

INFLUENCES AND TRENDS OF ITC EVOLUTION IN THE EUROPEAN UNION

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Abstract: : The ITC area was, is and will be the center of future economic developments. New technologies are in the center of attention in more and more large and varied areas, in everyday life, and economic evolution, influenced by the economic crisis that still persists, is an environment for the ongoing accelerated development of the ITC. At EU level, the development of ICT must however be seen as a series of national policies joined by a European strategy, which leads, on the one hand, to a certain rigidity in the adoption of urgent measures, while, on the other hand, allows countries with a less developed ITC area to benefit from the achievements of technologically advanced countries. Seen through the prism of the major objectives to be achieved during 2011 - 2020, ITC should become the central point in any measure political, economic or social, which will be adopted by the European Union.

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1. INTRODUCTION

The creation of the Single European Market was an element of particular historical importance, because of the huge impact of the political, economic and social implications. With a history starting in 1951, when The European Coal and Steel Community was established between France, Germany, Belgium, Italy, Luxembourg and the Netherlands, the idea behind the Single Market is actually a simple one: to treat Europe as an undivided space where “people, money, goods and services can interact freely, in order to stimulate competition and trade, and, in the end, to improve efficiency”. The increased choice of goods and services will raise quality and cut prices. It is the basic recipe for prosperity.

The Single Market is one of the European Union’s greatest achievements. If, at the beginning, it was about a total population of 345 million people from 12 countries, today more than 500 million people from 27 countries have access to its benefits. Restrictions on trade and free competition between UE countries have gradually been eliminated, and in the end the result was that the life standard has increased.

Today, the Single Market allows people and businesses to move and trade freely across borders within the EU. The Single Market has transformed the way Europeans live, work, travel and do business and study.

Despite all the achievements of the past 20 years, the European single market is not yet fully functional. The biggest gaps are seen in how national and European policies interact, as a common legislation is generally missing, and in the fact that

administrative obstacles, due to social special conditions at national level, make it almost impossible for some EU decisions to be implemented.

Above all, since 2008, the economic crisis has hit EU, with major implications on the single market, especially in terms of its social aspects. It became increasingly difficult to implement a common strategy, unique to all Member States, given the fact that if some states faced falling living standards, in other countries, unemployment became a social problem or public debt threatened to throw the country into chaos.

Following the emergence of the economic crisis, the industry, in its totality, has seen a major change. Low consumption of goods and services, lack of money, reducing the investments, increasing taxes and austerity policies lead to a significant decrease of the importance and of the market share of certain products, in some cases going up to the closure of production facilities.

All this has led to the unemployment, the need to modernize production technologies, changes in the structure of labor demand, in other words to major changes regarding the European market labor. It can thus be said that one of the most important implications of the European single market was on the evolution of labor market. Still, because of differences in development and due to the economic crisis, the labor market in the European Union has evolved differently in each of the EU countries, despite a uniform policy at EU level. This is primarily due to major differences between EU countries, differences recorded in all major areas - education, health, research, industry, finance etc.

Given this, the need for a unique strategy for EU members became imperative, as this strategy should draw the outline of the main objectives to be achieved, and based on these lines, each EU Member will have to develop a national policy.

2. OBJECTIVES

In this respect, Europe 2020 should be mentioned, as it is a strategic document of the European Union, which considers the economic and social development of the EU in the 21st century, by identifying the fundamental directions of development of the Union. The document underlines the main directions which the European Union wants to follow in the future, both from the economic and social perspective, during 2011 – 2020. The Europe 2020 strategy is thus a continuation of the Lisbon Agenda 2010, which had the same purpose in the years 2000-2010.

According to the strategy, the EU wants to become an economy that meets three main requirements: be smart, be sustainable and meet an inclusive growth. In this respect, the EU has defined five key objectives, which on employment, education, innovation, social inclusion and environmental / energy, goals that must be achieved by 2020.

From this point of view, the analysis must take into account the strong bond, the permanent interaction between the single market, labor market and the structure of the economy, namely the market demand for products and services. The objectives of the 2020 strategy should be adjusted current market situation, a market where demand for new technologies witnessed a sharp increase, while old habits of consumption register significant drops or even disappear.

First and foremost, the single market will be functional only through the implementation of uniform ICT technologies, for each of the EU member countries. The need comes not only from the general objectives of the union, but rather from the fact that only a rapid adaptation to new technologies will ensure future growth.

And the truth is that now we are witnessing a true real life migration to virtual space. We are witnessing, increasingly more often, the move of the entire personal and professional activities in the virtual space, whether we are talking about social networks, personal web pages or the pages for the business segment.

Many researches have been conducted about this evolution, and available data sustain this point of view. A clear picture can be made if we consider the data from the last 5 years - 2010 – 2014 – on how ICT has made its presence felt in the Europe – EU Included –, in terms of the end user. We see that the utilization of new technologies has increased sharply, in some cases even doubling, if we are to consider the number of active mobile-broadband subscriptions – as presented in Table no.1 Evolution of new ITC usage in Europe 2010-2014 –, while at the end of 2014 the number of internet users in the EU reaching 467 million, or nearly 60% of the total population.

Table no. 1 Evolution of new ITC usage in Europe 2010-2014

(millions)					Per 100 inhabitants				
2010	2011	2012	2013	2014	2010	2011	2012	2013	2014
Fixed-telephone subscriptions									
263	258	250	247	245	42.8	41.6	40.3	39.6	39.2
Mobile-cellular subscriptions									
709	730	743	766	780	115.0	117.9	119.6	122.8	124.7
Active mobile-broadband subscriptions									
188	244	305	356	399	30.5	39.4	49.1	57.1	63.8
Fixed (wired)-broadband subscriptions									
145	154	159	166	173	23.6	24.8	25.7	26.6	27.7

(millions)					(%)				
2010	2011	2012	2013	2014	2010	2011	2012	2013	2014
Households with Internet access at home									
N/A	N/A	N/A	N/A	N/A	67.8	70.7	74.0	76.2	78.0
Individuals using the Internet									
410	428	443	456	467	66.6	69.2	71.4	73.1	74.8

Source: International Telecommunication, <http://www.itu.int>

In this respect, for each part of the society we live in, certain elements were created in order to provide us, on daily basis, the opportunity to discuss about a world focused on software and gadgets that appear every day. It is a world where if you forgot your card at home, you can pay only by accessing its bar code that is loaded on your phone. Wherever you turn, information technology is at home.

This context has provided simple and precise niches for different companies to impose the way in which a business is born and grows, in which the learning system

develops, in which the community socializes or, even simpler, in which we, the consumers, live our lives. Thus, the so-called poles of new technologies were developed, be they either of the nature of increasing economic performance and competitiveness of a business or of personal nature, like social networks.

3. ANALYSES

Today, there are several features that dedicated ICT area must meet, as a precondition of evolution to come, that will transform completely and irrevocably the ICT into an absolute necessity.

The ICT area can be seen through the prism of some main attributes, signifying its current and future trends, and developments placed in the context of a continuous development of virtual space of transmission and data storage, whether professional or personal. If we are to identify them, some of them can be named as follows:

a. The Architecture and complexity of virtual platforms

If, until now, a website was built to bring forward information about its owner and, if necessary, its offer, today there is the increasing need to create virtual platforms that can provide a complexity of perfectly correlated data with both the internal environment or structure of a business and its external environment.

Thus, it becomes vital that, what a potential caller sees online to provide plenty of accurate information, to meet all potential needs of potential clients. Basically, virtual platforms will need not provide a sequence of data on a page that can store much but without any relations between data, but they will provide the information necessary to be competitive and to a mutual benefit.

b. Design and development of social platforms

The globalization of virtual space by creating social platform offers companies the perfect opportunity to juggle with key information concerning consumer behavior and needs. This is because current social platforms are perfect links, connecting different users with different areas of interest: business, travel, music, reading, art, etc.

Thus, by simply accessing a social network, you have the opportunity to find out the feedback of various bloggers about various destinations and/or tourism service quality in those areas, or you can get information about different companies, be they of national or international interest, or, at the same time, you can also spread information on your own concerns, feelings, likes and dislikes etc. Social networks have thus become major hubs of communication between consumers and providers, of any category: individuals, companies or public organizations.

c. Grouping solutions

As described above, the trend in the virtual environment is to offer users all the options they may need in a single communication node, and this lead to accelerated development of the concept of intelligent software, a software that permits the approach and use of several ideas embedded in a single strategy, in order to bring closer competitiveness and business.

We all know that the most important problem we are facing is the time, namely the lack of time, which leads to finding new and different approaches regarding how to organize your day's work or leisure hours. Thus, ICT technology has made possible, for example, online payments from anywhere, from a computer, tablet or mobile phone, online orders (shopping of clothes, books, food, etc.), meetings and video conferences with people from different corners of the world, regardless of time zone differences. All this led to the creation of platforms that provide not only punctual solutions, but a

strategy to include even more and more varied solutions. It is a way of saying that the solutions of the past simply do not work anymore, it's time to come up with new ones.

d. Security and anonymity of data

This is a permanent debated topic, since the XXI century brought the new concept of “war of information”, as it became more and more clear that who has the correct, accurate and in time information, holds the key to economic power.

It is important to underline the fact that the future of data security is connected to how fast the response will be in the event of an cybernetic attack on virtual platforms holding important personal or business data (competition, customers, important partners and so on). The on-going discussion is about how safe and secure a virtual platform is, this leading to the development of new applications to monitor these platforms, to prevent future attacks or to minimize the damage in case of a successful one. From this point on, we can see the importance of keeping the data in perfect “anonymity”, of using this data for the final goal of increasing technical and economical capabilities, and not for control or for crossing the existing line between what public and private means.

e. The ability to be analytical

The analysis becomes a competitive product when used in conjunction with other important components that lead to business growth. If you will just continue the analysis, without putting into practice its conclusions, then it will not entail any increase or development of that activity. Segment for IT & C's demonstrated this concept every time.

f. Software architecture

It is important to understand, accept and use the fact that the concept of globalization is not just for consumer markets and free trade zones, labor migration or exchange of goods, but it is a concept used increasingly often in the virtual world, because, after all, the ultimate goal of a virtual platform is to bring in the same point all the services a business can provide, so that the consumer will not look elsewhere, knowing that “here” he can find all the answers to all his/her questions.

g. User Experience

Regardless of the scope of involvement of IT & C's in everyday life, the user experience is extremely important. This can make the difference between a profitable business today, with low costs and optimized revenues, and a business standstill. Moreover, the trend of the future is that this experience will be transformed into a multifunctional “printer”, which by the push of a button, will help the user generate multiple solutions in record time.

4. CONCLUSIONS

In conclusion, the tendency is to create ICT products that will promptly meet the needs of users and provide a strategic framework to achieve their goals, at the same time being challenging, with useful and constantly updated information.

In order to meet these demands, the EU needs to make some dramatic changes and serious investments, in order to keep a front seat in the future ICT field. The Europe 2020 document needs to refer to the ICT trends, as a major chapter in the future economical growth. In this perspective, effort need to be done in the field of – at least – use of e-governing services, online services and the number of employees in the IT&C.

In this perspective, it is important to keep in mind the objectives of FP7 ICT Work Programme 2013, that defined the priorities for the the ICT field from 2007 until

2013, priorities that have been “divided into eight ‘Challenges’ of strategic interest to European society:

Challenge 1 - Pervasive and Trusted Network and Service Infrastructures

Challenge 2 - Cognitive Systems and Robotics

Challenge 3 - Alternative Paths to Components and Systems

Challenge 4 - Technologies for Digital Content and Languages

Challenge 5 - ICT for Health, Ageing Well, Inclusion and Governance

Challenge 6 - ICT for low carbon economy

Challenge 7 - ICT for the Enterprise and Manufacturing

Challenge 8 - ICT for Creativity and Learning”

At the end of FP7, the new FP8 programme was launched. Known as “Towards the next Framework Programme” or, simpler, Horizon 2020, the FP8 is “the most important EU Research and Innovation programme ever”, with a total budget of almost €80 billion for a period of 7 years, from 2014 to 2020. The amount of money mentioned here is only the sum provided by the EU, since it is expected that this money will also attract a more and more funds from the private sector. Thus, the research programme aims to bring into attention “more breakthroughs, discoveries and world-firsts”, as it is going to become a bridge that will allow ideas to go from a completely controlled, theoretical environment to the place where they will be tested in real life conditions - the market.

Horizon 2020 is considered a very good and promising tool to create jobs along with facilitating economic growth, and from this perspective it has the strong support of both the European Parliament and the political leaders of Europe, who agreed that the best way to build the future of Europe is by investing in the research area.

By “coupling research and innovation, Horizon 2020 is helping to achieve this with its emphasis on excellent science, industrial leadership and tackling societal challenges”. The aim is to create all the necessary conditions for countries in Europe to be able to produce “world-class science, remove barriers to innovation and make it easier for the public and private sectors to work together in delivering innovation”.

The FP8 Programme will benefit from support from many other measures to complete and further develop the European Research Area, measures that will try to break down barriers in order to create a real single market for knowledge, research and innovation.

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