we find enablers and constraints that facilitate or hinder certain choices. Several theories provide insight into the innovation process and the enablers and constraints that play a role in innovation. In this chapter, sense making in the process of technological innovation is discussed within the perspective of general diffusion theory, domestication theory, capability theory, theories of risk taking and choice making theory. First, we take a close look at how push and pull play a role in the creation of the Broadband Society and the resulting innovational practices by users and we discuss the concept of “innovation” and the role that is played by creativity and time in the innovation process. Then we offer a number of illustrative cases that show the diverse factors playing a role in the innovation process and the theories mentioned

above are elaborated in order to show how the innovation process is enabled or constrained. Finally, we analyse these cases in the light of the different theoretical perspectives provided by these theories.

Our main questions are:

- What is innovation in the Broadband Society?
- Which aspects of innovation can be distinguished?
- What is the role of push factors and pull factors in this innovation process?
- Which enablers and constraints can be distinguished during this process?

Aspects of innovation

Introduction

Wikipedia gives the following general definition of innovation:

“The term innovation means a new way of doing something (...) It may refer to incremental and emergent or radical and revolutionary changes in thinking, products, processes, or organizations.”

Often defined as “ideas applied successfully”, importantly, innovation is always coupled to a practice or behaviour by users (McKeown 2008). Byrd (2003) equates innovation with creativity and risk taking: old ways have to be abandoned; new ways and behaviour have to be adopted.

This process may be completely voluntary, or may be forced by external agents. Innovation may mean completely new, different behaviour; it also may imply small changes in the customary way of doing things by individuals or groups of individuals. Innovation may be imposed under pressure of some external agent or instance, or may be voluntary because the new behaviour is more conducive to reaching a certain goal. Innovation may be the result of push (coerced or enticed) or of pull (engendered by specific needs and wishes of individuals)

In this section, we focus on a special brand of technological innovation: the adoption of broadband technology in order to create a broadband society. In the discussions of Workgroup I of Cost 298 (Users as innovators), four aspects of innovation were distinguished, which span the continuum from completely free and voluntary, user driven pull to externally forced push:

- Creative finding of new uses of existing or new technology by the user. In general, the users themselves customise and adapt technology in order to fulfil a certain desire or need. This is a voluntary pull process (SMS text messaging is a well known example). Users are free to choose whether or not to participate.
- Domestication of adopted new technology into everyday life and work (incremental discovery of possibilities of technology; e.g., use of the pc for increasingly more aspects of everyday life). Choices are influenced by how well users adjust to the new technology and are willing to try out new possibilities.
- Social innovation, another form of incremental innovation: adopting and using new technology under the pressure of significant others (e.g. use of email as a generally accepted communication mode). Choice is restricted or enhanced by the social community of which the user is a member.
- Adopting and adaptation to new devices, prescribed by politics, technology, management, legislation etc., or forced by structural policy (e.g. digital TV, e-government without non-digital alternatives). Such new devices leave no other choice.

Innovation and the role of creativity

From the definitions of innovation, it is clear that innovation is a relative concept. It might mean a completely novel use of something, invented by the user (creative innovation), but it can also mean a new behaviour, in which the person breaks with old habits: e.g. starting to use the internet after years of refusing to because postal services are adequate enough. It can mean the step by step discovery of the wider possibilities offered by a new service or gadget, such in the case of those who at first use the internet only for email and then discover that it is very handy for banking transactions or for booking a trip. Innovation can be individual, or it can be collective for a group of people or for an organisation. Innovative behaviour can be pushed (forced) by external agents like industry, government, organisation or social community, or it can be asked for (pulled) as the result of the actual or perceived needs of individuals or groups.

Innovation and time

Each innovation needs a certain time to reach the users and become an institutionalised way of doing things. Some innovations never enter this stage. A well known example from the eighties is the video telephone, that pundits predicted was to become *the* communication mode of the future. Although the

feature was introduced several times, it consistently failed to find a circle of users numerous enough to be economically feasible (Ortt 1998). Only now, as a part of internet telephony, has it finally taken its place among the many modes of modern communication.

At the other end of the spectrum is the phenomenon of SMS text messaging, which emerged as a wholly new and innovative way of using the mobile phone. "Texting" arose spontaneously and succeeded in becoming, within a very short time frame, common technology that is widely used all over the world.

Falling somewhere between these two extremes is the case of pc and internet use, pushed widely by industry and governments. Today's modern society is unthinkable without these technologies. Nevertheless, there is a huge lag between the possibilities that are offered and the actual use that is made of them by individuals and organisations in the different countries of Europe.

What is behind adoption of innovation? What makes people adopt and what makes innovation spread over a wide population of users? What, on the other hand, hampers adoption of (certain types of) innovation in spite of great efforts from industry, governments etc. to make this part of daily life? The next section presents a number of short examples of more or less successful adoption of broadband technology for communication, information and transactions. In some cases, adoption was strongly pushed by external agents, in other cases, pull by users played the most important role.

Some cases

Internet for information and interaction with citizens

One aspect of broadband society is that, within Europe, the internet is assumed to be the main vehicle used by all European citizens to interact with their governmental institutions, whether to obtain information, submit information or to benefit from government e-services and online transactions.

The Netherlands are among the countries in Northern Europe with the highest diffusion of broadband and internet. Particularly, the rollout of broadband occurred at a rapid pace in this country: Between 2001 and the present, a large majority (more than 70%) of all Dutch citizens invested in a broadband connection for their pc, mostly by upgrading their telephone line or using a cable modem. Recent research in the Netherlands, however, shows that despite a constant push and the availability of broadband in the majority of the Dutch households, citizens still do not use the internet as a source of information on relevant issues as a matter of course (Van Deursen et al. 2006).

The most successfully pushed use of on-line interaction between citizens and government is the use of the internet by the Dutch income tax system. The year 1998 saw the introduction of the electronic income tax return. From the very start, citizens were enthusiastically encouraged to file their returns