Beyond the Buzz: Participatory, sustainable, convergent and high quality public e-services –developing methods and practices in India and Sweden

Sara Eriksén and Annelie Ekelin

Department of Interaction and System Design, School of Engineering, Blekinge Institute of Technology, Sweden
sara.eriksen@bth.se, *annelie.ekelin@bth.se*

Abstract. Can buzzwords be methodically exploited to develop more self-reflective and participatory research methods and practices within the ICT area? Research policies as well as research funding agencies rely heavily on buzzwords, yet tend to grow uncomfortable when these are deliberately highlighted and concatenated in research applications. This paper presents a multi-disciplinary R&D project in which we are exploring emerging methods and practices of participatory design of public e-services in India and Sweden. Using buzzwords as boundary objects, comparing methods and practices, with specific e-government projects we are involved in as examples, we attempt to address blind angles inherent in different cultural and disciplinary perspectives.

Introduction

Can buzzwords in ICT discourse, in the official language of science policies and research funding agencies, be methodically exploited to develop more self-reflective and participatory research methods and practices within the ICT area? Including promoting a heightened awareness of global issues of sustainable development? The research project *Participatory, sustainable, convergent and*

high-quality public e-services – developing methods and practices, with its deliberate concatenation of current buzzwords already in the name, aims to explore, map and compare emerging methods and practices for participatory design of public e-services in India and Sweden, with particular emphasis on public e-services which support sustainable rural development. The project is being carried out within a framework of on-going multi- and interdisciplinary research cooperation between researchers at Blekinge Institute of Technology and the TeNeT Group at IIT-M, Chennai, India, within the *Swedish Research Links Asia* program (Swedish Research Council application number 348-2006-6728). The approach is multi- and interdisciplinary, and involves researchers from telecommunications, computer science and human work science, as well as from informatics.

We have been cooperating in multi- and interdisciplinary research projects for a number of years and have learned through experience, here articulated with the aid of conceptual tools borrowed from Science and Technology Studies (STS), that in this kind of projects we need to develop ways to work consciously and methodically with a number of different systems of representation, or epistemic cultures (Woulters et al, 2008). What is perceived as a research object in one research community – what Rheinberger calls an "epistemic" object, embodying that which is not yet known, and thus used for generating questions - may be understood as part of the technical repertoire of the research environment in another, and vice versa (Rheinberger, 1997, p. 29, as quoted in Wouters, 2006, p. 8). Yet we are not primarily involved in this specific project in order to study epistemic cultures per se, but rather to explore evolving methods and practices of both research concerning, and actual design and development of, public e-services in India and Sweden. The R&D projects we are involved in generally have the ultimate goal to develop and implement new public e-services. In this sense, we are actors in the field we are studying, not observers from without. Our language is "actor's speak" (Wouters, 2006, p. 9) – there is no clear "them" and "us" here. Instead, in this exploratory paper, we focus on the "actor's speak" and attempt to turn buzzwords into epistemic objects for our project work.

One of the areas where the Swedish and Indian project partners have research projects running in parallel concerns public e-services for planning of land usage. The Indian research partners are currently focusing on sustainable rural development, including Internet access points in rural villages offering information, support and competence development for farmers and small businesses, while the Swedish partners are involved in a national project, *Planeringsportalen*, where the aim is to develop more transparent, coherent and accessible strategic planning processes at a regional and local level as well as nationwide. The approaches to participatory design and active citizenship vary both within and between the projects.

In the shared research project presented here, we are using a deliberately multi-perspective approach, alternately squinting at and focusing on our objects of study from different perspectives, as it were. By stringing together a number of current buzzwords within on-going Information Society discourses, and attempting to relate them more explicitly and situatedly to methods and practices which are developing in this area, using specific e-government projects we are involved in as examples, we can begin to address some of the blind angles which are inherent in different cultural as well as disciplinary perspectives. Thus, we are deliberately using buzzwords as conceptual boundary objects, acknowledging both their slipperiness in this function and that the concept of "boundary object" per se has become a buzzword in scientific discourse. We are trying to get a better grasp of what these buzzwords might mean in a specific context, *and* gain a better understanding of evolving methods and practices within public e-service development, by concrete, situated "buzzword application".

The long-term aim of the project is to develop more self-reflective and participatory research methods and practices within the ICT area, including a heightened awareness of global issues of sustainable development. Beyond the buzz. This paper is, however, an early work-in-progress paper, in which we primarily focus on the string of buzzwords in the project title and begin to explore how they might be problematized and deliberately put to use as "epistemic objects", and as part of a co-constructive research approach in the various contexts of our project.

Beyond the buzzwords

Buzzwords play an important part in framing solutions in today's fast-moving world of development policy, according to Cornwall and Brock (2005). They provide a sense of direction, and lend legitimacy to justify various stakeholder's interventions. "It is an almost inherent property of buzzwords that they facilitate a multiplicity of contigent, situational and relational meanings", Cornwall and Brock argue. "How these come to be negotiated in particular settings would reveal further differences in perspective, and the way in which these perspectives are translated into concrete practices involves further layers of contestation over meaning." (Cornwall and Brock, 2005:2). They refer, as an example, to a study on "participation" in the Swedish International Development Agency, Sida, in which one of the conclusions drawn was that it may be time for *clarity through specificity*, i.e. for more emphasis to be given to naming the different activities that "participation" involves, thus making more evident some of the differences between the approaches that inform them (Cornwall and Pratt, 2004:27). As Cornwall and Pratt point out, the need for 'clarity through specificity' was argued already by Cohen and Uphoff (1980), at the end of the decade in which participation made it into the policies of mainstream international agencies.

Buzzwords, as Cornwall and Brock define them, bear a certain black-sheep-of-the-family resemblance to abstract, conceptual instances of what Bowker and Star (1999) call boundary objects;

> "… those objects that both inhabit several communities of practice and satisfy the informational requirements of each of them. Boundary objects are thus both plastic enough to adapt to local needs and constraints of the several parties employing them, yet robust enough to maintain a common identity across sites. They are weakly structured in commun use and become strongly structured in individual-site use. … Such objects have different meanings in different social worlds but their structure is common enough to more than one world to make them recognizable, a means of translation. The creation and management of boundary objects is a key process in developing and maintaining coherence across intersecting communities."
> (Bowker and Star, 1999:297)

The term "boundary objects" was coined by Star in order to discuss how scientists balance different categories and meanings (Star and Griesemer, 1998), and has since become so frequently used that it has become something of a buzzword itself. Perhaps the distinction between a conceptual boundary object and a buzzword, if such a distinction must be made, has to do with the integrity and groundedness of the concept in individual-site use, within the various communities for which it could function as a boundary object. One of the aims of our project is to seek clarity though specificity for concepts such as "participatory", "sustainable", "convergent" and "high quality", as a way to transform buzzwords back into more powerful means of translation and support for maintaining coherence across intersecting communities around technology development and use. So we will start by returning to where we stand, here and now - or rather, with a brief recapitulation of why we are standing where we are standing, here and now.

Background of the project and related research

In December 2005, India and Sweden signed an Agreement on cooperation in the fields of Science and Technology to strengthen collaboration between the two countries for mutual benefit. During 2006, special emphasis was given to promote research between India and Sweden through the *Swedish Research Links program for Asia*, which is how we came in contact with professor Ashok Jhunjhunwala and his research group, the Telecommunications and Computer Networking Group (TeNeT) at the Indian Institute of Technology Madras (IIT-M), Chennai, India. We found that several of the current multi- and interdisciplinary research projects on e-government that we are involved in, in India and Sweden respectively, are similar and of mutual relevance, and that we share a long-term interest and ambition in developing methods and practices for R&D concerning participatory design of public e-services for sustainable development. Thus we wrote a joint application and received funding for R&D cooperation 2007 – 2009 within the *Swedish Research Links program* (jointly run and funded by the

Swedish Research Council and the Swedish International Development Agency, Sida).

The aim of the joint project is to explore, map and compare emerging methods and practices for participatory design of public e-services in India and Sweden, with particular emphasis on public e-services which support sustainable rural development, especially focusing on a number of on-going projects in which BTH and IIT-M are involved. The long-term aim of the project is three-fold: 1) to enhance practices and methods which *promote development of engagement and empowerment* among citizens in the context of developing, sustainable e-services, 2) to suggest participatory processes and methods applicable in user-driven *development of products and services for participation in developing eParticipation practices and tools in various forms* and 3) to *contribute to practice-based development of theorisation* within the research areas of e-Government and Participatory Design.

Related research can be found mainly within two research traditions, Participatory Design and e-Government research. A number of comparative studies between Participatory Design projects in developing countries and in Sweden have been presented, as for instance in Elovaara et al (2006), where differences and similarities considering participation in the studied projects are discussed as a way of mutual learning about local and situated interpretations and implementations of participation. E-Government is a younger and less mature research area than Participatory Design. Several recent studies have attempted to create overviews or e-Government research roadmaps. Wimmer et al (2007) write that although a modernized, ICT-enabled government is acknowledged as a key precondition in promoting the growth and competitiveness of the European Information Society, fully customized and personalized electronic services are still a vision far beyond reality. According to Wimmer et al (2007), the eGovRTD2020 state of play analysis from 2006 showed that most national initiatives in eGovernment developments in Europe focus on ICT deployment and implementations without accompanying research. However, there is a growing amount of research going on within the area of e-Government, and this research is becoming more mature and rigorous.

We have also been inspired by Science and Technology Studies, STS, sometimes referred to as "Science, Technology and Society" research (Latour & Woolgar, 1986; Wouters, 2006; Wouters et al, 2008).

What's in a name? A first step towards de-buzzing

The name of the project that we are cooperating in, *Participatory, sustainable, convergent and high-quality public e-services – developing methods and practices*, was deliberately constructed by listing a number of current buzzwords, that is, words that are in fashion, and commonly used in managerial, technical,

administrative and/or political environments, but often have unclear meanings. The aim of choosing such a provocative name for the project was precisely to challenge the idiomatic and unclear meaning of these words by trying to pinpoint what they might mean when explored and exemplified in the context of developing methods and practices within current on-going research and development projects at IIT-M and BTH concerning public e-services. When juxtaposed and explored in such contexts, our hypothesis is that these seeming buzzwords may have more relevance and meaning than expected – but they may also be more problematic than is generally recognized in for instance either technical or political discourse concerning e-government. In the following, the buzzwords of the project name are put in relation to the research context at hand in an attempt to point more explicitly to the challenges we are addressing. As the expertise of the authors of this paper lies mainly within research concerning methods for and practices of participatory design of public e-services, the main emphasis here will be put on a brief situating (or first step towards de-buzzing) of the word "*Participatory*".

Participatory

At Blekinge Institute of Technology, the involved researchers, with a background in the disciplines of informatics and human work science, have been working for a number of years within the Scandinavian tradition of Participatory Design in development of IT, with a special focus on e-government and public e-service provision. *Participatory Design* is an American name for a tradition which has strong roots in developments in Norway, Sweden and Denmark during the 1960:s and 1970:s, when a number of researchers within IT-related disciplines and human work science teamed up with worker's unions to give end users of new technology in the work place more of a say in the technological development process (Bjerknes and Bratteteig, 1995). Participatory Design implies both User- and Use-Centered, but also User-Driven, Design. However, none of these other forms of user- and use-oriented design necessarily include users actively as co-designers in the design process, while Participatory Design is process-oriented and focuses specifically on methods and practices for actively involving and engaging future users in the design process (Bratteteig, 2004).

Our research includes studies of user experience of technology in use, is design-oriented and usually connected to concrete research and development projects where we cooperate with IT companies and the public sector, exploring ways to define, and involve, future end users in the development of e-services (Dittrich et al, 2002; Dittrich et al, 2003; Ekelin, 2003: Ekelin, 2007).

Ekelin is currently exploring alternative methods for user involvement in design of public e-services. One of the methods she is exploring in relation to local and regional community building is *digital story-telling*, which is being

tested as a way to introduce immigrant women into the local community of municipalities in the Blekinge Region.

Blekinge Insitute of Technology is an associated partner in the European network of excellence DEMO-net, which focuses on eParticipation. Our IIT-M partners, the TeNeT Group, are internationally recognized for their excellence in interdisciplinary R&D at the front edge of ICT, with a focus on promoting the inclusive information society.

We have learned, over a number of years of multi-disciplinary R&D co-operation with telecommunications systems researchers and computer scientists as well as with IT industry, that there are many different understanding of what User-Centered or User-Driven Design is, and that most of them are not what we would call Participatory Design approaches. What we have discovered only recently, through the *Swedish Research Links* connection, is that our local interpretations of "participatory" could be challenged from a different, and perhaps more unexpected direction, by the multiple translations of "participation" co-existing within the national and international development agency community (Cohen and Uphoff, 1980: Cornwall and Brock, 2005; Cornwell and Pratt, 2004).

Sustainable

Blekinge Institute of Technology is a small, technical university with a profile in applied IT and sustainable development and growth. The concept of sustainability is definitely a buzzword, even within our university. However, it also represents one of the university's most ambitious international programs, the master's program in *Strategic Leadership towards Sustainability*. The program is founded on the basic premise that a "whole-system", trans-disciplinary approach is needed to deal with the sustainability challenge of meeting society's needs today and into the future. Two integrated streams are in focus: 1) a framework for strategic sustainable development, and 2) organisational learning and leadership required for sustainability decision-making. The program is for early to mid career professionals from any professional background and any nation. The program applies a structured and simplified Life-Cycle Assessment approach to management of materials, products and services, which makes it possible to address and evaluate sustainability issues in design and development projects, in a similar way as you address other relevant design issues.

Currently, senior researchers from different disciplines have been invited to act as third supervisors for groups of master students on this program who are doing their final project work. Through this trans-disciplinary approach, the authors have been given the opportunity to learn more about a scientific approach to sustainable development (Broman et al, 2000), which we feel has potential to make a difference, also in the context of designing public e-services for sustainable rural development in India and Sweden.

As with the concept of "participation", we have recently, through our contact with the Swedish Research Links program and Sida, come to understand that "sustainability" is not only a buzzword in the general political discourse, locally, nationally and globally, but also a central and contested concept with multiple, often conflicting, translations within the national and international development community (Barraclough, 2005). Participation was a piece of cake in comparison – sustainability is obviously a concept with a *serious* need of clarification through specificity!

Convergent

The concept of "convergent" can be characterized as a buzzword most frequently used in technical environments, although in recent STS research on networked research and digital information, "converging media" is referred to as a basic trend; "a convergence that enables new forms of hybrids of communication modes that were quite separate before the Internet era" (Wouters, 2006, p. 7, quoting Wouters et al, 2002). As used here, in our project title, "convergent" refers to how technologies such as telecommunication systems and computers are becoming increasingly integrated in large, complex systems which people are becoming more and more dependant on in everyday life. Basically, this would seem to include the concept of "converging media", although our epistemic object seems to be somewhat different than that of the STS researchers' mentioned above. The convergence of different technologies raises issues concerning the increasing need for interdisciplinary and cross-layer research, which in turn brings previously unnoticed (or trivialised) blind angles in various research traditions and perspectives to the fore. Take, for instance, the issue of user participation in IT design. While the relevance for ICT design of understanding how technology is actually used is generally accepted in technical research and development today, the need for involving users in processes of technology design is still strongly contested. Indeed, user involvement is not even usually taken into consideration in traditional systems technology research. When the Swedish Foundation for Strategic Research issued their strategic report in October 2007 on complex, software-based systems (Swedish Foundation for Strategic Research, 2007), indicating how pervasive such systems are becoming in everyday life, this seemed to reiterate the need for putting people as technology users in the center of technology development, and making deliberate use of approaches such as Participatory Design in development processes for integrated, complex services. Today, this is a cross-disciplinary and cross-layer issue involving many different levels and areas of technology research and development, and stretching far beyond acknowledged human-factor and human-actor focusing research areas such as Human-Computer-Interaction (HCI) and Computer-Supported-Cooperative-Work (CSCW). What use is an excellent user interface design if the network doesn't work? And even if the network works,

system architecture could be crucial for how well complex e-services perform during heavy network traffic. When systems become extremely complex, user experience may finally be accepted as the most comprehensive way to understand systems performance. (Eriksén et al, 2007; Fiedler et al, 2007)

High Quality

What we are focusing on in this project, when it comes to high-quality, is how high-quality can be measured such that it is relevant to the actual situated *end-user experience* of the provided public e-services. This shift from supposedly "objective" measuring of service quality to "subjective" measuring of user experience is closely related to issues of participatory design and design-in-use through providing feedback channels from users to systems developers and technicians involved in version management and network management. [Dittrich et al, 2002;]. What we have seen in our current multi-disciplinary research on Internet-based map service quality is how the user experience perspective offers a comprehensive overview of perceived quality of often very complex services.

Public e-services

 "*Public e-services*" is hardly a buzzword or buzz concept in the sense that the other words in the name of the project are. From a research perspective, public e-services are part of a research area on IT-related change/management in the public sector, an area which has become established during the past decade as "e-Government". Grönlund (2002) describes e-Government as basically consisting of e-administration, e-services and e-democracy. Our Participatory Design approach leads to a certain overlap between e-services and e-democracy and e-participation issues (Ekelin, 2007) – however, in the studies to be carried out within the project, the main focus will be on participatory design as part of the process of developing public e-services, and not primarily on issues of e-democracy.

Methods

In this project we are using the concept of method to describe a way of working in order to achieve a specified purpose. As Löwgren and Stolterman (2004) define it, a method transforms a certain purpose and certain values into a concrete recipe for action. Of course here, too, we aim to clarify "methods" through enhanced specificity as we move further on in to the project. This is especially important as methods are both tools and study objects in this project. Also, we are testing and studying both methods for conceptualization and knowledge sharing in multi- and interdisciplinary research, and methods for participatory design and development of e-services.

Practices

Partly in order to accommodate the multi- and interdisciplinary approach within the project, the concept of "practices" as we use it in the name and context of the project is a broad and open-ended one, which stretches from "good practice" examples of technology design and use to richer understandings of specific practices which we derive from detailed, ethno-methodologically inspired, ethnographic field studies of practices of technology construction and use (from this perspective seen, rather, as the social construction of technology in use), an approach which stresses "the ways in which actions and interactions produce cultural objects in ways that are 'accountable'" (Wessels, 2007). This links in to STS research on "epistemic objects" and "epistemic cultures" in research communities (Wouters, 2006; Wouters et al, 2008), and the aim of gaining deeper insight into our own research practices in order to develop supportive methods for multi- and interdisciplinary research cooperation and knowledge sharing.

Discussion

This is an early work-in-progress paper, in which we have begun to explore how certain words which, through frequent and often imprecise usage, have become "buzzwords" in science policy and research funding discourses, might be put to use deliberately as boundary objects in multi- and interdisciplinary R&D projects and explored "in use", grounding them, not with one precise, global definition, but rather with specific meanings in specific contexts. The next step would then conceivably be to compare these shifting meanings as a way of gaining insight into spaces of signification and paving the way for developing shared spaces of representation which could allow for contextualization and decontextualization, and for shifting foci, where an object can be both epistemic and technical, depending on the eye of the beholder (Wouters, 2006). In this paper, we have only begun to sketch upon how something like this could be attempted. We are too early on in the project to be able to say anything at all about the situated meaning of these buzzwords – or even if they are perceived as buzzwords at all by the involved actors – in the Indian R&D projects we will be getting involved in during 2008 and 2009. What we are hoping for is a discussion within our IRIS31 workgroup which can provide valuable input towards reworking this initial, sketchy paper into a future conference or journal article, but also towards developing methods for in-depth knowledge sharing and generating of new knowledge – i.e. for nurturing generous, open-ended epistemic cultures - in multi- and interdisciplinary research.

Acknowledgments

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