Business Administration and Business Economics

Entrepreneurship and Human Resources as Important Forces Affecting Electronic Readiness in Building the Information Society in Albania

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Abstract: Today information has become an important element without which society actors cannot achieve their goals. The term "information society" is increasingly used nowadays instead of the terms "production" or "consumption society", because of the importance and necessity of information in today's dynamic environment. In these conditions, even Albania is trying to give the proper importance and emphasis to, not just the use of information, but to the use of tools and technologies that enable efficiency in the collection, storage, processing, and distribution of data and the use information. Thus, information and communication technologies (ICT), are finding today in the Albanian society, a steadily increasing use. For the Albanian Government has established and implements the strategy is the national information and communication technologies (ICT).

Keywords: information society; ICT strategy; e-readiness

JEL Classification: G14, E21

1. Introduction

Actually, Albania, as also some other countries in the SEE group, is not subject to a consistent and systematic evaluation of e-readiness, because there is no government or non-government institution that is committed to this process. This article does not pretend to measure e-readiness in the country, but its goal is to submit existing information regarding the above aspects in Albania, as well as a description of the current state of skills and knowledge of people in using technology.

The methodology used involves collecting data through secondary sources such as Internet, various studies conducted on Albania and Eastern European countries and data collected by the respective institutions. These have helped in identifying the main problems. Further, the distribution of 100 questionnaires and its analysis has enabled the identification of the situation of ICT use by individuals and businesses in the country.

Findings show that ICTs are now used more in sectors such as governance and administration, but also education and business. They are used less in health or other sectors. Infrastructure for the use of technology should be developed further. There is still much to do, although ongoing efforts are taking place for its nationwide expansion.

On the other hand, the Albanians use ICT more for work and less for socialization and education, according to the results of the questionnaire. However features such as age, education level, or occupation, are thought to affect the benefits and use of ICT in human resources. These findings may affect the construction of appropriate strategies to increase e-readiness in our country.

Information has become an important element without which society cannot achieve its objectives. The term “information society” is increasingly used nowadays, instead of the terms “production” or “consumption society”, because of the importance and necessity of information in today's dynamic environment.

The implementation of national ICT strategy and the efforts to build the information society, in order to benefit from using ICT effectively in sectors of strategic importance to the economy, lead to the need to pursue these efforts through quantitative and qualitative indicators. One way to assess the strategy and progress of efforts to build the information society is the evaluation of the concept of electronic readiness, or e-readiness, which shows the extent to which a given society, social group or organization is aware, customized and prepared to use new information technologies and communication.

These developments has incited different world institutions in pursuing and examining the development of information and communications technology (ICT) in different world economies, and evaluated and ranked their relative digital progress. They have measured not only the availability and adoption of ICT (or “connectivity”) in different countries, but also development of the social, cultural and economic building blocks necessary for its effective use. The last attempt is to gauge the extent to which ICT and selected ICT-enabled services are being used, given that it is the use of technology which ultimately contributes to the overall economic progress of a country.

The ICT development, on the other hand requires preparation, largely in the form of investment in network infrastructure, skills and regulatory frameworks. The notion of preparation lent itself to the term “e-readiness”. Since these

developments, every month over 40m more people become mobile-phone users, for example, and the phones themselves are increasingly powerful data devices. The Internet—now a ubiquitous platform for commerce, entertainment and communication—has generated a thriving industry. Global monthly Internet traffic in 2010 is two-thirds higher than one year ago, according to Cisco, a network equipment provider. The capacity of the world's international optical fibber cables—which carry all this traffic—doubles every 18 months, based on estimates by Telegraphy, a telecommunications research firm. This demand is being driven by increasingly sophisticated usage of Internet-enabled services: video accounts for more than 50% of global Internet traffic today, and the data generated by Facebook, a social networking site, is estimated to surpass that of the entire world's e-mail.

The challenges ahead for countries, in our view, will be in learning how to extract the maximum economic and other benefits from the use of digital technology. In a situation when most of the world has achieved "e-readiness" to one degree or another, Albania is also trying to do its best in this regard, compared with other SEE countries. But let us begin first with the e-readiness meaning and measurements, and then learn how some of these measurements apply in Albania thus reflecting the ICT development.

2. What is e-readiness?

E-readiness was generally defined as the extent of readiness in access to network infrastructures and technologies. It can also be seen as the degree to which a society is prepared to participate in the digital economy with the underlying concept that the digital economy can help to build a better society. Regardless of a country's level of development, readiness is assessed by determining the relative standing of its society and its economy in the areas that are most critical for its participation to the networked world. So, the term e-readiness is used here to denote the degree to which a given society, social group or organization is aware of, has adjusted to and is prepared to use the new information and communication technologies. It is important to assess it in terms of defining and implementing of national development strategy. The aim is to develop awareness of the challenges and comparative advantages and deficits and to encourage development of the capacity to tackle them and to exploit the new possibilities.

However, e-Readiness can be a relative concept and it could be defined differently depending on each country's priorities and perspective. In most countries including developing countries, it goes beyond this generic definition to include various other factors. This evolves from the importance given to basic infrastructures in the eighties and nineties to more emphasis on the socio-economic dimensions of technologies today. Societies at large are increasingly empowered in decision-

making processes and such achievements may not have been achieved without timely introduction and use of such technologies.

E-Readiness is about readiness in human capacities, political leadership, institutional frameworks, supportive policies, complimentary regulations, business environment, investment opportunities, and public-private partnerships in technologies. A review of recent experiences in the developing world shows that the countries which are the most successful in creating a favourable climate for the use of ICTs are those that make it a priority. Their determination to participate in the digital world is reflected by rapidly focused actions supported by superior planning and sustained by dynamic public-private partnerships. All these factors play their own corresponding roles in all countries, even in different ways. The underlying concepts on the above issues are the mutually complimentary issues of e-economy and e-society.

E-Readiness Measurement in SEE Countries

As it was said before, there are different approaches to e - Readiness assessment.

Whichever approach the country adopts, it shall be implemented systematically and used consistently in time. That is the only way it can produce useful results. With the exception of Croatia, actually none of the countries in the SEE region has systematic and consistent process of e-Readiness assessment. There are neither governmental nor non-government institutions that are dedicated to long-term assessment of country's e-Readiness. Some existing external assessments also do not provide clear picture and do not cover the region well. The overall assessment is not very encouraging but it is hard to measure exact level of e-Readiness in the region, especially changes and trends in last few years. Since the assessment of country's e-Readiness is one of the most important inputs for ICT strategy formulation and implementation, it leads us to conclusion that SEE countries need to significantly improve their ability to assess their e-Readiness status.

Since the measurement of the e-readiness requires measurements in different fields, in the following section we will treat only the human resources aspect in this regard.

3. Human Resources in Assessing ICT Development

Investments in people are essential to economic and social development. Investments in technology will impact less on reducing poverty or improving the lives of underserved communities, unless accompanied by efforts to build capacity of target populations to exploit the opportunities offered by ICT. Education and skill development are critical components of assisting individuals, communities and even across the country, to be oriented to the global information economy.

Therefore they must be essential elements in any development plan. Some of the main policy principles in this regard include:

Education and digital literacy

Expanding educational opportunities and digital literacy in underserved communities is critical to broadening economic opportunities and removing barriers to digital inclusion. Although certain forms of ICTs (*e.g.*, telephones) can be and are being used effectively without widespread digital literacy, it is equally clear that digital literacy is vital to enabling users unlock the full potential of ICTs.

ICTs can also play a significant role in helping teachers expand learning opportunities. Microsoft recognizes the vital role of education in human capacity building and the contribution that ICTs can make in this area. The company supports several initiatives that focus on the specific educational needs of developing countries and has partnered with many governments and development organizations to implement these initiatives.

ICT skills development

ICT skills are vital to enabling individuals and organizations to leverage the full potential of information and communication technologies. Yet in many parts of the developing world, relatively few users have the skills to utilize ICT effectively. Fewer still have the expertise to develop ICT products or provide critical IT services. A shortage of skilled ICT workers will make organizations reluctant to invest in ICT ( ), thereby curtailing demand for domestic ICT products and services and leaving fewer opportunities for entrepreneurs and domestic ICT firms. A chronic shortage of skilled ICT workers will impair a country's competitiveness not only in the ICT sector – one of the fastest growing areas of the global economy – but in many other more traditional sectors as well. To improve skill development, policy makers should work in:

- *establishing certified training programs for:*
    - *IT professionals and developers,*
    - *Employees inside public and private sector*
    - *youth population through*
- *Strengthening business education and training and including ICTs.*

Methodology of the study

The methodology used involves collecting data through secondary sources such as Internet, various studies conducted on Albania and Eastern European countries and data collected by the respective institutions. These have helped in identifying the main problems that Albania faces inside ICT sector regarding the e-readiness level. Secondary data helped also in identifying the state of the art in different ICT

programs and curricula throughout our high education systems. It must be said that data are missing in lower levels of our education system. Since, the literature identify the digital literacy of employees in the public and private sector as an important factor for e-readiness in the country, 200 questionnaires are distributed among individuals and organizations (100 for individuals and 100 for organizations, public and private) Its analysis has enabled the identification of the situation of ICT use by individuals and businesses in the country. Although the questionnaires have covered different aspects, we will focus only in ICT use by individuals as well as in the existence of training programs inside organizations.

4. E-Readiness for Information Society in Albania

ICT sector is growing significantly in Albania, especially Internet deployment. Situation is rapidly changing from one year to the other, despite the fact that this country has the lowest telecommunication in Europe. There is a general awareness about the role of ICT between people and government; and as consequence, there are many ICT related initiatives, especially private in main urban areas. Mobile telephony has a high penetration in urban areas as an alternative solution in conditions of low penetration of fixed telephony. Despite this considerable growth of ICT deployment, there are several critical obstacles to be addressed. Some of them are related with cultural and economical conditions, for example the problem of electrical energy shortages, especially in rural areas, high poverty and lack of telecommunications infrastructure in remote areas. In addition, there is lack of data on ICT penetration and usage by different sectors and organizations. As result, it is difficult to understand the real quantitative e-Readiness of the country and the impact of many projects that are realized without coordination.

Liberalization and privatization of telecommunications in the last two years have had considerable impact in promotion of Internet usage. It is expected that adding a fourth mobile operator may decrease respective prices, while for fixed telephony services the impact of liberalization is disputable as result of de-facto monopoly of the actual incumbent operator.

An important aspect is lack of formalized information systems and data processing methodologies in management, which creates difficulties for SMEs in preparation of business planning and management.

On the other hand, another important factor that we strongly believe is having a positive effect is the ever growing number of trained technical people both in ICT and accounting/auditing services. As result, the web presence of companies is growing even if with relatively low quality.

Public administration, especially in central institutions, intensively uses computers, but this usage is mainly individual, without institutional integration. Institutional

applications are missing in the majority of institutions that would make more efficient the work of administration and would pave the way for e-government applications. Almost all ministries, for example, have built institutional web sites but only few of them have dynamic content automatically reflecting their institutional activities (in most cases site updates are done manually). Education is considered as fundamental for society. However, critical problems related with the infrastructure and educational materials have negative impact on quality of teaching. Poverty of a part of population makes education of children a luxury. Government, aided by different donors, is rebuilding and re-equipping many schools, due to its e-education strategy, but its impact on real education is questionable. Full curricula for basic elements of computer use are introduced in high schools, but teaching is problematic due to lack of computers and labs.

Deployment of ICT applications in Albania is increasing contiguously, following trends characteristic for overall development of the country. There is strong commitment from donors and certain government circles to promote ICT applications, particularly with development and approval of the National Strategy for ICT Development.

5. Human Resources and Digital Literacy in Albania

Development of education and research in nineties and after was conditioned by deep political, social and economic changes that seriously impacted academic sectors. Decentralization, liberalization, opening with abroad and increasing of international collaboration, financial problems, and brain drainage, decreased collaboration with public sectors characterize this period.

ICT education started in seventies with few university courses dedicated in programming. In the eighties, the Chair of Informatics was created and full university curricula started at University of Tirana. Short and mid-term courses were developed as well. In nineties, together with liberalization, personal computers "invaded" the country and the necessity for fast widespread of knowledge on ICT was obvious. Many organizations started organizing short-term courses on basic computer skills. Considering the status of ICT in Albanian schools, the situation is improved during last years, but still it is inadequate. In June 2002, about 500 PCs are available in 400 high schools, and only 25 high schools have a computer laboratory with 10 computers each. At that time, all high schools in Tirana are equipped with a computer laboratory with 15 computers each and 24-hour Internet access, and one computer is also provided to the secretariat of the school.

Regarding the equipment of schools in all the country, the most important project was that of e-schools, 2005-2009. It aimed at providing primary and secondary

schools in Albania with modern computer labs, equipped with high-speed, reliable Internet connectivity. The Program also addresses the needs and capacity of teachers to use ICT though a number of practical training courses and developed ICT curricula. On 3 December 2009, the Ministry of Education and Science celebrated the installation of computers and their connection to the internet in 2,107 schools.

Considering Internet connectivity, the majority of faculties is connected with different ISPs, but normally they do not implement in-house Internet services while using those offered by ISPs. DNS records from EDU.AL include 24 names, but only 9 institutions have web sites.

Regarding Internet in schools, the e-school project supported a cost of USD 1.05 million out of approximately USD 14.4 million of all the project. The UNDP also provided technical support that includes a plan to distribute computers and connect all schools to the Internet with Albtelecom providing the Internet connection.

Specialized training and/or certification on ICT are developing also. There is an NGO that offers Microsoft certification. Creation of Cisco Academies has lagged behind due to lack of synergy between potential stakeholders and lack of financial means. In this context, the aid from international organizations would help to overcome obstacles. Another example of certified and EU-accepted computer credentials is the Expert Certification that had been introduced in Albania with assistance of

PARSH/GTZ project. Details can be found at www.xpert-online.de.

Some important figures below show about the growth of users of Internet and mobile phones, as well as the number of graduate students in ICT curricula around the country.

Table 1. ICT users and digital literacy

YEARS	2002	2003	2004	2005	2006	2007	2008	2009
Mobile phones users (number)	370,000	800,000	1,150,000	1,259,200	1,530,000	1,769,100	2,095,000	
Internet users	2500	30000	37500	46900	58600	75000	471000	
Number of graduate students in ICT	1340	1680	1970	2136	3040	3675	2345	3987

Further data from the questionnaires will help to reflect the situation in more detail. The first group of data collected has to do with recognition and use of Information and communication technologies. Through these data are supposed to understand the level of use of individuals as well as the efforts to improve digital literacy

among employees. About 73% of respondents are familiar with the term ICT, and after the explanation, about 90% of the respondents are users.

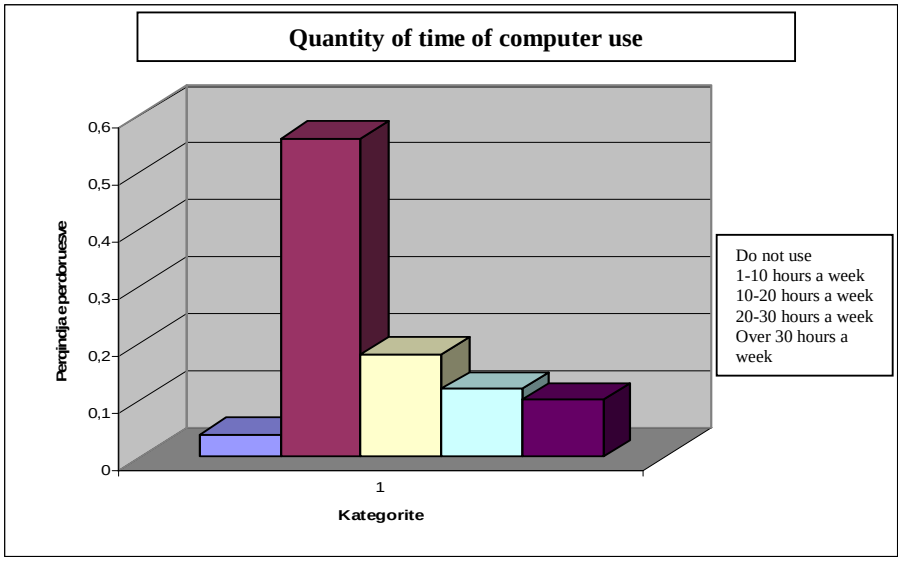
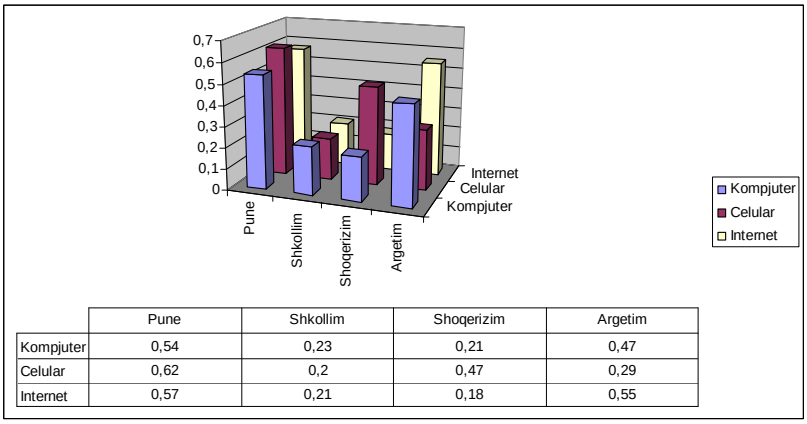


Figure 1. Time of using computers by individuals

It appears that the majority of respondents, 56% of them use the computer, but only 1-10 hours. A much lower percentage use the computer on 10 hours a day in each of the categories mentioned. It is easily seen that individual users are still in first steps in using computers.

Users also have ranked from 1 to 4 the main uses of technology, including computer, cellular phone and the Internet, as three of the main aspects of the technology used identified by exploratory research. Data show that:

Most users use 50-60% use technology more for work estimating it in the first place, while the percentage of users that rank the three media more for entertainment or socialization is significantly lower. The figure 2 shows the percentage of respondents which rank 1 one of the usages: work, education, socialization and entertainment.



	Pune	Shkollim	Shoqerizim	Argetim
Kompjuter	0,54	0,23	0,21	0,47
Celular	0,62	0,2	0,47	0,29
Internet	0,57	0,21	0,18	0,55

Figure 2. Computer, cell-phone and Internet usage

Moreover, the degree of use and knowledge is evaluated through the list of some behaviours of individuals with regard to technology, such as their conversations with other people, their sharing experiences, their time spending etc. The goal is to identify the percentage of users who have knowledge above average and the percentage of those who are knowledgeable below average. The analysis is done through the Likert scale. So, fig 3 shows the percentage of respondents who have ranked more than the average, 3,65, for all the factors mentioned above that represent knowledge and use.

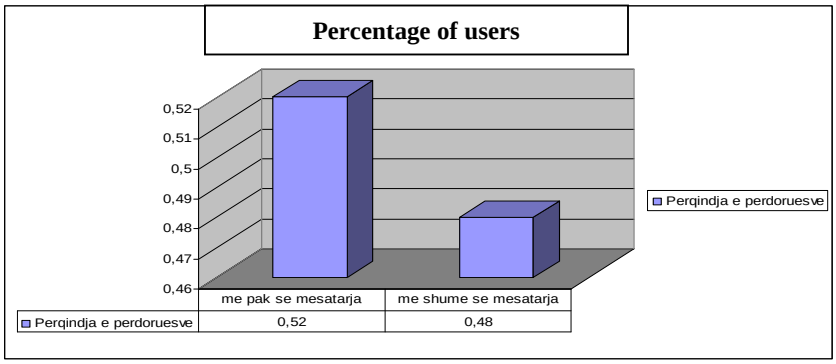


Figure 3. Percentage of users that use ICTs over and under the average

Beyond the actual use, digital literacy means more. Increased use will come from more education and trainings in ICT. But as it can be seen in the figures, efforts to improve in this regard are also scarce. A low percentage of organizations subject to the interviewing through their managers/owners to train employees train their employees in the field of computer science, compared to the percentage of those

who do not train. These percentages are respectively 24% and 76%. Still there is room to influence the spread of knowledge which will also boost the penetration of technology in Albanian organizations.

Figure 4 indicates the level of knowledge required by employees in the organizations. Thus, only 14 percent of organizations require computer knowledge from all the employees, 44% of them require the knowledge from only a portion of employees and 42% do not have digital literacy as a necessary condition for hiring employees. These figures continue to point to the low penetration of technology in a good part of the organizations. Also, for organizations that demonstrate the demand for workers with knowledge on information technologies, we can say that only a small fraction of them require advanced knowledge, respectively 32% and 68% require only initial knowledge. This figure shows that the quality of use leaves much to be desired in terms of knowledge.

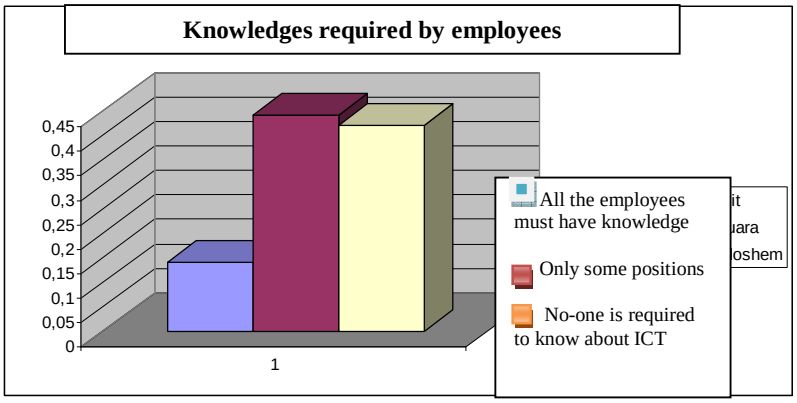


Figure 4. Percentage of organizations according to the required digital literacy to their employees

Regarding the trainings, the situation is almost the same. Only 23% of the companies offer trainings for their employees in ICT field, the rest do not think of this option as possible, even in the near future.

6. Conclusions and Recommendations

The development of ICT has been very significant in Albania. The country has seen the coming of Internet, the advent of closed networks and applications, the growing imports of computers and systems and the significant use of computers and Internet in offices. These developments are positive and are contributing towards the overall development of Albania even though some difficulties remain. E-readiness is not measured in Albania and many data are still lacking for assessing digital economy. Although different factors impact the state of the art of ICT, and a variety of indicators are necessary to measure e-readiness in a country, the human factor is one of the most important ones. Without skilled people, an economy could not benefit from all the potential of ICT. ICT awareness at both the decision-making and operational level needs encouragement. High priority should be given also to ICT training and implementation. Lack of trained manpower is yet one of the barriers for fully employment of ICT in Albania.

After evaluating a relatively poor situation in ICT use by individuals, the results are not better in organizations. Even changes have been made last years, in the equipment with computers, Internet connections and building first Information Systems, much more have to be done in regard to train people in using ICT, in the right ways in organizations.

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