Telecentre Networks and Their Role in Establishing the Knowledge Society

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Abstract

This paper outlines the starting premises of a research program recently launched by the author, which aims to assess the profile of Romanian telecentres, their degree of connection, characteristics, strategies and possibilities. It starts by presenting some basic ideas, it goes on with a brief overview of the role which telecenter networks could play in the new European informational landscape and it ends with a presentation of the Romanian case.

Key Words: Telecentre, Community Informatics, Knowledge Society

1 Introduction

Telecentres could play an important role in establishing knowledge society and reducing the „digital divide" that still exists between different EU-regions. They could be helpful in promoting the principles of the Lisbon Agenda, by providing access to ICT in rural regions with underdeveloped and remote infrastructure, thus integrating relatively isolated communities into the national and international information networks. They could be means of regional / rural economic development by transferring expertise in a number of areas, such as agriculture or rural tourism to and from the community and by improving the degree of local employment by offering teleworking opportunities. Last, but not least they could support the training of local people by using eLearning techniques, pointing out new regional trajectories to the knowledge economy.

2 Telecentres, Telecottages, Community Informatics

According to Wikipedia, a telecentre (or telecottage) is a public place where people can access computers, the Internet, and other digital technologies that enable people to gather information, create, learn, and communicate with others while they develop essential 21st-century digital skills. While each telecentre is different, their common focus is on the use of digital technologies to support community, economic, educational, and social development— reducing isolation, bridging the digital divide, promoting health issues, creating economic opportunities, and reaching out to youth for example. Telecentres exist in almost every

country, although they sometimes go by different names (e.g., village knowledge centers, infocenters, community technology centers (CTCs), community multimedia centers (CMCs), multipurpose community telecenters (MCTs), or school-based telecenters) [1]. In a first attempt to cope with our question, we have to make the difference between universal service (e.g. one Internet-connection to one household) and universal access (e.g. one Internet-connection at a reasonable distance). The second one, which implies the idea of sharing a connection, is a main characteristic of a telecentre.

Telecentres have to be strategically located, providing public access to ICT-based services and applications, being typically equipped with some combination of:

- telecommunication services such as telephony, fax, e-mail and Internet (via dial-up or ISDN, high-speed telecommunications network);

- office equipment such as computers, CD/DVD-ROM, printers and photocopiers;

- multimedia hardware and software, including radio, TV and video; and

- meeting spaces for local business or community use, training and so on.

The telecentre-movement arose in the mid '80s in Scandinavia. The four countries (Sweden, Denmark, Finland and Norway) set up their first telecottages in order to reverse the migration trend from rural areas to cities and to increase IT awareness. The first telecentres were opened in the villages of Vemdalen and Harjedalen of North Sweden in 1985, aiming to provide the basic telecommunication services for the local, isolated population. Public funds were provided to set up the centres and for the first year of operation. Telecentres in Sweden and Finland are still present in a large number, while in Denmark and Norway almost every telecottage has closed down. In 1983, the first 'community technical centre' was established in Harlem, in the United States. The movement later it spread to Australia and North America, and since 1990s, it is taking root in the other parts of the globe, mostly in developing countries.

In the next ten years, the number of the European telecentres grew to some hundreds. The Warwickshire Rural Enterprise Network (WREN) in UK was established in 1991 by the National Rural Enterprise Centre (NREC). A real success story is that of Hungary, where the movement grew out of a community development program in 1993 in Csákberény, a small mountain community in mid-western Hungary. These telecottages are now an integral part of the Hungarian government's approach to achieve local economic regeneration. The objectives of those centres are to offer community informatics services, to reduce migration providing access to ICTs, job training and career counseling, and other services not always related to ICTs, but relevant for the local community. We also have to mention here the influence of the Hungarian movement in the neighboring countries: Romania, Serbia and Slovakia. In these countries there are telecentres especially in regions with ethnically mixed population, beside the Hungarian border.

As I mentioned before, the variety of telecentres is pretty impressive, but in an attempt to still classify them, we can proceed by using some variables, such as: flexibility of services, relevance of information materials, starting-up of centers, degree of networking, financing possibilities, evaluation methods. By using these parameters, we can establish some dichotomic categorization of telecenters [2]: narrow focus – multipurpose, community based – establishment based, thematic – universal, independent – networked, profit oriented / commercial / fee-based – service oriented / free, publicly funded – privately funded, urban – rural.

Telecentres exists in many places around the World, serving different communities, implementing diverse organizational models. These models are not exclusive, since some telecentres are in fact hybrid versions of two or three different types. A quasi-classical typology distinguishes between [3]:

- Basic Telecentre – generally located in rural or marginalized areas, where the population has limited access to communication and other services, generally funded by international agencies and implemented by non-government organizations;

- Telecentre Franchise – a series of inter-connected telecentres, which are centrally coordinated but independently owned and operated, with the local private sector or the government funding the first stage of implementation and providing some technical support;

- Civic Telecentre – probably the most common type and the most difficult to identify type, located in civic institutions which has started to offer public access to their computers and Internet connections, limited services by the priority given to the primary activities of the host organizations, little in the way of training for potential users, and publicizing their services not very openly or outside the immediate community they serve;

- Cybercafe – which can be a commercial Internet café, usually located in tourist areas and affluent neighborhoods in many cities, or so-called democratic cybercafes including those that offer preferential rates or services to community or local organizations, although they continue to be commercial businesses open to the general public;

- Multipurpose Community Telecentre (MCT) – offers more than basic ICT services, focusing on specialized applications such as tele-medicine and tele-education, postal and banking services, tele-trading, rental of virtual offices, vocational training courses and support to SMEs often having, in addition, specialized equipment for applications such as videoconferencing or telemedicine.

- Phone shop – generally limits its services to public telephone access and offer the local population an important opportunity to communicate with family, distant relatives, health and business services, professional colleagues, etc.

One can distinguish between two main directions in the development of telecentres, both originating in Europe: the Scandinavian and the Anglo-Saxon models [4]. According to the *Scandinavian model*, the telecentres must provide information and communication technologies for the population of the small and/or isolated settlements in the long run, thus supporting the development of rural societies. On the one hand, after the great PC price reduction in the early nineties, more and more private households were equipped with own computers which pulled the ground from under a community solution (e.g. in Great-Britain). On the other hand, it arose a conflict between business and non-profit points of view and turned telecentres towards profit making to assure their further operation and development. Moreover, an increased support of the local enterpreneurs has become possible due to the spread of the Internet, and the enterpreneur owners are interested in producing and increasing the profit because most of the telecentres are in the joint ownership of the private and public sector, e.g. the English, Irish and Welsh telehouses keep ICT trainings for enterpreneurs and employees, and they rent their rooms and computers to tele-workers. This is called the *Anglo-Saxon model* of the telecentres, which could be described as commercial/business telecentre initiatives, that provide long-term access to the ICT devices primarily aiming at profit production. In the nineties, and mainly in the developing world (e.g. in Africa's countries), the Scandinavian model came to the forefront again, since there is considerable backwardness in each segment of the ICT penetration in these countries.

The terms of telecottage and telecentre are often used as interchangeable but some experts are applying them differently. Here's how they are used by the European Telework Development Initiative, as presented by Ian Simmins [5]:

- *Telecottage* is usually a "community based" facility that is there to assist learning, access to technology, access to work etc. for its local community, a facility that tends to emphasise "social support" for their users, most of whom will "drop in" to use some facilities, book themselves in for some training etc., but also be connected to the telecottage from their home, where they may have their main workbase;

- *Telecentre* suggests a more commercially focused facility that has been established for specific commercial purposes, like the kinds of "serviced office" facilities, but with a very high emphasis on provision of workspace and facilities with high information technology and networking capabilities. They place considerably more emphasis on providing a well managed, secure and uninterrupted working environment for people who need a place where they can get on with the job and be easily connected to their employer, colleagues, customers etc.

The Okinawa Charter on Global Information Society [6] adopted at the G8 Summit (Kyushu-Okinawa, July, 21-23, 2000) stipulates that: "The essence of the IT-driven economic and social transformation is its power to help individuals and societies to use knowledge and ideas. Our vision of an information society is one that better enables people to fulfil their potential and realise their aspirations. To this end we must ensure that IT serves the mutually supportive goals of creating sustainable economic growth, enhancing the public welfare, and fostering social cohesion, and work to fully realise its potential to strengthen democracy, increase transparency and accountability in governance, promote human rights, enhance cultural diversity, and to foster international peace and stability... everyone, everywhere should be enabled to participate in and no one should be excluded from the benefits of the global information society."

One of the paths that can lead in the direction of fulfilling this goal is that of the telecentre-movement, and the mean to attain it is *community informatics*, also known as community networking, electronic community networking, community-based technologies or community technology, which refers to an emerging set of principles and practices concerned with the use of information and communication technology as understood in the information systems discipline, in conjunction with community development and other social academic and practice areas, for the personal, social, cultural or economic development of and within communities. It can be considered as a cross or interdisciplinary approach utilizing ICTs for different forms of community action in the real or virtual spheres [7].

Telecentres are being introduced as tools to support development efforts that may help to bridge knowledge, social and economic gaps, frequently characterized as a widening chasm between the 'information rich' and 'information poor'. In order to delineate the role of telecentres in sustaining local / rural communities, one can distinguish numerous ways to address their economic and social development purpose [8]:

- develop rural and remote infrastructure and provide access to infrastructure, technology support and advice for the development of businesses;

- promote diffusion of usage and knowledge of ICT, expand access to ICT-based services, with special regards to related business services;

- provide rural regions with better public services, improved local administration, and information of general interest to the local community;

- transfer expertise in a number of areas, such as agriculture or tourism, to and from the community by providing information of special interest to specific groups, local businesses and non-governmental organizations;

- generate employment and foster socio-economic development by training local people, by offering teleworking opportunities and by giving local producers access to market information, thus reducing the need for middlemen and increasing rural incomes;

- extend the reach of public services such as education, health and social services;

- create regional cohesion by integrating relatively isolated communities into the national and international information network and thus accelerate exchange of private goods and services.

The upheaval of the telecentre-movement is neither the result of some sophisticated marketing techniques, nor the outcome of some super-efficient organization. It was its base ideas and values that promoted the movement and supported it while trying to offer solutions for the main question: "what can we do in order to help our community to benefit from the opportunities of the Information Society?" Telecentres are being introduced as tools to support development efforts that may help to bridge knowledge, social and economic gaps, frequently characterized as a widening chasm between the 'information rich' and 'information poor'. To date, there is a growing body of knowledge on how to plan and implement telecentres, as well as documented case studies, but we are only now beginning to consider the difficulty of evaluating their impact.

3 The European Union and the Knowledge-Based Society

In the last decade of the previous century, leaders of the EU became aware of some alarming facts and tendencies, which could influence very deep and in the long run the future of the Union:

- the building of a national high-speed computer network, the so-called *Information Superhighway* in the USA in the '90s, the adoption of a national plan regarding computers and the opening of the Internet for the private sector;

- the results of the *Fifth Generation Computer Project* in Japan, a failure from technological point of view, but a real success in demonstrating the importance of a well-founded, private sector-sustained governmental hi-tech project;

- the initially unthinkable success of the hypertext philosophy and the World Wide Web, and the pride felt about this par excellence European invention;

- the end of the Cold War, which accelerated and generalized the introduction in mass-production of some new technologies, based partly on the conversion of military over-capacities and partly on the auxiliary financing resulting from reduction of military expenses;

- the energetic dependency of the EU, which lead to the quest for new, unconventional and highly efficient power sources;

- the globalization of innovation, the establishing of vertically and horizontally interconnected industrial clusters in the attempt to raise the efficiency of the institutionalized innovation techniques;

- the *eurofrustration* caused by the continuous widening of the gap separating the EU-countries and the other two highly developed poles of the World (the USA and the Far East);

- the recognition of the *eurosclerosis*, of the excessive bureaucratization and technocratization, of the affirmation of counterproductive particularities and features, of the lack of flexibility;

- the extension of the Union and the intention of leveling the digital gap between the old members and the new ones.

The solution to these challenges was found in "[the] transition to a digital knowledge-based economy […] set to be a powerful factor for growth, competitiveness and job creation. It will also help improve people's quality of life and protect the environment. In order to create this 'information society for all', in 1999 the Commission launched the eEurope initiative, an ambitious programme aimed at making information technologies as widespread as possible." This stays written in the preamble of the paper called: eEurope - An information society for all [9], document which precedes a whole series of related ones: eEurope 2002 Action Plan [10], eEurope 2003+ A Co-operative effort by the Candidate Countries to implement the Information Society in Europe [11], eEurope 2005 Action Plan [12], i2010: Information Society and the media working towards growth and jobs [13].

These documents constitute the fundamentals of the so-called Lisbon Strategy, which points out the directions to be followed by the member states in establishing the 21st century knowledge society. Some of these directions, as they are stipulated in the European Commission's new strategic framework – i2010 are, as follows:

- to establish a Single European Information Space by offering affordable and secure high-bandwidth communications, rich and diverse content and digital services;

- to boost innovation and investment in ICT research, by encouraging world-class performance in research and innovation in ICT and close the gap with Europe's leading competitors;

- to boost social, economic and territorial cohesion by establishing an inclusive European information society, to promote growth and jobs in a manner that is consistent with sustainable development and that prioritises better public services and quality of life, establish an inclusive information society, offering high-quality public services and improving quality of life;

- to develop proposals and update the regulatory frameworks for electronic communications, and information society and media services, to use the Community's financial instruments to stimulate investment in strategic research and to overcome bottlenecks obstructing widespread ICT innovation, to support policies to address inclusion and quality of life.

Through the National Reform Programmes, member states, have committed themselves to adopting information society priorities in line with the Integrated Guidelines for growth and jobs by mid October 2005. They aim to:

- ensure rapid and thorough transposition of the new regulatory frameworks affecting digital convergence with an emphasis on open and competitive markets;

- increase the share of ICT research in national spending to develop modern, interoperable ICT-enabled public services;

- use investment to encourage innovation in the ICT sector;

- adopt ambitious targets for developing the information society at national level.

The Commission will ask other stakeholders to take part in dialogue in support of developing the information society. To ensure that all stakeholders are involved, the Commission proposes using the open method of coordination, which includes an exchange of good practices and annual implementation reports in respect of the Lisbon objectives.

A recent European initiative, the Cyberstrategy Project [14] (2004-2006 – part funded by the Interreg IIIC Program) specifically addressed the fact that telecentres have undergone an important evolution from their initial development as centres for the use of new ICTs, or as teleworking centres. Their main objective is to provide telecentres with the strategic tools to enable them be reference centres for the Information Society in their regions. During recent years, telecentres have implemented cultural and technological changes and they have had to adapt and update their activities and functions accordingly, but nowadays, they also specialize in issues relating to their location (urban or rural), the social needs of their region, the political point of view of their promoters, or their type of management.. For these reasons, their working objectives need to be redefined if telecentres are to be transformed into strategic development centres for their communities in the use and exploitation of the Internet and ICTs. Existing managerial systems and the implementation of new strategies within their community and region will facilitate this transformation. There are two elements that will provide competitiveness: the first is the identification of and knowledge about their target audience and the second is the analysis of each individual region in order to harness strategic and diverse skills.

One of the main outcomes of the Project is The European Telecentres Network – CIBERA – which is to become a forum for collaboration and co-operation between telecentres across Europe, providing them with a focal point for their efforts towards becoming reference centres for the promotion of the Information Society. It also aims to facilitate sharing experience, expertise and good practice with other member telecentres, it provides access to a range of tools and services developed for and by telecentre managers in Europe.

Another pan-European actor is the European Union of Telecottage Associations [15], an NGO founded by telecottage associations of 7 European countries, located in Hungary – a specialist in:

- organizing trainings on telecottage creation, services, management and sustainability,

- collecting and disseminating good solutions,

- creating training materials in community access topics,

- advisory work for organizing community access point based associations.

In their vision, the telecottage-based community access and service system is an important and essential element in the development of local societies, economies, and of the countryside; especially regarding underdeveloped regions, communities and groups. The main goals are to create and operate an international information and communication system of telecottages, to give professional services to help national telecottage training, quality assurance and other development initiatives. They also organize international support programs for underdeveloped regions, communities and groups, lobby for national support and programs for certain countries, to find out, spread and support the introduction of cost-efficient solutions.

4 Telecentre Networks in Romania

According to our typology, the Romanian implementation of the telecentre concept is situated somewhere between the Civic and the Multipurpose Community Telecentre types, being characterized by [16]:

- having public utility, offering its services to all members of the community, without any discrimination of any kind;

- being multifunctional, offering services of quality, permanently adapted to the needs of the community;

- being a forum and a catalyst of the community, acting in a responsible way;

- promotes and operates modern ICTs and learning skills.

A telecentre also has to meet some appropriate minimal technical requirements:

- the organization that hosts the telecentre has to be a legal entity;

- there has to be a person responsible for the activity of the telecentre;

- the telecentre needs an appropriate space at its disposal to function in;

- it offers at least 5 permanent services to the community;

- there is at least one permanent informational resource;

- the telecentre disposes of a minimal technical basis (2 computers and a printer);

- needs to have office hours at least 2 hours per day, 5 days a week.

In the year 2000, the Hygeia Foundation and the CREST Resource Center, both from Satu Mare, initiated the program called: "The Telecenter – Heart of Community", in partnership with the Sequoia Association – France and the Rural Assistance Center, in order to assist the economic, social and cultural development of the beneficiary communities through founding and operating of telecentres. CREST is coordinating / assisting the activity of most telecentres in the North-Western region of Romania. A similar role is played in the South-Western part of the country by the Center for Rural Assistance in Timişoara [17]. There also are some few telecentres in the Southern part of Moldova, thanks to the cooperation between the Ministry of Communication and Information Technologies and the US Agency for International Development which funded the Romanian Information Technology Initiative: dot-GOV [18]. These are aimed to serve 12000 people [19].

An intense network building is done in the South-Eastern part of Transilvania through the efforts of the Harghita Network, developed and co-ordinated by the Youth Council of the Ciuc Region. The main goal of the project is to establish an informational service system to provide ICT for individuals and other social, economic, and cultural actors in the region. The available information has to assist them in learning, running their business, looking for jobs, or simply keeping in touch. The project is the result of a series of talks which lasted more than one year, and it was financed through the Joint Program for Informatics of the Democratic Alliance of Hungarians in Romania and the Hungarian Ministry of Informatics and Telecommunications through the Progress Foundation. The network opened in November 2004 in 7 villages and now it provides broadband Internet access for about 25 settlements (roughly 70 centres). The extension of the system is based on the youth organizations and telecentres in the region, which provide the needed administrative and financial support at local level, and some private firms, selected through open tendering, which provide the technical background.

Installing telecenters, as part of its strategy of implementing universal service, was a priority of the Romanian Government since 2004 [20], which considered that these represent efficient means of preventing the social exclusion phenomenon. Thus the Ministry of Communications and Information Technology (MCIT) has applied for a loan from the World Bank for financing the Knowledge Economy Project (KEP) [21], which will support the establishment of over 200 Local Communities e-Networks (LCeNs), offering them services and technologies, including computers, Internet-access, communication services and specific content provision for different target groups (business, youth) in rural and small urban communities, in remote and disadvantaged areas. LCeNs are built according to each community's needs and assures broadband access to schools, mayoralties, public libraries, companies that develops their activity in the local communities, non-governmental organizations, as well as to the general public. The main LCeN component is the Point of Public Access to Information (PPAI), which combines two essential functions for the community: unlimited access to knowledge and increased economic competition, leading to several advantages for the local communities:

- modern communication services (e-mail, internet, telephone, fax, etc);
- support for business and community development;
- improvement of education (in schools) for children and youths;
- guaranteed access to information for all citizens and business;
- getting acquainted with computer and new technologies;
- low cost access to electronic services of the local administration.

The first objective (phase 1) of the project is: (i) to define a list of indicators for all the activities concerning the assurance of the access to information and knowledge for the members of the communities, (ii) to design the monitoring and evaluation methodology and activities, (iii) to develop, test and implement an electronic Monitoring and Evaluation System and (iv) to pilot the general M&E system. The second objective (phase 2) is the implementation of the M&E system on the Project communities. The phase 1 of the assignment is estimated to be completed within 32 weeks from the effectiveness date of the contract, while the second phase of the assignment is estimated to start in November 2007 and to be completed by June 2011.

5 Conclusion

In the last years, Romania has made serious attempts to reduce the digital gap that still exists between it and the Western countries. This was the result of the combined efforts of government, economic actors and NGOs. One of the means used in achieving this ambitious goal could be the establishing of a nationwide network of telecentres, strongly connected to other similar networks. Beneath other (social, educational, etc.) effects they may significantly contribute to the enhancement of rural digital atmosphere and regional sustainable development, and to the building of a Single European Information Space through a knowledge-based society. At the same time, we have to be aware that telecentres alone can not reverse, nor even stop the deconstruction process of the European rural areas.

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