

TECHNOLOGICAL DEVELOPMENT AND SUCCESS APPLICATION OF E-COMMERCE – CAN BE TECHNOLOGY THE ONLY FACTOR OF SUCCESS?

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Abstract

The purpose of this paper is to analyze if technological development is enough for having success application of virtual commerce. This material has like prime objective to study if only adapting necessary and adequate technology businesses that operate in Albania are able to realize with success e-commerce. Information technology yet is transformed in key investment's priority in developed countries. This investment isn't realized only for being leader in technological innovations but also for using that for another profit way; realize commerce in all world countries without physical presence of contracting parties. This new form of commerce is diffused more and more not only in countries that are leader in technological innovation but also in countries that just adapt fabricated technologies. High profits that bring e-commerce and difficulties presented from traditional method of commerce motivate us to realize a study is Albania will have success in e-commerce application only adapting necessary technologies for this commerce form. The case of touristic agencies that operate in Albania, which actually are almost the unique that realize e-commerce in Albania, motivate us to rise and to belief this hypothesis till in their verification. But for gain or not the hypothesis 'verification our analyze will be based in the study of data that offer to us practice of other countries. Also for giving more clear results in this paper will be studied only technological development like isolated factor from the impact of other factors.

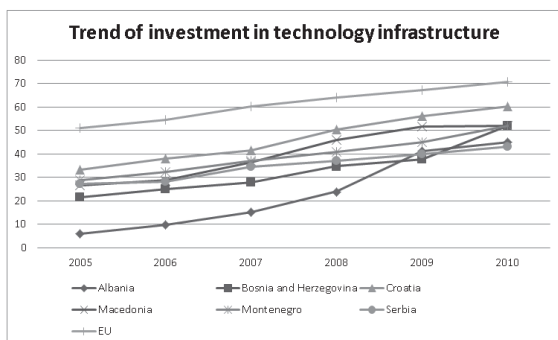
Keywords: e-commerce, technological development, Albanian businesses.

1. Introduction

Technologic development is viewed from countries not only like a possibility for realize innovations but also like a profit manner using technologies for doing commerce through virtual networks. E-commerce from his first application till yet has presented permanent growth. Big impact in this growth has had also continuous improvement of information technology in direction of security's raise and increase of speed for realize the transactions.

Also Albania, in support of her aspiration for being part of EU, in latest years has invested permanently in the raise of information technology's usage rate. An important impact in this direction has had also decrease of costs for possession of these technologies from users. The chart below reflects the trend of investment in technology infrastructure in Albania and in some other countries.

Chart 1: Trend of investment in technology infrastructure



As we see from the chart investment in technology infrastructure in Albania is in raise year to year but the question is: **Is sufficient for Albania this raise in technology infrastructure for having success in e-commerce application?**

1.1 The Problem of the study

The motif of this study is to show data of information technology use and also the development that has archived investment in technology during latest years in Albania. The questions that tent to answer this paper are:

- What trend has had the use of information technology in Albania?
- The rate of information technology's use is enough for success application of e-commerce from Albanian businesses?

1.2 The importance of this study

This study is important because his purpose is to reflect if only investment in technology is enough or not for having success application of virtual commerce. Because attention of all countries is concentrated yet in information technology's utilization and in investigation of possibility for apply e-commerce, is important to be done preliminary studies if only investment in technology is key factor apply with success e-commerce in Albania. These preliminary studies will help all parties interested in this form of commerce to invest in the key factors that will bring success in e-commerce's realization from businesses that operate in Albania.

1.3 Study's hypotheses

The main hypothesis of this study is:

- Ho: Investment in information technology is the main factor for success application of e-commerce in Albania

2. Literature review

The internet and proliferation of capable and affordable computers and telecommunication devices have made electronic commerce (e-commerce) the fastest growing sector of most western economies (Th. Golob & A.Regan, 2001). Information technology gives people virtual accessibility to a rapidly growing range of activities (Th. Golob & A.Regan, 2001).

The role of the ICT sector in economic development and employment creation in developing countries has been

widely recognized and studied extensively at regional and international levels. According to Lenley Hensarling, technologies will let companies more easily create communities of like-minded customers, and will offer more secure ways to vouch for information that is sent back and forth over a network.

Martin Boyd, said the real-time aspect of future e-commerce technologies will allow users to engage in "threaded discussions" as they negotiate contracts and share data. He added that increasing use of markup languages like XML could quicken the pace of change.

"We'll see some slow adoption of these things in the next eight or nine months, but it should speed up after that," he noted.

According to Dave DeCaprio, chief architect of infrastructure services at i2, new technologies should take e-commerce beyond the capabilities of current Web browsers, and should enable more dependable services in the wireless realm. He said that smart interactive portals, accessible from wired or wireless locations, are the best way to consolidate information in a single place, separate mission-critical functions from other operations and control who has access to specific data. Indeed, the overall goal of e-commerce technology innovation seems to be to ensure that all participants in a market are on the same page, even in a constantly changing environment.

E-commerce technologies are perceived as a mainstream to improve productivity and information flow and communications (P. Zou & Y. Seo, 2006). The necessary technological solutions for e-supply chain systems are readily available in the current market. Some of the fundamental issues for successful ecommerce in construction, such as signature exchange (Pederson, 1999; Asokan et al., 2000), secure payment (Shamir et al, 1998; Bellare et al., 2000), and fair contracting models (Coscia et al., 2000; Rohm & Pernul 2000; Liu et al., 2001) have already been addressed in broader business-to-business (B2B) projects.

All these studies and others realized from researchers in different economic fields shows the importance that has continuous' improvement of technology in realization of virtual commerce.

3. Development of technological infrastructure in Albania

Based in technological development, countries can be divided in two major groups:

- Countries that develop and apply technologies
- Countries that only consume technological innovations

Albania is included in second group of countries, is the group of states that only consume technological innovations and not has her contribution in development of new technologies¹. The main reasons in this direction are: the fact that Albania is presented late with technological development and haven't the infrastructure, necessary

1 During 2007, Council Of Ministers approved Albanian status like associate member of FP7 Program. Meanwhile research activities in Albania are limited for non saying almost inexistent.

human and material capacities for develop technological innovations².

In october 2002, Albania is being part of an common agenda with countries of South-eastern Europe for invest in usage of new technologies³. In this panel, investment in insertion and application of information technology is turned in primary issue of government agenda in Albania. However, technological development that has archived Albania has known some stages, which are characterized from different impact factors.

3.1 Stages of technological development in Albania

Political regimens that has known Albania, have had main influence in the level of information technology usage. Before 1990's, centralized government not allowed the existence of contacts with other countries, isolating in this manner Albanian country from known and application that information technology had raised. Fix telephony⁴ was the only communication technology known in Albania during this period.

Year 1990, was year that marked the entrance of Albania in market economy. Known of tecnological developments those were in application in other countries stimulate Albanian individuals and businesses to aspire to be users of these technologies. However, independently of desire for know and use new technologies, existed many factors that inhibit this desire. Among key factors we mention:

- Concentration of attention in economic problems, which was more imediate for being resolve than technologies' application
- High entrance cost of technological equipments in Albania
- Absence of knowledge for use computer technology
- Absence of able persons for realizes the necessary coaching for use computer technology, etc.

But, except of these inhibitor factors, existed also factors that have positive impact in this direction. Some of these factors were:

- Importation of computer technologies from foreign businesses that were created in Albania
- Realization of many foreign projects in Albania has brought among others also corresponding logistics in necessary computer equipment needed for these projects
- Donations of foreign institutions for Albanian public institutions in many cases have included also computer equipments
- Return of Albanians from their emigration in other countries, among others was accompanied with brought of computer knowledge from them

2 Cross Cutting Strategy on information technology

3 Cross Cutting Strategy on information technology

4 Fix telephony is not used in wide range in Albania. In this period have had the luxury for having telephon in home only powerful families.

Meanwhile other part of population may use public telephones which were also limited in number and with problematic networks in communication.

- Albanian desire for know these technological developments has do that these technologies to be part of daily life of Albanians even if their costs were higher.

Computer technology is accompanied fast also with entrance of internet in Albania. Internet is established for the first time in Albania in 1991 from Soros Foundation⁵. From this time till yet information technology usage is developed with high rates. This development is viewed not only in computer technology but also in telecommunication's field. Even if a part of new technologies aren't part of daily use of Albanians they aren't unknown. Internet and other means of telecommunication have helped in fast absorption of knowledge about technological innovations.

Year 2007 marked the real concentration of Albanian's government attention in growing of rates of information's technology usage in Albania⁶. A main factor for this initiative was orientation towards European development's policies. Since Europe declare technological development and his application in wide range like the way towards economic development, Albanian aspiration for being part of European Union can't permit orientation towards another agenda.

In 2007, in Albania only 15% of population was internet users⁷ and only 10% have in possess fix telephony⁸. Whiles mobile telephony operators, AMC and Vodafone, in period 2001-2007, have known sensitive growth⁹. Mobile technology impacted not only in growth of telecommunication rate but also in raise of knowledge about new mobile equipments produced in developed countries. These knowledges allow Albanian users to start application of new options that these mobile technologies offer.

In year 2008¹⁰, entrance of third operator in mobile telephony, Eagle Mobile, impact in the raise of competition in this market bringing also the raise of services. Mobile operators have offered GPRS¹¹ and EDGE¹² services. Independently of that, costs of these services were high. Entrance of forth operator, Plus Telecommunication, raise more the number of services offered in this field. This is favoured also from Albanian government agenda oriented towards stimulation of information technology usage in wide range.

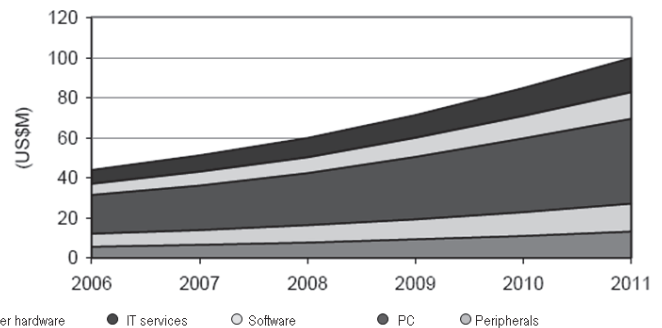
Competition and especially governmental politics have impacted in decrease of costs for using mobile telephony in Albania¹³. Cost's decrease and use of mobile equipments with many options, have do that these equipments to be

used also for virtual communication through wireless technology. Even if this option was possible, the possibility for download materials or for send materials through internet in mobile equipments was very little. For solving this problem mobile's telephony operators in Albania have applied for offering of 3G service.

3G technologies, offered in Albania yet from two operators, AMC and Vodafone, raise the speed of internet exploited through mobile equipments. Moreover, is raised the possibility for downloads and sending materials in high volumes through cellular.

Number of internet users, computer technologies and telecommunication equipments in Albania yet has known high rate of growth. Trend of information technology market's development based in data generated from this market are shown in chart below:

Chart 2: Trend of information technology development in Albania¹⁴



This trend in raise of information technology usage is consequence of some factors like¹⁵:

- Decrease of usage costs.
- Application of wireless technologies without payment in some hours of day¹⁶
- Importation of computer with low cost
- Sale of used technological equipments with low cost.
- Projects of entrance in scholastics programs of information technology's knowledges, etc.

Based in these informations, we must to say that Albania, like new user of information technology, has known development with high rates in this direction. Use of new technologies is doing part of daily activities for individuals, for businesses and also for a considerable part of Albanian institutions. The issue is than businesses can convert these technologies in one advantage for growth their profits.

3.2. Why is important realization of e-commerce in Albania?

Due to biggest profits, the attention of countries is concentrated in application of technology for doing commerce. Based in fact that the rates of technologies usage in Albania is growing fast, is important to be studied if Albanian businesses can apply technology for profit from

5 <http://ndryshe.allgoo.us/t186-internet-in-albania>

6 Cross Cutting Strategy on information technology

7 International Union of Telecommunication, Union in which also Albania is member.

8 www.albtelecom.al

9 Data for july 2008, Cullen- International report "Report 1 Supply of services in monitoring regulatory and market developments for electronic communications and information society services in enlargement countries" September 30, 2008

10 Cross Cutting Strategy on information technology

11 Radio service

12 Advanced transmission of data for develop GSM

13Based in Cross Cutting Strategy of information technology, Albania is ranked like country with highest cost in region for mobile technology.

14 IDC: IT Market Analyses Study

15 Cross Cutting Strategy of information technology

16 For raise the rate of internet users, like one of conditions of Albania's European integration, institutions of central local government, in beggist Albanian cities, use programes for offering internet without payment.

e-commerce. This is most adapt time for study this profit alternative for some reasons:

- Economic crisis has hampred the activity of albanian businesses, some of them are closed but the businesses that countinue to operate have need for a new alternative for survive or raise their activity
- Absence of liquidities and the hard situation for taking credit form banks, do this new alternative for Albania very necessary
- This alternative has low costs and in this difficult situation is right alternative for Albanian businesses
- European agenda is oriented towards application and exploitation of information technology for economic development of countries. Since Albania aspires to be part of European Union his efforts must to be maximal in this direction.

But, the reasons mentioned above and the desires aren't sufficient for realizing this alternative. Prime factor that must to be investigated is technology that is used in Albania. So, must to be investigated if technology that is known and is applied in Albania, can be used for doing commerce and if yes can be this main factor that bring success from e-commerce application.

4. Statistical analyze

Based in analyse of linear regression, mathematical equation that give the relation between two variables Y^{17} and X^{18} is like below:

$$Y = 3.7727 + 21.5537 X$$

From this equation we can say that one country classified like not developed technologically¹⁹ if apply e-commerce will provide in mimimum 3.7727 billion euro. However, from other indicators of analyses we can see that $R^2 = 0.13487$. This indicator show that relation between investigated variables is strong 13.487%, so this level is very low for conclude that technological development is the main factor for succsess application of e-commerce. For this reason and testing the hypothesis if b_1 coefficient is important, we can say that equation of this analyse can't serve like model for other states insight this analyse.

Conclusions

- Studies done from researchers in different economic fields show that progress in technology serves for profit not only from leader's position in technological innovations and from sales of patents but also for profit from virtual commerce realyzed through internet. These profits have attracted intention of countries, most of which even if non known like innovation states, to adapt information technology for tent to have success application of e-commerce.
- After '90s Albania has known tendency in growth as regard to adaption of information technology. Regardless that many factors have delayed this trend, others have had positive impact in this

direction. Such factors we can mention: decrease of costs for technology use, raise of knowledge about information technology use, big desire of individuals or Albanian businesses for apply advanced technologies, etc.

- Statistical analyze realized in this study show that only necessary technology's adaption isn't enough for having success application of virtual commerce. In this success have impact also other factors which affect in the raise of security for buyers that will mean raise of sale's transactions number through internet.

¹⁷ Income from e-commerce application

¹⁸ Level of technological development

¹⁹ With 0 coefficient of technological development

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Ordinary Least Squares Estimation

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*****
Dependent variable is Y
21 observations used for estimation from 1 to 21
*****
Regressor      Coefficient   Standard Error   T-Ratio[Prob]
B0              3.7727        8.6420           .43656[.667]
X1              21.5537       12.5235          1.7211[.101]
*****
R-Squared      .13487   R-Bar-Squared   .089338
S.E. of Regression  28.6624   F-stat.   F( 1, 19)  2.9620[.101]
Mean of Dependent Variable  14.0364   S.D. of Dependent Variable  30.0354
Residual Sum of Squares  15609.1   Equation Log-likelihood  -99.2141
Akaike Info. Criterion  -101.2141   Schwarz Bayesian Criterion  -102.2587
DW-statistic    2.1732
    
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Diagnostic Tests

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*****
* Test Statistics *   LM Version   *   F Version   *
*****
* A:Serial Correlation*CHSQ( 1)= .25534[.613]*F( 1, 18)= .22155[.644]*
* B:Functional Form *CHSQ( 1)= *NONE* *F( 1, 18)= *NONE* *
* C:Normality *CHSQ( 2)= 177.0957[.000]* Not applicable *
* D:Heteroscedasticity*CHSQ( 1)= 1.4548[.228]*F( 1, 19)= 1.4143[.249]*
*****
A:Lagrange multiplier test of residual serial correlation
B:Ramsey's RESET test using the square of the fitted values
C:Based on a test of skewness and kurtosis of residuals
D:Based on the regression of squared residuals on squared fitted values
    
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