Decreasing the Digital Divide by Increasing E-Innovation and E-Readiness Abilities in Agriculture and Rural Areas

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ABSTRACT

Technologies and skills in the ICT sector have rapidly advanced in the past forty years, but the profession has not kept up with this process. Unfortunately, poorly qualified colleagues are even found in sector today. The EU ensures that the knowledge, skills and creativity of the European workforce (including ICT practitioners) meet the highest standards, by using effective lifelong learning. ICT programs offer workers the full advantage of strategic and operational opportunities. More and better qualified ICT practitioners and e-skilled managers are needed to take advantage of them. That is why e-skills are a central aspect of European policies, which increase the competitiveness and productivity of the workforce. Education providers, government and industries have to collaborate to accomplish these goals. Important factors of the digital divide are networking, internet penetration and services, as well as e-skills on all levels. This research and developments focus on the discovery of the differences in the e-readiness and developing of education programs in agri-informatics to reduce the digital gaps in agriculture and rural areas. In the first part of the article, the usage of network services were evaluated on two regional levels. On the national level, it analyzed the EU member states, in order to compare their actual development level. On a micro-regional level, the SMEs of a typical rural settlement were evaluated, since within the functional analysis, the evaluation of rural regions has grown in importance and, with regard to territory and population, Hungary is mainly classified as a rural area. 106 enterprises were involved in this study and the data collected during the research were derived by Principal Component and Cluster analyses. Farms consider network services to be unnecessary because of the nature of their work, even though most of the factors included in the analysis were considered important or expressly important by service and commercial enterprises, regardless of the applications they use. The second part of the article presents those educational tools which could increase the e-readiness of SMEs and principally aid agricultural enterprises.

Keywords: Digital Divide, Education, E-Learning, E-Skills, ICT, Innovation

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1. INTRODUCTION

The digital divide term is used to describe the discrepancy between people who have access and the resources to use new information and communication tools, such as the Internet, and people who do not have the resources and access to the technology (Kyriakidou et al., 2011). The term also describes the discrepancy between those who have the skills, knowledge and abilities to use the technologies and those who do not. The digital divide can exist between those living in rural areas and those living in urban areas, between the educated and uneducated, between economic classes, and on a global scale between more and less industrially developed nations.

Since gender, age, racial, income, and educational gaps in the digital divide have lessened compared to past levels, some researchers prognosticate that the digital divide is shifting from a gap in access and connectivity to ICTs to a knowledge divide. A knowledge divide concerning technology presents the possibility that the gap has moved beyond access and having the resources to connect to ICTs to interpreting and understanding information presented once connected (Graham, 2011). Classifying the main factors of digital divide can be seen on Figure 1.

The economic factor means that individuals and communities don’t have access to a computer or an up-to-date Internet service (because of lack of money); many developing countries struggle to provide adequate telephone lines; PC hardware and software are simply too expensive for many people in the developing countries (Fuchs, 2009). The social factor formerly the digital divide was attributed to Internet Access (Jeffrey, 2007). Nowadays, most people have access to the Internet thanks to libraries, and Internet cafes etc. Many of today’s jobs require ICT skills and qualifications. People without an education in ICT are at a disadvantage and are unable to get work (Bozionelos, 2004). The geographical factor means that the availability of the Internet throughout the world shows large differences between world regions. This can be a result of lack of internet access/infrastructure, language and culture. In the case of the fear of technology factor many people do not use technology because they: are not confident about their own ability to use computer skills; fear that others will laugh at their attempts, therefore it is easier not to try; think they will cause a computer problem as they experiment.
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