ETampere

Social engineering of the Knowledge Society

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Abstract: The *eTampere* initiative is a five-year development project that seeks to promote the development of the Information Society through measures targeting the following focus areas: the availability of public online services to residents; the strengthening of the knowledge base of research and training; and the generation of businesses related to the Information Society. This paper is based on evaluations done by Nordregio and Euricur. In this paper the model of *eTampere* will be described, how it functions and what has been achieved so far. Also the new roles of Business, Government and University (BGU) will be described that will enhance social engineering and social capital. The challenges of these types of innovative and large scale knowledge society local programmes will be also discussed.

Key words: business, government, industry, knowledge base, public services, research, social capital, social engineering

BACKGROUND

eTampere was organised as a programme focusing on three main themes, ranging from technical capabilities and access to more content-related issues:

1. The availability of public online services;
2. Strengthening of the knowledge base of research and training in the ICT-related fields;
3. The generation of new business related to the Information Society.

In order to pursue these policy goals a set of modules or sub-programmes was launched that attempted to bridge the technological and social sides of the dynamism providing a basis for developing on-line services based on existing research and innovation activities. The sub-programmes included:

- Information Society Institute (ISI);
- eBusiness Research Centre (*eBRC*);
- Research and Evaluation Laboratory (RELab);
- *eAccelerator*;
- Technology engine programs;
- Infocity;
- *eTampere* office.

We will return to each of these in the next chapter on the governance of *eTampere*.

THE GOVERNANCE OF *ETAMPERE*

The governance model of *eTampere* in itself provides an interesting case study of differentiated policy measures under the umbrella of a local initiative most actively promoted by the City of Tampere. The City of Tampere clearly has a special position, though it is also worth noting that the centrality and complementary role of the various sub-programmes become obvious in the analysis of financial resources available for *eTampere*, as well as in the nature of the project activities themselves. Ideally the different sub-programmes would work in unison and address similar policy goals through differentiated means and this in fact largely seems to be the case, based on the evaluation presented here. While for instance the business accelerator sub-programme is instrumental in attracting private capital to new enterprises, the eBusiness Research Centre provides those essential settings that are required to promote IS-initiatives, which stem from both the social and the natural sciences and where such shared

projects then can meet and prosper. ISI on the other hand seeks to promote research into the Information Society almost through a programmatic and broad-based research approach on the various attributes and side effects of the Information Society. What is at the core of the programme is the need to accumulate and utilise systematic and reliable scientific information on the development and the different aspects of the information society, and this is where the different sub-programmes meet. Some sub-programmes may be bodies needing such information to identify the main needs of citizens in the face of the drastic changes currently unfolding in society and in the so-called New Economy (e.g. Infocity), while others may be seeking to influence the economic trends in the IS sphere through business promotion needs (*eAccelerator*) or testing concrete technology applications (*ReLab*) and thus seeking to follow the latest development in technology without which the more normative and political aspects of the Information Society would not find concrete form. The way in which these different aspects come together is through the project orientation of the programme.

The organisation of *eTampere* is influenced by the fact that the City of Tampere has such a central role, as well as by the fact that the co-operation and co-ordination of the two universities involved determine much of the organisational structure. Project culture is also strongly present and, as is the case with similar initiatives elsewhere, also in Tampere the typical programme model today determines to a large extent the programme management practice. The project cycle methodology consists of the six-step structure described below.

INFORMATION SOCIETY INSTITUTE (ISI)

The Information Society Institute (ISI) is a joint effort by the University of Tampere and Tampere University of Technology. The University of Tampere however has operational responsibility, as the unit is placed “under its wing”, in line with the contract establishing the institute between the University of Tampere and the City of Tampere in spring 2001. There is a board of directors whose task it is to steer the institute, with approximately 10 members; its membership predominantly represents the two universities involved, though there are some key external stakeholders (from the business world). The central function of the Institute is to conduct and promote research on themes related to Information Society and to pursue collaborative efforts between the two universities. It also has a role in prioritising the different research themes around Information System development, especially through its flagship project selection mechanism,

which allows for concentrated efforts in some selected priority themes rather than scattering the resources too thinly.

The mission statement of the institute clarifies the objective of the institute: “to promote the construction of an Information Society based on active citizenship through multidisciplinary research and development activity and through education and training” (ISI 2001).

One of the central aspects of the Information Society Institute is the Information Society Observatory (ISO), which is a research unit launched by the Information Society Institute in June 2002 with the financial support of the City of Tampere. The main objective of the Observatory is to promote and conduct systematic social research related to the Information Society and information technology. The question of scales or levels of analysis is particularly central to the Observatory’s work, just as it is to our evaluation exercise. This is quite easy to understand when one considers that Information Society, just as with ICT and technology development, not to mention policy instruments addressing citizen participation, are necessarily local, regional, national and European, as well as global (though more indirectly in evaluation terms naturally).

The ISO has a layered structure divided into three main components: education, research and network, where the network is the interdisciplinary national network of researchers representing several institutions from various geographical locations and with different research interests. The ISO promotes the co-operation of these units by developing forms of co-operation such as knowledge exchange, by creating joint funding applications and organizing meetings in scientific seminars. In addition to the networking aspects of ISO’s work, it also engages in education and knowledge dissemination activities, organising masters-level thesis seminars in co-operation with a number of different University departments from the faculties of social, information and administrative sciences, as well as seeking to identify and develop both the more traditional means of knowledge dissemination, such as printed publications, books and journal and novel forms of communication such as web-portals and e-broadcasting.

Basic funding (2002): 189 000 €

Finalised projects (2002): 7 projects, with a total budget of 335 892 €

On-going projects: 35, with a total budget of 4 531 270 €

EBUSINESS RESEARCH CENTRE (EBRC)

The task of the eBRC is to bring together the two universities in Tampere, as it was co-founded by them and as such, eBRC functions as a joint venture that is expected to bring 'value added' to both of the partners (and to the external stakeholders).

eBRC seeks to turn e-business related research and development ideas into new knowledge, with its mission being outlined as:

... to generate relevant new knowledge on selected business phenomena related to the e-business, which can be utilized in the education and research activity by the partner universities and in the business practise by the businesses participating in the underlying research projects. The objective of eBRC is to become one of Europe's leading e-business researcher centres by 2006.

The method by which this task is achieved is through matching the interests of the different stakeholders from the academic community with various industrial partners, with a view to moving from domestic co-operation partners to international ones. The model has been called that of a "matchmaker" or facilitator and is also more generally typical of the kind of initiative that eTampere encourages.

The organisational structure is also similar to the other sub-programmes, with a broad of directors responsible for strategic steering, two programme managers (one from each university) being responsible for the every-day functioning of the centre and being assisted by a small staff of project managers/assistants. The light organisational structure again here seems to be an advantage, though it does also put more pressure on key personnel,

making it necessary to consider ways of improving organisational learning that would allow for knowledge to be more successfully embedded in the organisational structure, rather than relying on the personal contacts and the accumulated knowledge of the key personnel.

Basic funding (2002): 420 470 €

Terminated projects (2002): 6 projects, with a total budget of 716 973 €

On-going projects: 25, with a total budget of 2 070 541 €

RESEARCH AND EVALUATION LABORATORY (RELAB)

RELab (Research and Evaluation Laboratory for Intelligent Services) is a laboratory and testing environment situated in Tampere, which has been included as a sub-programme in the *eTampere* programme. The responsibility for RELab lies with the Tampere premises of VTT, the Technical Research Centre of Finland. The fields of activity include services for mobile users; risk management of future services; human-computer interaction and road-mapping new and emerging technologies. The future direction of RELab lies in particular in international collaborative projects such as those within the EU's Sixth Framework Programme.

Basic funding (2002): 252 282 €

Finalised projects (2002): 2 projects, with a total budget of 269 000 €

On-going projects: 13, with a total budget of 2 274 139 €

EACCELERATOR

The *eAccelerator* Programme is located at the Tampere technology Park (Hermia), where it aims to incubate and 'hatch', by 2005, a total of some 20 companies as globally successful technology companies. The quantitative goal set consists of personnel growth in these companies to 1500 employees and turnover figure of 250 Meuro. It is the objective of the programme that each year 5-6 new companies join *eAccelerator* through the national search programme.

Basic funding (2002): 336 376 €

Finalised projects (2002): 1 project, with a total budget of 4250 €

On-going projects: 3, with a total budget of 5 859 376 €

TECHNOLOGY ENGINE PROGRAMMES

Technology engine programmes are co-ordinated by the Digital Media Institute at the Tampere University of technology. The mission of these programmes is to create knowledge and expertise in the Tampere region in the areas of adaptive software components, user interfaces, the perception of information, “neoreality” and broadband data transmission. Each field is managed by a programme manager, who seeks to create new projects in his or her area of responsibility, in close co-operation with specialists in the field working in business or research.

The goal of Technology engine programmes during the programming period of eTampere, i.e. by 2005 is to have a project portfolio totalling a turnover of 19 million euros, and with approximately 100 researchers working in these projects in the Tampere region.

Basic funding (2002): 252 282 €

Terminated projects (2002): -

On-going projects: 28, with a total budget of 3 244 109 €

INFOCITY

Infocity is the one of the eTampere sub-programmes that is most visible to the ordinary citizen. The mission of the sub-programme is:

...to develop the city of Tampere into a model of Information Society by offering its citizens practical online services and by improving their network skills.

This mission is implemented through the active development of digital services provided by the City of Tampere to its citizens. In addition to generating digital services with practical applications, the Programme aims at providing every resident of the City with access to these services. The Programme is an open cooperation project within the public administration as well as between the administration, private operators and the third sector. Perhaps the best-known project within Infocity’s portfolio is that of the eTampere City Card, which seeks to develop a multi-application, dual interface smart card system providing key Informational Society services. The project is co-ordinated by Access International Consulting Oy Ltd. VTT (Technical Research Centre of Finland) is providing additional technical consultant support. The pilot project was run during the first half of 2003 with a “test-bed ” of local students. Gradually the smart card will be offered to all citizens, with the distribution goal being 100 000 units, or 50% of the city’s population.

Basic funding (2002): 1 025 946 €

Terminated projects (2002): 13 projects, with a total budget of 209 767 €

On-going projects: 22, with a total budget of 1 016 696 €

As the activities of the sub-programmes vary in the pursuit of the common strategy, it is important to identify and promote priority areas that can potentially bring the sub-programmes closer together. The focus areas for 2003 have been identified as:

- Active, participating and influential citizenship (i.e. Increasing opportunities for influence and participation, eTampere card, New possibilities for communal spirit and operation).
- Developing expertise and business development (i.e. eTampere business service, Mobile technologies, services and content).
- Development of service innovations (i.e. Support for and development of service processes with information and communication technologies; Customer-oriented approach, active customer base, multifarious production).
- Increased in-depth international cooperation (i.e. Sixth Framework Programme; St Petersburg cooperation).

RESULTS OF ETAMPERE (NORDREGIO 2003)

The informants were asked to rate the usefulness of the eTampere initiative on a scale of 1 to 5, where 1 rated eTampere as being very useful, and 5 rated eTampere as being least useful. On average, the usefulness rating recorded was 1,75 – a useful measure. An exception here were the eTampere administrators who univocally rated the usefulness at 1. Representatives of the local and regional authorities displayed a more sceptical stance, rating the initiative as “average” in terms of its usefulness, with an average rating of 2,33.

Ranking the usefulness of various components of the eTampere initiative, the respondents were harmonious in identifying “improving co-operation between local institutions and organisations” as the most enabling factor in determining the usefulness of the initiative. At the next level, there was some disagreement between the different stakeholder groups. HEI representatives identified improved national and international visibility as the second most important factor, while representatives of the local business and public sector authorities instead forwarded improved economic competitiveness as the more instrumental component:

Table 1. Most important factors for the usefulness of eTampere by number of respondents (multiple choice)

Statement	AI	HEIs	Bus/Adm
Added quality and access to relevant information ...	9	2	3
Improved national and international visibility	13	7	3
(Improved) economic competitiveness	13	6	6
Making Tampere into a 'model city of the knowledge society'	5	2	2
Improving co-operation between local institutions/organisations	19	8	7

In Table 1. the difference between columns 2 and 3+4 is made up of the unaccounted for responses of the four eTampere administrative respondents in the sample. As can be gleaned from the table, they diverge from the priorities of the HEI and Bus/Adm respondents by putting a higher value on improved access to relevant information in electronic form.

The local stakeholders have a range of different means to meet the priorities mentioned above. When asked to rate three of the most important means, services and enabling official electronic transactions came out on top and were mentioned by half of the respondents. From a list of 14 different means no other factor was identified by more than eight respondents.

Overall, the respondents in the sample identified public interests/stakeholders as the beneficiaries of the eTampere initiative compared with private interests/stakeholders on a ratio 2:1. Within the different subsets, there were natural systematic differences. HEI representatives ranked public/private interests as the main beneficiaries on a 5:1 ratio, while the business and public sector communities held a more balanced 1:1 view on who eventually will benefit from the eTampere activities.

Below the situation at the end of October 2003 is summed up:

- The programme advances according to plan (project portfolio 52 million euros, realization rate 114 %);
- The proportion of finance from enterprises and international sources has increased in total funding;
- Capital investment exceeds 9.5 million euros;
- Ca. 400 researchers and more than 150 enterprises participate in over 100 eTampere projects. 11 international projects;
- Information Society Observatory, which aims to produce high-quality social-scientific research on information society;
- WLAN Hämeenkatu and digital TV user studies;
- Smart home – from pilot to mass product;

- W3C – Finnish regional office in Tampere;
- 9 accelerator companies, several companies in pre-accelerator;
- SME service model –from fax-mode to *e*-era;
- 2500 people trained onboard the Netti-Nysse Internet bus, almost 20 000 visitors;
- More than 4 000 citizens trained with training funding;
- *e*Tampere card, a new key to services;
- New public online services developed. Total *e*service map created for the city. The city website visited more than two million times a month;
- Several extensive international and national seminars (*e*Global, *e*BRF, Spearhead network seminar etc.);
- New culture of cooperation among stakeholders.

CONCLUSION

It can be argued on the basis of the evaluation presented here that, as a public policy initiative, *e*Tampere has been successful in implementing the selected policy measures designed to achieve its goals. Goals that were set in accordance with the wider European approach (as outlined in the *e*Europe strategy) towards Information Society development. The key goals of (1) making municipal services available online and (2) ensuring that as many of the citizens of Tampere as possible have access to them, whilst also (3) developing the aspects of Information Society other than those attached to *e*-government i.e. strengthening the Regional Innovation System (RIS) within the ICT sector (ranging from the R&D sector to the businesses and the public authorities involved) is well under way, though the final outcome cannot be seen as yet. There are indications that *e*Tampere has however now been successfully integrated into the wider sphere of innovation policy (e.g. based on survey results), though the clustering aspects of *e*Tampere (i.e. the creation of new businesses, business ideas and applications for Information Society development) can only be seen in a wider perspective. As long as the monitoring system is not further developed in line with other policy instruments for the pursuit of similar policy objectives, it is difficult to assess whether certain developments within the urban region or the RIS are due to *e*Tampere or to some other policy instrument addressing similar objectives.

BIOGRAPHY

Jarmo Viteli has been professor since 1999 at the University of Tampere and director of Hypermedialab (www.uta.fi/hyper). Hypermedialab is one of

a leading research and education units in Europe in the area of Digital Media and its implementation in various areas including education. It has around 60 researchers, many international research projects and other cooperations world wide. Currently he is on leave from his position at hypermedialab and works as director of eTampere-information society programme (www.etampere.fi). The aim is to invest 132 milion € in five years time to develop Tampere-region as one of leading regions in the Information Society development. Work includes international cooperation and strategic planning.

Prof. Viteli is actively involved in many academic activities in the area of information society and new forms knowledge construction and education.

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