



UNIVERSITY OF BORÅS
SCIENCE FOR THE PROFESSIONS

Integration of web 2.0 and Science 2.0 in eService development - e-me Case Study



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1 Introduction

In this paper we show the direct relations between the two 2.0 movements; the web 2.0 movement and the science 2.0 movement. An example of how the integration of the movements can form new types of projects is also described. First the basic ideas in the common philosophical and theoretical background are briefly presented. Then it is discussed how these ideas are influencing the web development as well as the science development. Finally the ISSI/e-Clic-project – “e-Power to the people” in Sweden integrating the two 2.0 movements is presented. In the end also some speculations of the future of the integrated 2.0 movement are sketched.

2 Basic ideas in the 2.0 philosophy

The basic idea in 2.0 philosophy can be described as four statements or assumptions:

1. It is accepted that the same situation can be described from more than one correct view. The weather can be both cold and wet – at the same time.
2. It is not accepted to say that “others may have views but me as an expert I have the true, or the complete or the precise or the most valuable picture –of the situation. No expert can without any reference to any measure scales tell you if it is cold or wet.
3. It is accepted that different views of the situation are influencing people or other stakeholders different. It may be absolutely crucial and for some people to know if it is cold but to others it may be equal important to know if it is wet.
4. It is possible to invent an infinite number of such views where the people using the views themselves can judge if the view is of value for them.

These four statements are basic for the science 2.0 movement. When we add a fifth statement to these statements we will get the basic idea for the web 2.0 movement. This fifth statement can be formulated as:

5. Each view described in 1-4 can be implemented as services with a number of technologies and people also including information technology. This will be further illustrated here.

Early ideas around the first 1-4 statements were developed by the philosopher Kant as the idea of a’p priori knowledge. This idea says that we need an a’p priori framework or knowledge to be able to produce new knowledge. In other words we need a concept and a measurement scale about coldness to be able to measure how cold the situation is. This idea was combined with the teleological idea, often connected to the philosopher Aristotle. In teleological thinking goals are the key concept. The ideas of a’p priori and goals were cornerstones of the first ideas of the American pragmatism as it was described by James. James [1] basically said that we should regard for example the coldness in a temperature scale as an instrument in a strive for a goal. Singer and Churchman [2] developed this ideas in a postmodern dynamic manner saying that individuals can have different a’p priori or frames of reference and different goals and even more important these frames and goals can change. All these changes and interactions are taking place in a dynamic interplay between co-producing actors that Churchman called systems thinking. [3]

Partly in parallel other groups of philosophers developed similar ideas with the language as the most important instrument for expressing a priori knowledge, views, frames of references or paradigms.[4]

A simplified example may clarify the basic idea. Someone get the idea that it would be great to have knowledge about the temperature outside the house in order to be able to dress properly. Together with a group of people he invents a measure scale or a frame of reference able to capture the temperature. Together they have to design this scale so it will be easily adapted by other people wanting to dress before they leave the house. To be able to do so the group needs resources. If the group is successful the users/clients are happy and prepared to pay for the knowledge of knowing the temperature outside the house.

Now it may happen that other groups of people realize that also other knowledge than the temperature is good to know if you are going out of the house hoping for a good life. They can invent and design new frames of references giving new useful knowledge and so on. Today an important knowledge in this spiral of knowledge co-designing is to know about global warming outside the house.

Forsgren has formulated the background ideas of the 5th statement as the idea of co-design.[5] The co-design idea says simply that views and frames of references can be implemented in technology and human organizations as services.

According to this idea it is quite possible to implement the temperature scale into an information services. Combined with other technologies it is for example possible to create a service producing suggestions for how to dress before going outside. Integrating other frames of reference with more technologies is soon adding up to what we call smart homes.

In summary the five statements can be regarded as main elements in a world where all or most people are involved in inventing and implementing new views as services and e-services to be used by other people. This is the basic idea of e-Power to the people.

3 Web 2.0

The underlying assumption in this paper is that web 2.0 is not just a new buzzword but represent a direction of development in the ICT-field with both impact and potential. The main idea is that theoretical explanations may help us to see the potentials of web 2.0 at the same time as they open new views indicating future possibilities. One of the strongest trends in the ICT-field of today is e-empowerment of different kinds of clients, such as citizens, consumers and companies. This means that more emphasis is put upon the possibility for clients to manage and contribute to the information galaxy [6] – both in terms of the use and supply of content as well as services. An often mentioned concept in relation to this trend is Web 2.0. O'Reilly [7], as one of the people who coined term, claim that

"Web 2.0 is the network as platform, spanning all connected devices; Web 2.0 applications are those that make the most of the intrinsic advantages of that platform: delivering software as a continually-updated service that gets better the more people use it, consuming and remixing data from multiple sources, including individual users, while providing their own data and services in a form that allows remixing by others, creating network effects through an "architecture of participation," and going beyond the page metaphor of Web 1.0 to deliver rich user experiences."

Web 2.0 is a concept that put emphasis on participation and co-production of data and services. Some key characteristics of Web 2.0 [8] are especially Rich Internet Applications, User-generated content, Semantic Web, Recommendations, Social Networking, Syndication/mash ups, Open Standards, Software as a service, Personalization, User-generated Services, and Device Independence..

4 Co-design as a Science 2.0 approach

With inspiration from the American pragmatist philosophical tradition as it developed by Churchman in his late postmodern writings (Churchman, 1979) a raw model for performing co-design has developed. [4]

This model can be described consisting of four key activities often performed as workshops involving key stakeholders.



- Co-design of problem situation and ideal scenarios including a first idea of useful views possible to implement in integrated solutions
- Co-design of one or a few specified useful views with implementation integrated solutions and related measure of performance systems.
- Co-Implementation of selected integrated solution and related measure of performance systems.
- Co-evaluation and feedback based on key stakeholder views.

In all these four type of workshop activities the involvement of key stakeholders are an important resource.

5 The e-me/ISSI -Citizen Centric Public Service in Sparsely Populated Areas

The Projects are targeted towards user-driven service development in a close collaboration between citizens, public authorities, municipalities, SME:s and R&D. The e-Clic project is focusing involvement of young people in the creation of next generation e-services while ISSI is aiming at a raised level of service for citizens and SME:s in sparsely populated areas (SPA:s) as well as a higher quality of life for the citizens and a strengthened attractiveness for the region. The overarching goal is to make it easier for the individual as well as for the company, through innovative e-services to find useful, correct, synchronized and updated information as well as to

simplify necessary. communication and interaction between the citizen and public authorities. The project is aiming at improved relations between individuals/companies and society/public authorities through the implementation of a new service model based on social media in the form of an on-line community, a social media mixing the private and public in a private-public partnership (PPP). The final vision is an agent driven societal service model, an e-Me comprising different e-services and a virtual electronic servant, with a unique identity and an individual set-up. Instead of the individual chasing information and services over the internet or other communication systems, public authorities and organizations must meet and interact with the citizens in this new community based service model and meeting place.

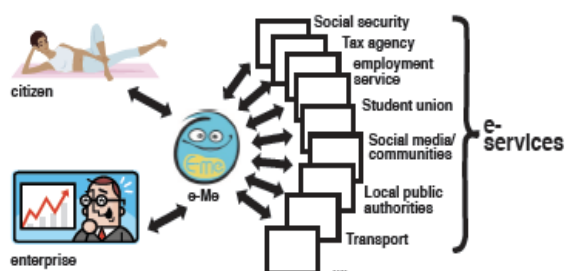
**ISSI-Citizen Centric Public Service In
Sparsely Populated Areas**

The ISSI/e-Me-vision

If authorities and organizations want to have electronic contact with the citizens, or the enterprises they must conform to their preferences.

The citizens and the enterprises will gain time by being more effective in administrative tasks.

Organizations and authorities will gain by having a predefined way to connect to citizens and enterprises.



The involved citizens were described and categorized in different “threads” of people having special relations and characteristics to the area and their daily life situations:

- Persons/companies operating in the village/ community and living in the village/community. For these people/companies it is important to find the necessary external expertise, competence, partners and resources for limited interventions and collaborations in different contexts.
- People who work outside the village/community but live in the village/community. For these people is access to transport vital.
- Individuals who no longer lives in the village/ community with personal roots, relationships or interests in the village/community. For these people, it can be of great interest to maintain contact, with the village and follow their friends development and vice versa. A village-blog or any type of "Gossip-site" where mutual information can be shared is of great interest.
- Individuals who are not working/retired but living in the village/community. Senior citizens and the chronically ill/disabled need systems and e-services that give them continuous access to medical centers, relatives, transports and in some cases, tele-medical supervision
- People who are neither working in the village or living in the village. This is a guest or a tourist. To make them come to the village, it's important to be able to offer mobile

information services that can give them the information they need and the ability to pay fees for example for fishing licenses, guides, homesteads, museums, stadiums, etc., via their mobile phones

From that background the goal of the project was formulated as making it possible for the individual as well as for the enterprise to stay and prosper in the inland, supported by innovative and collaborative e-Services, giving new conditions for crossing over sectors and borders, as well as opening new markets, thus improving relations between individuals, enterprises and public authorities.

In the ISSI project Co-Design as a science 2.0 Approach has been applied. It is a design approach focusing on turning different stakeholders into creative and constructive participants. This has been accomplished in a workshop model involving all the type of citizens represented by the thread. To each workshop a mind opening introduction with inspiring examples and different ways of viewing e-services were added.

An important part of the workshop activities were also short scenarios or episodes catching today's problems or an ideal future situation where one or a set of e-services could be a part. To make this approach easier accepted in the group we talked about the scenarios as "Should-be-pictures".

The Workshop activities labeled as – "The future village" - resulted in four main suggested activities together forming an e-service model for sparsely populated that will be described in detail in the paper. In summary these activities are:

- A virtual meeting place – an on-line community InneLandet – www.innelandet.se, facilitating both local and global collaboration in different areas. A nurturing place for new e-services. Also serving as a tool for e-service policy management with evaluation activities involving all stakeholders using visualized scenarios as "Should-be-pictures"
- The Future village school - small learning environments, integrating public and private activities in a new way into an entrepreneurial approach using cultural and corporate storytelling as a main tool.
- e-Business collaborative services for SME:s. Building a combination of a virtual mall and a learning mini cluster of SME:s.
- e-Business collaborative services circulated around a tourist attraction.
- e-Me for the Inland, an electronic assistant supporting the inhabitants to keep track of relevant information and services, both from local business and authorities but also from global communities and service markets.

6 Conclusions and Summary Recommendations

The project is running since October 2008 and some first conclusions can be made mentioned in relation to the performed activities and the overall goal of the project.

- A common reaction from the "inlanders" in the first meetings/workshops was a skeptical attitude of "still another EU-project" "Why don't you give us some money for a new school instead". Important icebreakers leading into creative discussions were of three kinds. First some people in the project staff was born in the region and had good personal knowledge about the regional history and people. Second, mind opening examples on how IT-could be

used were introduced. Finally IT was always described in a relation to a daily life context with a focus on how relevant services can improve our life and rising the quality of life. In summary, we found that it takes time and several meetings to gain/earn the “inlanders” confidence and that this is a key factor to success. We also found that the protection and development of the village school was a key concern for many people. The schools are an important actor in our ambition to remove the artificial walls between schools, companies and public service and enhance collaboration, openness and synergy into service quality.

- Citizens declared two important needs. One was a need to know about different local initiatives, but also to know more about what was happening in other parts of the world related to interest for the inhabitants. For the young families good local education and learning environments was of great importance.
- Companies in the region are of three kinds. Globally and national successful companies, Companies serving as subcontractors and other support to the globally companies and finally small companies entering a national and global market by using internet. For all companies an important advantage for the location was well educated staff. Even for that group a good working school with international standard was important.
- Even if a key success factor for the survivors of the village was multifunctional thinking in many levels from a personal level with different type of job skills to a building level with authorities should be able to coordinate their activities and services to the citizens to improve life conditions in the inland.
- We have for a long time talked about the need to improve computer/IT-literacy, now the time has come to raise the e-service literacy.
- There is an interest and curiosity to interact with other European sparsely populated areas to mutually learn and improve life conditions by the use of citizen centric approaches to IT. This curiosity can form a good base for new European projects.

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