

THE IMPORTANCE OF IMPLEMENTING THE ICT NETWORK IN ACHIEVING KNOWLEDGE TRANSFER IN THE RURAL AREAS

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Currently in Romania, the information sources available to farmers are limited and belong mostly to the public sector. The knowledge provided is relevant but insufficient in order to meet the needs of the Romanian farmers, especially since they are not oriented towards the market, as the main segment of interest. This paper has the intention to emphasize the need to introduce ICT as the main tool in supporting the decision making process and in resolving the specific issues faced by this sector. In analyzing the current situation regarding this matter, in order to propose ways to resolve the problems encountered in achieving knowledge transfer, until now, were addressed issues such as: the evolution of the knowledge transfer concept, development milestones and actions that marked the RDI sector as the main producer of information, the main supporters of the farmers in their information actions (World Bank, IFAD), means, procedures and techniques used for transmitting knowledge (extension; consultancy). But what is most important is making all this resulted information available for the farmers, fact which can only be accomplished, in our opinion, by introducing and implementing ICT in the rural areas. The main method of research is the statistical data analysis of the data regarding the components involved in the knowledge transfer process and the current status of implementation of ICT in the rural areas. Among the expected results are included identifying the main restrictive factors in achieving knowledge transfer in rural and the main implications that implementing ICT would have on farmers' market position. Introducing ICT in the rural area is, in our opinion the best way to transform information, as a research result, into knowledge, becoming this way a real input for the farmer. In practice, this will lead to lower production costs, lower prices for inputs, increased revenues by increasing the production's prices and, not least, increased level of the European funding resources attracted for supporting investments.

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1. General context

The new emerging society based on knowledge, imposes a new approach in the development of rural areas, in which innovation, information and ICTs have become at least as important as the physical geography and infrastructure.

The rapid development of ICTs is transforming the world's economy and society. In the last years, ICT usage in EU has increased considerable to the level in which, according to statistics, more than 250 million people from the member states, are regularly using the internet. At the same time, the public sector has advanced in the use of ICT for delivering its services more

efficiently in sectors like education, health and public administration giving birth to the so called online public services. But this is not the case also for the micro-enterprises and SMEs from the rural areas, for which poor access to internet is a discouraging factor for businesses in their attempt to develop various activities and to enter different markets which are still controlled by large enterprises who continue to dominate the use of modern technologies. One reason for this is that existing entrepreneurs have insufficient skills to use modern technologies. Therefore ICT, due to its impact on individuals, businesses and on the socio-economic environment in general, has become one of the most significant factors determining productivity growth, which is reflected in the GDP growth registered by the EU member states.

But despite the progress made in recent years, significant differences still exist not only between Member States, but mainly at national level, between rural and urban areas. According to statistics, by 2007, only 70% of the EU rural population was able to subscribe to a broadband connection as opposed to 98% of the population in urban areas. This was the situation before the accession of Romania and Bulgaria which tipped the balance even more in favor of the urban areas.

In order to be able to identify the main factors of change and the competitive advantages that ICT usage would bring for the rural areas, requires a rigorous analysis of the current way in which services, that are highly impacted by ICT applications, are provided or businesses, as the main source of income for rural communities, are run. This is, a growing.

We also have to consider that the use of ICTs opens up new areas of economic, social and cultural activity, of considerable importance for rural and communities, and calls into question aspects like geographical and political orders, conventional approaches to employment, education etc. In practice this means a thorough rural restructuring that will significantly accelerate the development of the targeted areas, but only if the ICT services provided will be adapted to the specific needs of local population.

In this general context the European Commission has assigned a central role to the development of on-line services. The low level of socio-economic development of the rural areas and the fact that almost half of the EU population resides there, make them the best candidates in taking full advantage of the benefits offered by ICT usage. But introducing these services will be very difficult due to the action of several restrictive factors and will require further planning, provision and support for training, connectivity, equipment.

This is way EAFRD is supporting the development of ICT businesses, services and broadband in rural areas. The opportunity to invest in these areas and in the upgrading the rural population skills, has been strongly encouraged. Investments in hardware and software are eligible in all programmes and in all measures, where their use is relevant. For example investments in broadband infrastructure are concentrated in the measure for developing basic services for the rural population and economy under Axis 3 of rural development.

2. Restrictive factors in implementing ICT in rural areas

Analyzing the situation strictly from the geographical location we can see considerable differences in access and use of PCs and particularly of Internet. The rural areas find themselves in great disadvantage to the big cities for several reasons among which the fact that Internet requires network infrastructure and services and in rural areas, the cost of access tends to be higher and quality of service lower, despite some countries' efforts to ensure standardized pricing and quality. Also incomes tend to be lower in rural areas, and ICT costs are relatively higher for low income groups. Moreover, the members of households in urban areas are more likely to have jobs and different other economic or social occupations in which computers and the Internet are needed. But even if we manage to surpass the technological problematic aspects, the main problem will be to find adequate financial sources to introduce them in this areas.

At the moment only two data sources are available at EU level concerning ICT, namely the Idate data on broadband coverage and the Eurostat Community Survey on ICT usage in households

and by individuals. But the information provided is sufficient and relevant in order to describe the general current situation. After analyzing the available data the results confirm the situation outlined before namely that there are significant gaps between urban and rural areas, thinly and densely populated areas, and that these gaps cannot be ignored and need to be reduced.

In order to do that we need to identify and analyze the main restrictive factors from the rural areas that prevent ICT development. Among them we mention:

2.1. Infrastructural deficiencies

Great efforts are needed to create equal conditions in rural areas compared to urban areas in order to minimize the existing gaps, especially since, in some specific cases, there are not even the most elementary technical facilities in the rural areas for using broadband and having internet connection.

Like in the case of Lithuania, Poland, Slovakia broadband coverage in rural areas is particularly low because of local geographical specificities and the related high costs for maintaining the network infrastructure. This is the reason for which the telecommunications operators are oriented to the massive and commercial urban market. Finding an economically feasible solution for both service providers and end users that will satisfy both is imperative. Thus, one of the most important aspects that has to be taken in consideration in the process of designing and implementing new applications is the consumers capabilities. This is way in order to achieve their potential benefits it is necessary to focus on user-oriented and cost-effective services rather than on technology-driven applications.

2.2. High costs –low incomes for the farmers

Like in other parts of the EU, the high degree of dispersal of the population in the rural areas complicates and increases the price of the provision of infrastructures and basic services, constituting a significant deficiency, because, most of the time, ICT's prices become inaccessible for the Romanian rural population, which leads to situations like the fact that In broadband penetration is about 6 times higher in urban than in rural areas,. This is way the low incomes of the farmers (compared not only to the incomes of the urban population but also to the incomes of the farmers from other EU Member States) continue to be one of the most important factors holding down ICT usage, especially in countries which have to catch up economically like Romania.

2.3 Young people migration towards rural areas

Rural areas have been out-drained for knowledge mostly by the out-migration of young people to cities and urban areas. This characterizes especially the new Member States among which is Romania. As a result of this negative process, e-learning and the development of infrastructure for its diffusion such as training centers become important priorities for rural areas.

2.4 Low level of education of the local population especially in the field of ICT

The competitiveness of industrial sectors in rural regions depends on the quality of research and the ability of consumers to transform its results (that in the last years can be accessed mainly under electronic form) into knowledge, by consuming it properly. This is way upgrading e-skills through local educational courses and training on PC use as well as training on broadband network development, which will address not only the population involved in agricultural activities but also the ones that develop different activities, becomes a necessity for local rural communities.

The effects of such an action will be seen in the improvement of the decision making process of the farmer that not only has increased his access to more information but also has improved his capacity of understanding it, resulting in a better usage.

3. Main effects of implementing ICT in the rural areas

Implementing ICT can impact on the rural areas in various ways. The effects can be found both at individual level - farm businesses, but also at community level. Experience shows that even the most traditional activities can, or have the potential to, generate economic opportunities. ICT could provide access to new technologies, practices and production methods, markets current situation, information about different players in the field that would support the development of relationships of all types within certain agro-food chains, that would support the cultivation of these opportunities.

Basically ICT and access to the internet represent support tools on one hand for communication and relationships between the rural community members and, on the other hand, for establishing a permanent connection to the economic environment, national or international, especially with the markets and their evolution.

3.1.Improving education level of the local population

ICT and Internet usage requires a set of skills and competencies which are mandatory in order to benefit from their advantages. This is way one important aspect contributing to the development of the rural areas is the farmers ability, as producers and managers, to take fast and correct decisions as well as to implement production practices and technological processes in a way that ensures their sustainable development.

Skills upgrading is a major factor in achieving these objectives. Developing IT competence among the farm community is an essential part of rural development policy and its outcomes can make a vital contribution, for example, to the adjustment of farmers to market situations and the use of new technologies.

Developing broadband without potential beneficiaries who have the skills to use it will not result in positive outcomes. Training can serve not only as a skills upgrading measure, but also as an instrument reducing unemployment, developing entrepreneurship and promoting knowledge.

So shortages of skills and qualified staff represent a major obstacle, and special attention should be given by the authorities in order to improve the situation.

3.2 Improving the local population access to information

The database currently existing in the rural areas is incomplete and inadequate for the farmers current needs, and is still transmitted by oral means among the members of the community, not being able to guarantee the accuracy of the information and giving it a highly volatile feature. This puts Romanian farmer in a disadvantage compared to the other participants from the agro food market. Introducing and promoting ICT has an important role in integrating the existing information in a wider database, making the data more reliable and accessible, for all the community members. The effects would be a shift in the market position of the Romanian farmers that will automatically become more competitive as a result of being better informed.

3.3Income diversification for the farmers delivering ICT services

Implicating the local population in implementing ICT and maintaining it will result in creating new jobs. By creating additional income opportunities, that will allow the farmers not only to support themselves and their families, but also to become less dependent on changes in climate conditions and market fluctuations, will prevent the migration towards the cities and could even attract part of the population towards the current rural depopulated areas and enrich the socio-economic development of rural areas by providing the local population with services.

3.4Modernization of agricultural holdings and adding value to products

The European Union, through the funds for sustaining new member states gave Romanian farmers the possibility to modernize their businesses. Substantial support for agricultural holdings,

including for the purchase of computers and new technologies and machinery, are provided under two measures of Axis 1 of rural development — “Modernization of agricultural holdings” (code 121) and “Adding value to agricultural and forestry products” (code 123). The purpose of this action is to improve the consumption of information by giving farmers the possibility to develop the necessary infrastructure for accessing it.

3.5 Creation of micro-enterprises and business development

Micro-enterprises and rural off-farm businesses will also benefit substantially when it comes to the development of IT. The creation of ICT-based services, cooperation networking, e-commerce and e-marketing, cluster formation and bookkeeping, are the main targets of the current policy in the field. It is considered that they will represent a real support not only for the existing businesses but also for the start-up companies that will benefit for all the new technology and information provided by ICT.

3.6 Rural tourism and ICT

Rural tourism represents one of the major economic pillars for business development in the rural areas, a non agricultural activity that has become very popular in the last several years and that provides the local population with an additional income.

Tackling rural tourism with ICT can lead to positive effects everywhere, but especially in areas with poor or missing telephone infrastructure where access to the internet is hugely disadvantaged or absent.

In the new period ICT will contribute to rural tourism mainly through the creation of websites for marketing and e-booking, tourist web portals, information centers equipped with ICT, etc

3.7 Other expected effects

The current situation presents sufficient evidence that growth in rural areas can be achieved if ICT is used correctly by addressing current market and socio-economic deficiencies. Among other expected effects that will benefit the rural areas we can mention reducing the unemployment rate by creating new jobs, raising environmental awareness by distributing knowledge and education on environmental problems and issues and promoting sustainability, insuring the local population with the basic services, promoting the local cultural and natural heritage.

4. Conclusions

The new technologies that will emerge could radically change the present distance constraint of the ICT. These points to the need to develop tools and techniques to help rural areas to plan and ensure that the appropriate solutions are selected for their individual needs and in order to adopt to new technologies.

Never the less implementing ICT will benefit the rural areas by providing aid to traditional activities in the promotion and the commercialization of existing, traditional, products (small industry, handicrafts and agriculture) by creation of new service activities.

Agricultura este importantă nu numai pentru ceea ce produce, ci și pentru rolul deținut de societate prin populația agricolă numeroasă și prin rolul său în protecția mediului, în conservarea vieții rurale și a peisajelor. Datorită importanței agriculturii în economie este imperios necesar să se afle între prioritățile de dezvoltare pe termen scurt și mediu în vederea restructurării și modernizării, iar pe termen lung să rămână în continuare o șansă pentru dezvoltarea durabilă a mediului rural european

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