European Collaborative Innovation Centres for Broadband Media Service

UNIVERSITY OF BORÅS
SCIENCE FOR THE PROFESSIONS

e-Power to the People– a Driver for Cross Sector Regional Development in Europe

Case Study

EUROPEAN UNION
European Regional Development Fund

Investing in the future by working together for a sustainable and competitive region

The Interreg IVB North Sea Region Programme

Contents

1 Introduction

Living, acting or running business in remote or sparsely populated areas (SPA) is quite different from other more densely populated parts of a nation. These global differences have both positive and negative impacts on everyday life and business, and are challenges to overcome. These conditions raise demands upon the municipality as well as county and governmental authorities, while societal functions like schools, social services, and communications are supposed to be upholding to equal levels even in the SPAs. Access to health care, public transport, labor market, education, and broadband, to mention a few, are restricted outside the cities and municipality centers. On the other hand SPAs offer cheaper housing, nearness to nature, less stress, and other human values.

A flourishing countryside requires a vigorous business life and a feasible structure of the population. The population development [1] is the most crucial factor when it comes to a municipality's survival. A decrease in the population diminishes the local business' customer potential which often follows of down drawings in their activities and a decreased labor market, decreased revenues, which in turn often leads to decreased public services.

The rapid spreading of the Internet and mobile communication have dramatically offered new possibilities to work and live, in remote regions. Sweden, the other Scandinavian countries, the UK, Canada and Australia, are all examples of early adopters of technology in the public sector which have led to a highly developed technical infrastructure, a broad range of e-services, and a high penetration of IT among the population, but have not been able to achieve the desired levels of transformation of public administration [2]. One bottleneck is that the services still often are developed from the perspective of the public administration and not so much from the citizen's perspective. It is also notable that high-capacity communication infrastructure and bandwidth in SPAs is far away from the penetration in the cities and the municipal centres.

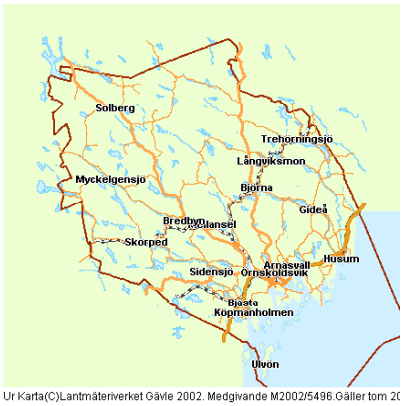
The development and introduction of different e-solutions is often a complicated puzzle while the users are a group full of nuances and the solutions often have an impact on peoples' every-day life. Therefore it has attracted attention from policy makers, the private sector, and the research community. In particular, researchers from informatics, computer science, economics, management, sociology, political science and communication have addressed issues as inclusion and exclusion [3],[4], techno-philosophical issues [5], [6], ethics [7], access barriers [8], political and organizational implications [9],[10],[11],[12], economic questions [13], [14], and design approaches [15], [16], [17].

2 Objectives

In the ISSI-project we are applying the citizen value model, [15] and a co-design approach to improve interaction between citizens and municipal authorities as well as within and between municipal authorities, aiming at a major improvement of the level of service for citizens and SMEs in the municipality of Örnsköldsvik. We are aiming at an adaptable and scalable comprehensive e-service model based on social media, driven by a private-public partnership. Core concerns are individual and organizational participation, e-service literacy, citizen - authority dialogue, activity and flexibility – a new tool for implementing the next step in e-democracy.

3 Case

The Municipality of Örnsköldsvik is situated in County Västernorrland, almost in the geographical middle of Sweden approximately 500 km's north of Stockholm. The municipality is vast, covering an area of 6 380 km2. Its population is 55 000, or ca 8,7 inhabitants per km2, of which 35 000 live in the municipal centre, the City of Örnsköldsvik. There are some 2 500 companies in the municipal district representing a host of different business sectors and operating on local, national and international markets. Large companies and manufacturing industries have long dominated the coastal region of Örnsköldsvik, but now new developmental areas are shooting up as well as new forms of cooperation. The project is focusing on the sparsely populated rural area/countryside in the region we call that the Inland. An "inlander" is in our definition, a person who lives in the Inlands.



The Project, funded by VINNOVA[1], the Municipality of Örnsköldsvik, the County Administrative Board of Västernorrland and the Association of Local Authorities in Västernorrland, is targeted towards user-driven service development in a close collaboration between citizens, public authorities, municipalities, SMEs and R&D. The project is also performed in close collaboration with the EU funded project E-CLIC[2], aiming at a closer integration of e-service development and high school education.

The aim of the project is to raise the level of service for citizens and SMEs in SPAs, offering a higher quality of life for the citizens and an enhanced attractiveness for the region. The goal is, to simplify necessary communication and interaction between citizens, companies and public authorities through innovative e-services. The project focuses on improved relations between individuals, companies and public authorities through implementation of a new service model, based on social media in the form of an on-line community, mixing the private and public in a private-public partnership. The final vision is an agent-driven societal service model 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.

4 Methodology used

Developing public e-services and other public web based applications requires a methodology that could handle situations with a heterogeneous user group, with different skills, experiences, needs, and interests, and with various technical conditions. The quote "providing physical access to ICTs is one thing; giving citizens good reasons to want to make use of them is quite another" [18], illustrates one side of the challenge. In the same way could Eftring's [19] concept "use-worthiness" be understood.

There are several frameworks for the purpose of design and evaluation of e-services. These frameworks display different levels of complexity and maturity of e-services when it comes to information, interaction, transaction and integration. They are however mainly driven from the perspective of a public organization/authority where it seems that integration between different

[1] The Swedish Governmental Agency for Innovation Systems

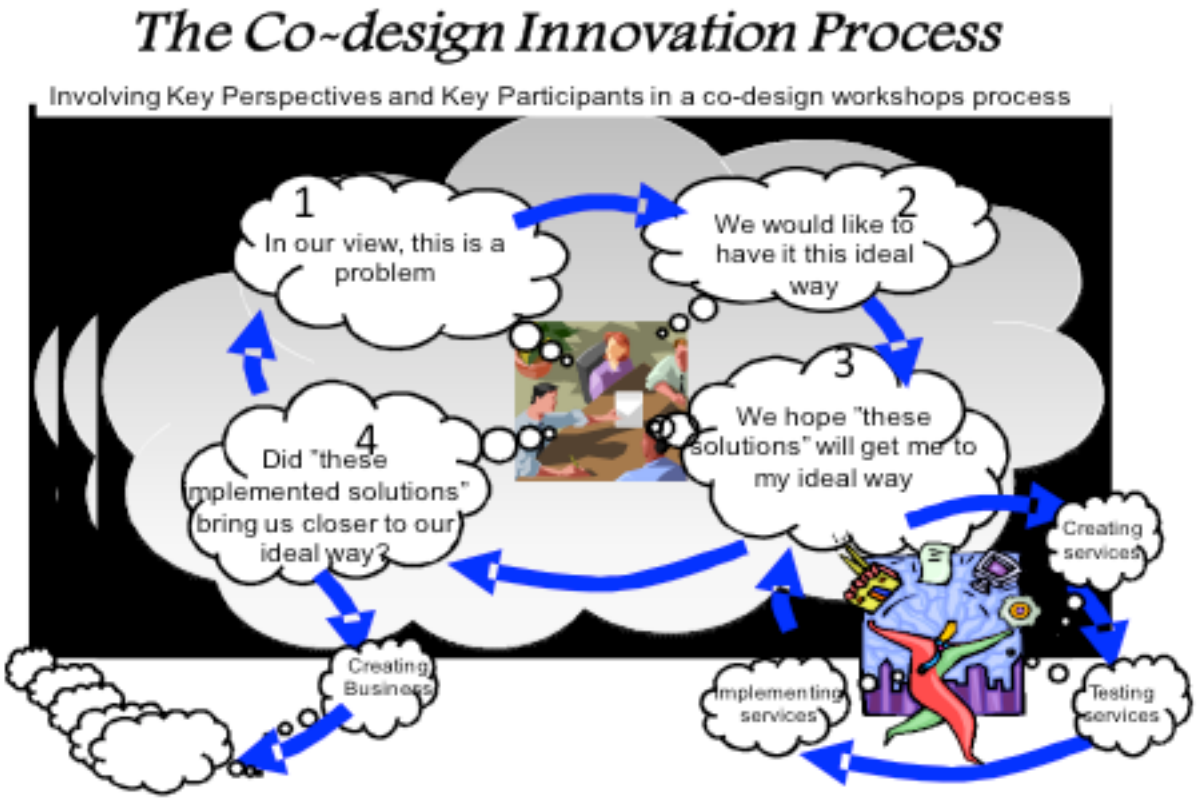
[2] European Collaborative Innovation Centres for broadband media services

public authorities, private organizations and individuals is needed, in other words, new forms of private-public-partnership

One could question if this is what different users (citizens, companies and other organizations) of e-services consider as important qualities. In line with this thinking a new value-based co-design framework for design and evaluation of e-services has been proposed.[15] It assumes that e-services are supposed to be of value for individual citizens and are therefore based on the interpretation of citizen values for a particular service.

The model is based on four types of citizen values that e-services can support:
understandings and awareness of the present situation (problem awareness)
development of ideal future scenarios and visions of what could be worth striving for (future hope/vision/goal)
transition and transformation from the present situation to a desired future situation (measures)
evaluation of the overall effect of service-offers and performed actions in relation to desired visions

The project is also applying Co-Design methodology on its research and innovation processes, an approach to border crossing and Network Innovation [17]. Churchman (1971)[20], in his work of "Design of inquiring systems" clarified the direct connection between a measurement scale, an ideal and a hope for the future. He also introduces the dynamic quality aspect that ideals and scales of measurement have to be in a mood of change. This way of reasoning is developed further into a co-design framework, comprising a spiraling, iterative



movement with four dissociable workshop activities

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5 The Method applied

1. **Norm/"state of situation" setting workshops**. Here we are allowing input from as many views as possible [17]. In the ISSI project typical questions in these workshops have been about the conditions and bare necessities of living in sparsely populated areas, ideas about upcoming threats with the situation at hand and desires of future changes.

2. Ideal future setting workshops. In these workshops we have been using two important ideas. First a mind-opening introduction about the variety of examples of IT-applications and services, how they could be used and adapted to the problems and ideas produced in the "state of situation" workshop. After that the different stakeholders have created short scenarios about ideal possible future situations. In four cases these scenarios have been put together by researchers and concept developers into "Should-be-pictures" in the form of short stories about possible future development of environments and services. One of the key-pictures has been developed to video production also accessible on YouTube "**The Issi Project**"

3. Resource generating and service creation workshops. In these workshops it is possible to distinguish the following elements.
Identification of possible e-services, environments and technology making it possible to come closer to produced ideas and a plan to get there.
Creating service work packages for realizing the services into prototypes.
Prioritizing and implementation of high value services.

In these workshops it is important to invite a diversity of actors with complementary resources and competencies.

4. Evaluation feedback and business creation workshops. The plan is here to perform the evaluation with three complementary methods all actively involving the key stakeholders. First there is a special service developed for stakeholder discussions in the "InneLand" community. Secondly representatives of the stakeholders will be interviewed about if any progress has been made related to the "Should-be-pictures". Finally there will be an attempt to operationalize some of the "Should-be-pictures" into a set of measurable indicators. Based on that, an analysis will be performed about progress, to derive the results and feed them back in the Co-Design Research and Innovation loop described above. In this work area it is also possible to transform some of the successful services into business.

6 Development of some key points in the method

The first step in the project was to identify the different categories of stakeholders and invite them to workshop activities. We identified the following categories:
Persons and companies that operate and live in a village/community in the Inland.
Persons who live in a village/community in the Inland but work outside the village /community.
Persons who live in a village/community in the Inland but do not work
Persons born in the Inland who no longer live in an Inland village/community, but who have roots, relationships or interests in the village/community.
Persons who neither work nor live in the village – visitors, tourists etc.

To each workshop a mind opening introduction with inspiring examples and different ways of viewing e-services was added. An important part of the workshop activities were also short scenarios or episodes catching today's problems or ideal future situations, where e-services could be a part. We talked about the scenarios as "Should-be-pictures".

The Workshop activities labeled as "The future village" resulted in a number of Should-be-pictures and ideas about e-services that could support these pictures to come true. The pictures

served as input to a prototype building loop using the open source development community Drupal as the main tool. After internal tests and mini-workshops with some representatives of the stakeholder group pilot implementations took place.
The implemented services formed a model that was tested as a first version of the "Inneland".

From that stage of development new ideas and should-be pictures were formed in workshops and then taken into a new development loop and so the project evolved in a co-design manner.

Together the pilot services within the frame of a community and the development model are forming an e-service model for sparsely populated areas which at this stage includes the following main elements/workpackages.

An e-service model and a virtual meeting place – an on-line community "Innelandet", www.innelandet.se, facilitating local, regional, national 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". This is up and running – a usable prototype

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. The pupils/students (12 – 13) and the teachers will test different open-source platforms and e-services to enhance their learning in a collaborative set-up. The students will set up and work in a creative on-line workshop called "Future e-services", as a part of "InneLandet". This is also directly connected to the basic co-design approach as "My view pictures" and "Should-be-pictures". This is up and running and is working well.

e-Business collaborative services for SMEs and municipal authorities. Building a combination of a virtual mall/shared web shop and a learning mini cluster of SMEs. The virtual mall will also contain a electronic market for service exchange, where the users/customers can announce/display their offers or needs and then by them selves set up different deals. The shared web shop has from a customers perspective one entrance, one cart, one cashier, several independent shops, one transport. The shops rent the space and can only handle its own goods/merchandize. The customers' payment will then be automatically split and delivered to the separate stores where the goods were bought. Successively other public and private services will be added to stimulate and make the private-public dialogue easier. This has so far resulted in a "virtual mall demonstrator" and a specification draft for the development of an open- source based Virtual mall. A prototype should be up and running in the beginning of December 2010.

e-Tourism collaborative services aimed at business services for tourism, virtual tourism, recreation. This is a further development collaborative service earlier described. This WP is discussed not yet confirmed.

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. The e-Me agent will be individually customizable, for the individual to get a grip over the general information overload and prioritize the from the customers (citizen, organization, company, municipal authority) perspective most useful information and services. This is done in collaboration with the Interreg project eClic. The development of the prototype is in its first phase and is picking up speed.

Two workpackages the "Unmanned store" and "Rural Interactive Transport Services" has been put on ice after initial explorations and estimates showing that they would be too demanding both when it comes to financial and human resources and a tricky rule system.

7 Conclusions and Summary Recommendations

The project is running since October 2008 and some first conclusions can be made 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 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 were 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 raising 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. Finally it was important to identify ambassadors and local active people willing to take time and energy to be drivers and part of the co-design workshops.
Citizens declared some 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 municipality, region and world related to interest for the inhabitants. For the young families good local education and learning environments was of great importance. Both individual citizens, schools and companies declared a strong need for better use of the existing fiber infrastructure for high – capacity data communication. You can find it in the middle of the village but not distributed to and activated in the households, companies, schools etc due to actual costs and prizing policy from the IT-vendors. There we have a problem and a hidden potential, that fully exploited could make a great change in expanding the true interaction e-service based society to the inland/sparsely populated areas. This actual situation is easy to find all over Europe, and our eventual solutions (depending on possible support on an local/regional as well as national level) will be applicable to the European situation as well.
Companies in the region are of three kinds. Globally and national successful companies, Companies serving as subcontractors and other support to the global 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 and loyal staff. Even for that group a good working school with international standard was important.

7.1 Some ideas about the future development.

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. This is an all-European problem as well. It is important to co-design e-services for step-by-step netbased learning, starting with simple easy-to-use web applications for mobile phones (most of the population owns and uses one), successively leading to more advanced applications for computers and mobile phones. In this we can use students on different levels in the pre-university schools as on-line teachers, mentors, help and support. In this way schools will be an integrated part of next generation e-service models. This includes basic levels as well as postgraduate levels of the education system.
The plan is to further establish more intense exchange of experience between similar approaches in other European sparsely populated areas. The development of e-clic project with eight European area partners is moving in this direction.[21] Interest for exchange has also been shown from other continents.[22]

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