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Slovenia – information society?

or how key development subjects respond¹

1. Introduction

The term *information society* (in continuation IS) is used to describe economic, social and spatial changes, caused by the development and implementation of information-communication technology. IS is being created by connecting and intertwining the following development subjects:

- Information providers (producers of television and radio programmes, publishers, the state, companies, local authorities, artists etc.);
- conveyers of electronic information (transmitters, companies involved with classic and mobile telephony and cable television);
- producers of hardware, enabling access to electronic information (microelectronic industry – producers of television, computer and telephone equipment);
- producers of software, application development enabling collection, management, dissemination, transmitting and use of information;
- information, information-communication infrastructure, hardware and software equipment users/buyers (companies, the state, local communities, individuals).

The need to pay due respect and support the national developmental dimension is clearly put forward in the Strategy of economic relations abroad (SERA). The strategy emphasises the priority of modernising the information-communication infrastructure (in continuation ICI), that will have to be supplemented with competitive offer of modern communication services, an essential condition for transition from the industrial society into IS. It also suggests the development of Slovenia into a primary tele-communication knot servicing central and Eastern Europe. Feasibility of the mentioned concept is the availability of top-grade knowledge and experience in relevant tele-communication fields in Slovenia. The directives of the SERA reach into almost all the basic above stated basic fields of the information society, above all the fields of conveying digital electronic information and partly the production of hardware and software equipment.

Even in the National programme for the development of tele-communication (NPDTel) we can discern a positive inclination towards IS. However its realisation in Slovenia is supported by rather one-sided goals concerning the development of information-communication technology and infrastructure, rather than the development of new applications and services. Development issues concerning adequate infrastructure and carrying equipment for digital electronic information prevail.

In Slovenia IS will not gain full support unless carriers of electronic information and domestic and foreign producers of hardware and software will not be joined by active suppliers and users of information. The mentioned action implies changed relations and conduct of the state, enterprises and local authorities.

2. The development of the information society in Slovenia

Slovenia as a state hasn't as yet fully recognised the potentials brought about by new information-communication technology and infrastructure. The same applies to basic applications and services needed to increase the efficiency of all national sub-systems – especially the economy and institutions, but also to increase its competitiveness on the European and global level.

On the local level – except in certain cases – the conditions are even worse. Especially worrying are the conditions in cities that should become the generators of development in a Europe of cities and regions.

On the level of particular enterprises, the conditions are somewhat better, but the differences in scope and methods of using technological and infrastructure possibilities are immense.

In formulating visions and development strategies in Slovenia as an IS, certain key factors should be observed, such as:

- for a starting push, forceful national policy with material and organisational support is needed, operatively executed by the Ministry of transport and communication in tight co-operation with other sectors, after all, transition into IS affects all social subsystems;
- vision – an imaginative, complex, but feasible approach is needed;
- enthusiasm – there has to be a wish for utilising opportunities and accepting change; a pragmatic shift in thinking is needed on all levels;
- critical mass – as many as possible development subjects have to be included in conducting pilot projects and the process of broader implementation;
- property rights – there has to be an agreement concerning the strategic framework and action plans, while the strategies and actions have to be directed towards satisfying real needs;
- co-ordination – of sources and initiatives to prevent redundancy;
- partnership – between the public, private and voluntary sectors;
- support – the public sector must play the key role as a stimulator of development;
- investment – the private sector has to accept part of the investment costs, especially in education;
- co-operation – there has to be readiness to exchange experience and good practices;
- analysis – programmes and actions within the IS have to be analysed and the obtained knowledge efficiently used in further development strategies;
- accessibility – simple access to information-communication technology, infrastructure and education has to be provided.

Empirical research on the effects and consequences of the development and implementation of ICI, applications and services in Slovenia is at present extremely difficult, if not impossible. Presently Slovenia is quite far from the IS and despite a decade of ongoing processes of economic and social restructuring, Slovenia as an economic, social and spatial system, is still functioning within a fordistic, industrial paradigm. The industrial or fordistic paradigm is characterised by mass production and the assembly line. It is also the basis of: social and spatial

organisation, allocation of economic and service activities in industrial and urban centres, hierarchical settlement system – physically establishing the distribution of collective and private – market – service activities, developed urban regions and less developed rural areas. The latter is manifested as development differences in the relationship centre-periphery.

The process of economic restructuring, privatisation and adapting domestic enterprises and other development subjects to liberalised activities of the European and global market, e.g. the state, local communities, is spatially monitored in Slovenia along classical methods. We are planning and modernising the existing infrastructure and building new transport (road and railroad), energy and communal infrastructure, as well as directing and organising the offer of vacant development sites equipped with infrastructure for potential foreign investors with predominantly industrial activities.

The only exception is planning the primary and secondary tele-communication infrastructure. The mentioned infrastructure – above all optic cable network – is spatially undemanding (because it runs through dedicated corridors or corridors, primarily intended for other uses, e.g. power lines, railroad, highways), as well as ecologically unproblematic.

Understanding processes of stimulated liberalisation and the opening of the Slovenian market and society to the European Union and World, raises more relevant questions, than the development of the tele-communication system and infrastructure, namely:

- What is the extent of domestic demand for tele-communication infrastructure, applications and services?
- Which development subjects are demanding such infrastructure, applications and services?
- How is demand distributed between infrastructure, applications and services?
- What is the domestic offer of tele-communication infrastructure, applications and services?
- What is the offer of similar foreign infrastructure, applications and services?
- How do offer and demand for tele-communication infrastructure, applications and services meet on the Slovenian market?
- What role does the central government play?
- How (if at all) is the central government preparing itself for assuming an active role in promoting the development of the IS?
- What is the level of awareness of development subjects concerning challenges brought about by IS?
- Which are the real issues approached by the central and local authorities, large, medium and small enterprises, non-governmental organisations and households?
- What is the extent of communication flows between enterprises on the local, regional and international level, expressed in used telephone impulses or bytes?
- What is the extent, content and market efficiency of Slovenian development subjects, especially enterprises, the state and local authorities, on the internet?

3. Subjects of development initiatives

The above mentioned issues cannot be argued for and empirically proved through research, therefore our ideas on possible effects and consequences of developing tele-communication is largely speculative. At present, when Slovenia

is still feeling »healthy« within the industrial or fordistic paradigm of social and economic development, we believe that it could be beneficial to synthetically present certain contemporary development changes, appearing in more developed countries. Some are already influencing changes in Slovenian development circumstances, with more to come in the near future. These changes are shown according to basic groups of development facilitators.

3.1 The state

The role of the state in the industrial society is expressed in directing and allocating development resources, developing the institutional framework for planning and managing the economic, social and physical system of a society. The state passes laws that define the lives of individuals and the community, but also finances numerous services, implemented by local authorities. It acts as the provider and distributor of collective services. The information revolution has changed its role. By providing individuals, enterprises and local authorities with direct and immediate access to information, modern ICI can deliver a choice of simultaneous on-line services and more possibilities for choosing between them, considering their quality and price. In this way the presently prevailing concept of collective service activities based on predominantly physical access to providers spatially concentrated in a hierarchical structure system of urban settlements, i.e. education institutions, banks, post offices, insurance agencies etc., is radically changing.

3.2 Local authorities (municipalities)

Today local authorities are predominantly performing services financed by the state. On the other hand, they are the natural marketing and development agencies for their local or regional communities. They collect and manage public and market information and represent the point where relevant information for a local information area converges. Local authorities, that are aware of the market value of information and are learning to use their own information sources, can create employment possibilities. The European Union and World Trade Organisation are in favour of open competition for resources, even those provided by the state. National, regional and local communities have to compete with other communities to obtain necessary funds. Competition is becoming increasingly difficult, but those organisations, that have access to information, have the advantage over their rivals.

Local communities in Slovenia are not attentive to all the possibilities of development programmes offered by Europe and the European Union. Most of them haven't managed to prepare development policies and measures needed for the introduction of IS into their environments. Local communities, that will not prepare policies and respond to the Unions needs and development directives, will not be able to efficiently compete for development funds. One of the main development directives is increasing competitiveness on the global market. Local electronic information areas can establish the necessary conditions for more transparent and efficient distribution of services and increase the competitive capabilities of the local community.

3.3 Enterprises

Enterprises use information to establish a competitive advantage. Most of them are already using electronic commu-

nication for direct marketing by telephone, increasing competitive capabilities and efficiency. Tele-communication is used for disseminating information about products and services. IS will enable consumers to become better informed on types of products and services they desire. Thus competition will strengthen.

In the mentioned pattern, the role of cities will change. The City developed as a market centres and the place, where inhabitants buy goods while companies process information needed for marketing. Use of new technologies in companies is diminishing the role of city administration and institutions offering business and other services in cities. Changes in marketing and possibilities for globally relocating activities intensely using information and knowledge are endangering numerous communities in developed countries. Enterprises are striving to position their production of goods and services in places where production and transport costs are lowest.

3.4 Regional spatial effects

IS can provoke the emergence of non-competitive areas, that will not be able to generate sufficient financial resources from income tax for the maintenance of collective services IS will facilitate the introduction of the principle »pay-for-use service«. Possibly there will be no need for public subsidies for services financed by the community in the future.

Technologies supporting IS allow the placement of knowledge- and information-based employment anywhere, with significant effects on the social and spatial structure.

Work-from-home and increasing number of users working from a particular place can diminish the demand for new office space. People living in suburbs and buying goods and services from a distance will have no reason to visit the cities. The cities can be emptied and turn into ghettos for the poor.

These changes have to be analysed and the effects on the operation of the public sector determined. If for instance there will be no physical work places, payment of taxes of employees will not be possible. Then again, influences on the transport infrastructure have to be considered. Since technology is affecting the »shrinking« of the World, less voyages will be needed and resources intended for investment into road and railway infrastructure can become fruitless.

4. Development acts

Government has to plan investment expenditures in advance, thus it cannot cope with rapidly changing circumstances and demands. IS will only radicalise these conditions by stimulating change and disabling conditions for predicting future needs. The transport infrastructure or business centres for example, can become obsolete soon after completion, because of changes in business flows, preferences and demands of potential users. Because of the increased rate of change it would be beneficial for local authorities and central government to design strategies and plans for introducing ICI and connected applications and services, rather than building new roads.

Development of the IS in Slovenia will amongst other depend on the formation of **information areas**, that enable access to information by various communication platforms. In-

formation areas should be established in national, regional and local communities. Pertaining relations and interests define these communities. Various organisations and individuals appear as providers of information needed in information areas. Some operate on the local, others on the regional or national level. Public institutions have to enforce information that is compatible with the needs of individuals and companies. Information areas also define market networks. Individuals, regions or the state that will not be connected to these networks will become non-competitive.

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Note

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For literature and sources turn to page 7.

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E – urban systems

1. Virtual networks and urban systems

Because of its character and scope, information technology is causing social changes. A new, so-called information society is emerging¹ whose main feature is different production and access to information. An abstract space is being created, that cannot be comprehended only as the usual social and physical space, but affects cities immensely. The city is consequently changing into a space where several separate, global, supplementary networks are connecting into the wider picture². These are **virtual networks** that intertwine and form the urban social and cultural life. Information flows through these networks and all of the »mobility« happens: tele-communication, infrastructure, transport, institutional networks of trans-national corporations, media ... Virtual networks are the place where all interaction between the urban and electronic space happens and mixes with the physical, social and cultural space.

For some time connecting into different modern efficient tele-communication systems or virtual networks isn't in the domain of innovative technological organisations, but has become a