The Development of the Information Technology Market and its Use by Albanian Business

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Abstract

Information technology has become a key priority of the 21st Century, and its transformative power has become a major enabler for economic and social growth. IT therefore provides an essential tool for empowering people, and creating an environment that nurtures technological and service innovation, whilst triggering positive change in business processes as well as benefitting society as a whole. This theoretical chapter describes the evolution of the IT market in Albania, with a focus mostly on the business implementation of IT. The Global Information Technology Report is analyzed and taken into consideration for providing a general point of view on IT usage in Albania. The results of a questionnaire that has been conducted among different types of businesses demonstrate different approaches towards IT implementation in Albanian businesses. By applying mainly quantitative research analysis, we show that Albanian businesses will have to use more IT in order to improve their business processes.

Keywords: Information technology, business processes, market, Albania.

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Introduction

Information sharing through information technology (IT) and the media has become a central resource in the knowledge-based production of goods and services involving suppliers, producers, information providers and information users (Low, 2000). Today, most organizations in all sectors of industry, commerce and government are fundamentally dependent on their information technology. IT, however, not only has the potential to change the way an organization works but also the very nature of its business (Galliers, 1989). Through the use of IT to support the introduction of electronic markets, buying and selling can be carried out in a fraction of the time, thereby disrupting conventional marketing and distribution channels (Malone et al., 1989).

Today communication networks are essential for all areas and sectors in societies and economies in developed and emerging countries. As a result IT has become a kind of "inevitable luxury", and at the same time it creates a feeling of "cargo cult" – people begin to think that simply by using computers problems will be solved (Harris, 1998). They are bringing people together worldwide and enabling global cooperation. Private activities, most business processes and public administrations are based on the availability of reliable communication networks. On a more strategic level, IT may also be passed from an organization to its suppliers or customers in order to gain or provide a better service (Cash, 1985).

Nowadays the Global Internet is a major driving force for the further development of communication networks. The widespread introduction of mobile and wireless communication more than 20 years ago has provided access to global communication to a fast increasing number of users, which helps emerging economies to grow and to improve the life of their citizens. Many services and applications are based on the Internet. Critical infrastructures such as energy, gas, water, traffic, and health are becoming increasingly dependent on information and communication technology (ICT). As such, IT has become a critical infrastructure for all modern societies and economies. It is a key enabling technology for all sectors and is making other processes and the use of resources more efficient. In particular, in developed countries we see that the political visions with regard to IT are often too dependent on the individual visions of particular leaders.

In this chapter, both "Information Technology" (IT) and "Information and Communication Technology" (ICT) are used as terms, although the main

focus is on IT. Information technology is a term that encompasses all forms of technology used to create, store, exchange and use information in its various forms (business data, voice conversations, still images and other forms, including those not as yet conceived). It is a convenient term for including both telephony and computer technology in the same word. ICT, by contrast, is a term that includes any communication device or application, encompassing: radio, television, cellular phones, computer and network hardware and software, satellite systems, as well as the various services and applications associated with them, such as video-conferencing and distance learning. The two terms are very similar and in most cases ICT can be seen as an extended synonym for IT. The main difference between them is that IT is more widely used within industry, whereas ICT is applied to the academic and educational side of things and is used in educational institutions, such as schools, colleges and universities. When executing a business, IT facilitates the business by providing four sets of core services. These core services are: providing information; providing tools to improve productivity; providing business process automation; and, providing the means to connect with customers. Currently, IT has become an essential part in business operations and has provided lots of job opportunities worldwide.

This case study reviews the development of IT market and its use by Albanian businesses. Section 2 describes the evolution of the IT market, giving a short overview of this market and industry in Albania. Section 3 examines data about IT usage in Albania**.** Finally, Section 4 provides some conclusions describing the lessons that can be learned and highlights from the experience in Albania.

An Overview of IT Market in Albania: Past, Present and Future

Albania, formerly a closed, and centrally planned state, is making the transition to a modern open-market economy. The country has made significant progress from being Europe's poorest country during 1990s to being reclassified as a middle-income country (MIC). Economic reforms in the first decade of transition were much focused on the areas of privatization, deregulation and liberalization in all sectors of the economy. Even though the implementation of IT had started earlier in the public sector where we may point out the establishment of Center of Computational Mathematics (QMLL) in 1971 and INIMA (Institute of Applied Informatics and Mathematics) in 1986 where, in the same year the first lines of data communication were created

(Beqiraj & Frasheri, 1998). During the years 1992-1994 the private sector was established and that period also marked the beginning of IT usage in the private sector.

Albania began to implement IT in businesses when other countries were in the network-centric phase. This had some advantages, because it was implementing a technology that others were already using and which had been tested elsewhere before. But from the other side of the coin there was no background for this new field, even though the country had some experience from the public sector as mentioned above that provided some help for the new generation of IT staff to adapt. IT usage increasingly gained massive usage, oriented by the sophisticated technology that was in use (Baci, Zoto & Hakrama, 2010).

The Albanian economy is relatively new and efficiency-driven. Research conducted by the World Economic Forum shows that the country has achieved the average values of all indicators, characterizing an efficiency-driven economy. For the past 9 years Albania witnessed stable development. In the period 2004 – 2008 the country recorded around a 6% yearly GDP growth rate and the level of foreign direct investments (FDIs) remained one of the lowest in Eastern Europe. Due to the joint efforts of different stakeholders, such as the government, donors and businesses there has been some significant improvement in Albanian IT over the past 6 years.

The proof of this is that the late annual report (2012) on doing business in Albania identifies IT as one of the main development opportunities for the country's economy. The industry has realized the importance of organizations offering professional services to companies, thus helping them to enhance the quality of their workforce and ensure the best possible positioning of the Albanian IT sector on the regional and international markets. Furthermore Albanian IT organizations are actively involved in attracting investors from the Albanian Diaspora. The mobile penetration in the country is quite intensive; by the end of 2011 the rates were close to 90%. This is one of the highest rates in the region. More than half of the Albanian population is using the Internet. Furthermore there has been a huge progress in the field of public procurement - all services are electronic.

The growth of IT in Albania in these years has come as a result of the socio-economic development of the following:

- The opening up of the market to foreign countries
- An increase in the number of businesses and competition
- Increased cooperation and competition with foreign businesses

- The focus of businesses on the quality of products or services they offer
- An increased number of specialists in the field of information technologies, computer science, electronics, and other computer oriented disciplines, and
- Changing the organizational structure of businesses already having a special department for IT.

The future growth of the IT sector and Albania's potential for competitiveness are strongly supported by the increasing quality of university technical education in the country. Another factor that fosters this development is the expected increase in investments in the country which will lead to an increase in the demand for Information Technologies. Most of the companies working in the IT sector in Albania are not specialized in a particular sector of the market but have two or more activities in their portfolio. For example, very few companies are specialized only in software development, design, system integration, or hardware distribution. As the main market of local companies is mainly the domestic one these companies have to adjust their specializations in wider aspects. Most of their products and services are built upon their customers' requirements, but still they possess and develop their own products and services in different fields.

In recent years, government measures have been introduced to bring Albania up to speed in the Digital Age. The Government of Albania has recognized the need for ICT for greater economic and social development and has not only focused on measures to enhance a greater supply of ICT services but has also made a concerted effort in the last decade to stimulate demand for ICT services, through government and through the development of access to ICT services. Government continues to promote the introduction of IT in various sectors. As such, during 2011 and 2012, the budget expenditure on education, where a particular focus has been given to the introduction of ICT services, was estimated at between 3.4 and 3.8% of GDP. The Government of Albania intends to promote the development of IT in Albania and identify concrete actions to enhance the availability, affordability and accessibility of communications services. Specific measures will be defined to promote roll-out and awareness of the benefits of IT to daily life, work, education, commerce, government, and health, and enhance investment throughout the country.

IT competitiveness indicators, measured through the World Economic Forum competitiveness indexes, position Albania in the middle of those

countries that have been researched (Figure 1, Appendix A). Taking into account the positive trend of the Albanian economy and IT infrastructure development in the last few years one can expect that the country will continue to improve its competitive position in the coming years. Innovation, local competition and the business environment are necessary prerequisites for the further enhancement of the competitiveness of the country.

Data and Methodology

In this section data from the *Global Information Technology Report 2011-2012 and World Economic Forum,* has been used. This data presents different aspects of IT usage in Albania. The methodology used by the authors of the Report was the gathering of data from various international agencies and national authorities that have studied aspects of the IT market, and then comparing the data from the different countries included in the project. Also, a survey was conducted on IT usage in 100 Albanian businesses, taken from a range of small, medium and large firms. The non-responsive ratio was less than 60 percent, because 58 out of 100 questionnaires were returned and analyzed. The aim of this survey is to identify how much the businesses have been using Information Technology and what the trend for the future in this field is. At the same time the results of this survey will show us at which phase of evolution IT in Albania is at. The survey was open to different companies ranging from trading firms, construction firms, tourism firms, and state owned companies or organizations.

The results of the short questionnaires that have been collected will show the different approaches Albanian businesses have taken in implementing IT, including the investments made in IT and the use of software for analyzing, management and marketing. These questions in the survey were made to provide a picture of how the businesses use IT. An important indicator of technology use in organizations is the number of computers. According to the questionnaire, it can be seen what the percentage of organizations is that have at least one computer. As it can be seen by Figure 3, this ratio is very high because about 89% of the organizations have at least one computer. So basic technology is spread throughout the organization. The second question tests if a specific business either has or does not have an IT office. Then the third question takes information about the percentage of the budget which goes to the IT office. The next question tests if their companies or businesses have specialized staff for IT Systems. Another question tests either if a business has

a long-term plan for the implementation and development of IT in their business or not, or if it is planning to have one in the future. The sixth question asks if their company invests in IT or not. The last question tests if a firm has a web site or not.

Figure 2: The level of completed surveys

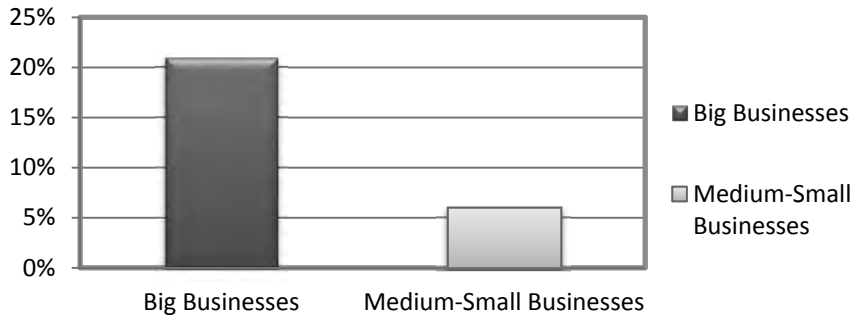


Figure 2 shows in percentage terms the level of completed surveys from the contracted ones. As has been shown, 21% of the big businesses contacted have completed the survey as have just 6% of the small and medium businesses. Even though the number of companies who took the survey was low, the survey can be still be used to gain some understanding of the situation of Albanian IT usage. The low number of businesses that completed the survey shows that the level of knowledge and interest they have in the field of IT is low. Furthermore, we may say that especially in the case of small and medium businesses, their interest in using IT in their daily jobs is very low, this may be related to the costs of implementing IT, so it seems better for them to avoid using it. Big businesses, by contrast, are just using computers for accounting reasons and as a tool for marketing.

In the second question as to whether or not a business has an IT office the result was that 13 companies gave the answer that they have such an office and nearly all of them, with the exception of two were big companies. For the third question, which was about the percentage of their budget they devote to such an office, the answer was around 12%. This parameter shows that the level of the share for big Albanian companies is very low by comparison with other countries. For the question on whether they have specialized IT staff, 14 companies answered that they do have them and all of these were big businesses.

Figure 3: % of firms with computers

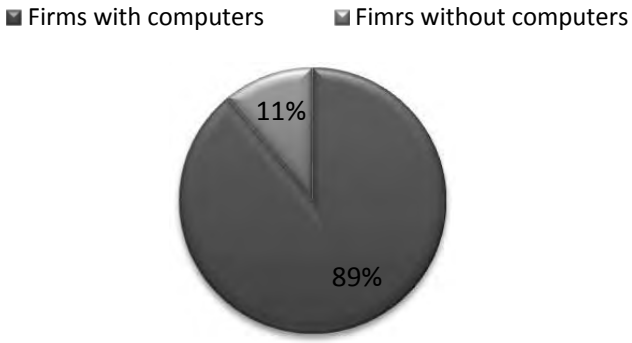
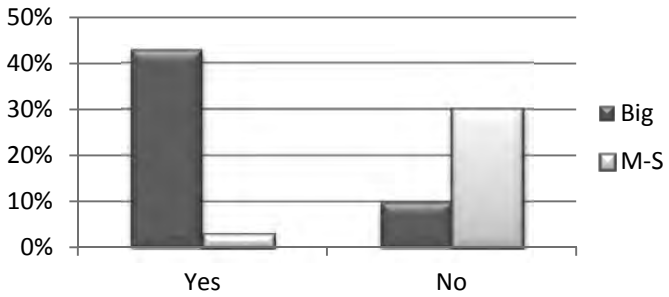
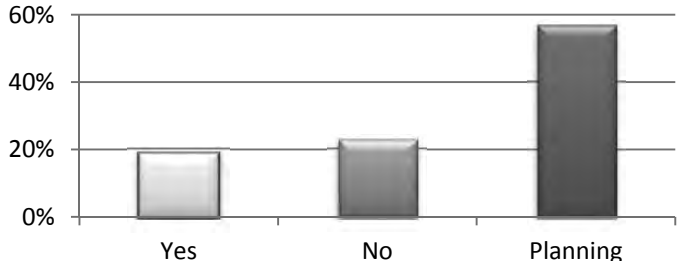


Figure 4: IT office in business



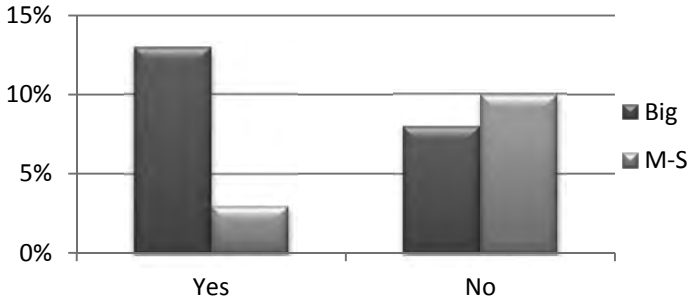
For the next question about the percentage of budget invested in Information Technology, the same number of companies who responded in the affirmative for specialized staff also responded with the percentage, and the average percentage of their budget for that purpose is 8 %. This actually shows that Albania is in the network-development phase, thus helping them to enhance the quality of their workforce.

Figure 5: Long-term plan for the implementation of IT



As can be seen in Figure 5, we see that most of the businesses are not planning to have any implementation of IT in the future. This is related to what data they can do and for a small and medium firm there is no possibility for them to use it. This is due to the fact that it is expensive and needs a lot of human resources in this direction, things that these businesses don't actually have. As for the big companies, it is normal to think that they need to have such plans, to take advantage of the latest techniques and methodologies in the IT sector.

Figure 6: Investment in IT

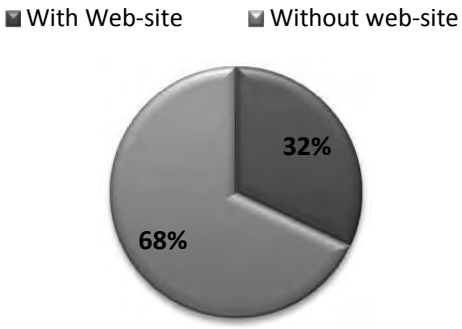


These results show that Albanian businesses are not looking at IT as a tool that will bring any advantages to their every day jobs. Most of the businesses see the investments in IT as being too risky for them and sometimes they just say that for them it is a luxury, but an inevitable luxury that they should take into consideration. Even in the big companies that answered the questionnaire, they don't invest a lot in IT, only the IT related businesses are investing a lot. There should be much more effort by society to

accept IT in their businesses and to be more aware of the advantages that this technology can bring to their businesses.

Another indicator on the use of technology is the number of organizations with Internet connections. Figure 7 demonstrates that there is a considerable number of organizations, 68 % of them, that don't have a web site. This indicator, on the other hand does not show anything about the quality of use of the Internet as well as the benefits of its use for the organizations. There is a need for more investigation from a functional point of view, why and how organizations use Internet services in improving their business processes, and what quality is required from them.

Figure 7: Firms with web site



Conclusions and Recommendations

Information technology has become an important element of modern organizations. The aim of using technology has changed a lot over the years. Now it is important not only to improve efficiency but also to improve business effectiveness and to manage organizations more strategically, through the use of IT. IT can be used not only to reduce costs, but to add value, as well as to share benefits with other interested actors, such as customers, suppliers and third parties. Even if we can say that IT is more important for the entire organization, the innovations should be business-driven, not technology-driven, thereby helping business processes to improve company profitability and goal fulfillment.

Companies in Albania are not exactly in the same situation with regard to the use of technology. They are eager to invest in technology, and have a relatively high dispersion of technology, but problems arise with employees and their skills in using technology. They also use technology more in searching for information or for communications, mainly through outside organizations such as public lines and the Internet, while only a few organizations use IT for adding value to their product or service, and for improving their operations and business processes, in favor of profitability. The benefits of using IT in Albanian organizations are limited in organizational efficiency, especially, in most cases, with regard to cost savings. IT is used less for improving relationships with customers or for fronting competition and building competitive advantage.

The survey results also suggest the same things and even the differences between types of businesses are clearly seen. Small-Medium businesses don't use IT as they don't feel the need for it because of the high cost that it entails, even though it should be said that some of them have started to use this technology and sometimes they use it also as a tool for marketing or other purposes. As for the big businesses, they surely have to use IT, but they invest less in it. The results show that Albania is still in the network-development phase, as we haven't fully implemented IT into everyday jobs, and a lot of investments are needed for this. There is an inevitable luxury that Albanian businesses should take into consideration while using IT, as other businesses may have it and they may use it to a competitive advantage. A lot needs to be done in trying to expand the use of IT, by making business more aware of the advantages of this technology. This will help the businesses and the development of the country by raising their profits.

For this reason it is necessary for the directors of companies to obtain the necessary knowledge about recent developments and the possible applications of information technology in their companies. It is true that there exist initial difficulties in its application, especially for small and medium sized businesses, in relation to high hardware, maintenance and training costs.

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Appendix A

Figure 1: Competitive Indexes and data

COMPETITIVE INDEXES AND DATA[9]

	Population (m)	GDP $ (b)	GDP per capita $	WEF GCR index Rank (value)	GCR innovation Rank (value)	WEF GITR Rank (value)	E-gov. development Rank (value)	E-participation Rank (value)
Albania	**3,2**	**11,8**	**3,7**	**88(3,94)**	**121(2,57)**	**87(3,56)**	**85(0.4519)**	**86(0.1286)**
Armenia	3,1	9,3	3	98(3,76)	116(2,63)	109(3,24)	110(0.4025)	135(0.0429)
Azerbaijan	8,9	51,1	5,7	57(4,29)	61(3,16)	70(3,79)	83(0.4571)	68(0.1714)
BiH	3,8	16,9	4,5	102(3,70)	120(2,59)	110(3,24)	74(0.4698)	135(0.0429)
Georgia	4,4	11,7	2,6	93(3,86)	121(2,51)	98(3,45)	100(0.4248)	127(0.0571)
Kosovo	1,8	5,6	3,1	n/a	n/a	n/a	n/a	n/a
Macedonia	2,1	9,1	4,4	79(4,02)	97(2,88)	72(3,79)	52(0.5261)	55(0.2143)
Moldova	3,6	5,8	1,6	94(3,86)	129(2,49)	97 (3,45)	80(0.4611)	58(0.2000)
Montenegro	0,6	4	6,4	49(4,36)	45(3,48)	44(4,09)	60(0.5101)	76(0.1571)
Serbia	7,3	39,1	5,4	96(3,84)	88(2,93)	93(3,52)	81(0.4585)	135(0.0429)
Ukraine	45,8	138	3	89(3,90)	63(3,11)	90(3,53)	54(0.5181)	48(0.2571)

Source: World Economic Forum