

**THE IMPACT OF THE GOVERNMENT ON E-COMMERCE PRESENCE: CASE STUDY IN
MACEDONIA**

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ABSTRACT

One of the most important discoveries in the new high-tech era is e-commerce. E – commerce offers advantages for both sides, buyers and sellers. Namely, buyers are able to buy all over the globe, and sellers have opportunity to promote their products, globally. Although e-commerce offers huge possibilities, it is poorly used by some of developing countries. Since these countries have extremely limited resources for export promoting, e-commerce is a perfect opportunity for online export promotion, in order to increase the export and improve balance of payment position.

It is natural that the companies can not do much, without proper government support. The government should stimulate creating of infrastructure for e-commerce and in the same time should implement some policy incentives related to electronic money transfer and to the security of the whole process, in order to support companies to invest in e –commerce. It is crucial for companies to be informed about the benefits and potentials of e –commerce for future development of their business, and about the fact that there are no law legal obstacles set by the government.

The main purpose of this paper is to explore the influence of the government on e-commerce. We will focus our analyze on the case in Macedonia and on the action of Macedonian government in the field of e–commerce. The officials in Macedonia have adopted many policies in order to increase the level of e-commerce in the country, since the level of e-commerce in the country was very low.

The paper will analyze those policies and will investigate their effects. The findings can be used by policy creators who can be able to see the results from certain e –commerce policies and in the same time to use the positive experience and to escape adopting of some ineffective policies.

Keywords: *E-commerce presence, Government, Policies, Effects*

INTRODUCTION

Internet use is no longer a novelty, but it is a part of people's and companies' everyday lives, just like telephones and televisions. The revolution of Internet use has provoked another revolution - revolution of E-commerce. Every computer, lap-top, tablet or mobile phone, through Internet, is now a window for success of every business, around the globe. The electronic medium - Internet gives possibilities for reducing actual transaction and processing time substantially, and in the same time it makes information available globally.

E-commerce is one of the biggest Internet innovations, that has changed people's and company's lives. E-commerce is very broad term. It is actually a generic title that describes a range of technologies and practices that can improve effectiveness of trading relationships.

The companies can have great benefits from e-commerce, because it offers many opportunities for conducting business in cheaper, easier and faster way. The tools and techniques that are enabling trading over the world are becoming mature and so e-commerce grows rapidly. However, the usage of e-commerce is not equally distributed. While some regions benefit from information technologies, others have hardly Internet access. In many developed countries, as well as in some emerging economies, such as China, India and Indonesia, the level of e-commerce is growing rapidly, and some experts expect that the physical stores in these countries will probably become simply showrooms in the next ten years. Contrary, in many developing economies the usage of computers is very low, and even the lower is the level of Internet access through the countries, and finally the development of e-commerce is desperate. Although the predictions for the development of e-commerce in developing world were very optimistic in the years before, the practice did not verify these statements. According to the many authors the main reason for that are the obstacles that hinder the e-commerce development in these countries. There are many barriers which inhibit e-commerce adoption, and unfortunately most of them are correlated with the government policies and activities. Namely, government and its institutions are the main factors that should make the climate for ICT development and should increase the public awareness about the possibilities and benefits of new technical innovations.

If we consider the fact that the developed countries are rapidly increasing the level of e-commerce usage, than follows that they would also improve its global competitiveness and so finally the trade gap between developed and developing countries would even gather. Those possible consequences are the main reason for analyzing the possibilities and obstacles for e-commerce in the developing countries. As we already said, government activities play the crucial role and are essential for creating positive climate for e-commerce development. In order to investigate the role of the government policies on e-commerce development, we will analyze the effects from the policies that were implemented by Macedonian government. Namely, Macedonian officials have introduced many policies for stimulating e-commerce growth, and in the same time they implemented a lot of e-services and products, which are provided by the government.

The paper is organized in three sections. In the first section we will elaborate about the main opportunities that arise from e-commerce and the possible benefits for the developing countries. The main focus of the second section is on exploring barriers that hinder the adoption of e-commerce in the developing countries, with the special review on the barriers that should be suspended by the government. The final section investigates the effects from the policies that were implemented by Macedonian government, and which affect adoption of e-commerce usage.

1. E-COMMERCE AND IT'S POSSIBLE BENEFITS FOR THE DEVELOPING COUNTRIES

1.1. UNDERSTANDING THE ROLE OF E-COMMERCE

The role of e-commerce on the global market is increasing rapidly. E-commerce encompasses processes directly and indirectly related to the selling and trading products, services and information, via computer

networks, including Internet. In the literature there are many definitions for e – commerce, it can be described as "the sale and purchase of goods or services over the Internet"(Chase Paymentech, 2007), or as the use of IT for allowing direct selling and automatic processing of purchases between parties using the Internet (Expedite Email Marketing, 2004) or as the substitution of information for physical business processes (Weill & Vitale, 2001).

According to Lin, (2007) e-commerce is one of those rare cases where the need to change and emerging technologies come together to re-engineer the way in which business is conducted, improving processes efficiency, allowing for flexibility, working more closely with suppliers, and catering for the needs and expectations of the customers. It allows companies to select the best suppliers regardless of the geographical location and to widen the scope of their market to the global market (Soopramanien, Fildes & Robertson, 2007). Perhaps the most useful description of E–Commerce would link it with trading. Gunasekaran et. al.¹ consider that e–commerce is trading by means of new communication technology. According to him, e–commerce includes all aspects of trading; including commercial, market creation, ordering, supply chain management and the transfer of money. Many e–commerce initiatives have risen in a short period of time. Some of them are: innovative smart card for facilitating e – commerce, remote payments and electronic checking, online trading of stocks, bonds and other financial instruments, online banking, retailing etc.

Kalakota and Whinston define e–commerce in the scope of the following five perspectives:

- **Communication perspective** – E–commerce delivers information, products, services or payments over telephone lines, computer networks or any other electronic means.
- **Business process perspective** – E–commerce is the application of technology towards the automation of business transaction and work flows.
- **Service perspective** – E–commerce is a tool that addresses the desire of firms, consumers and management to cut service costs, while improving the quality of goods and increasing the speed of service delivery.
- **Online perspective** – E-commerce provides the capacity to buy and sell products and information on the Internet as well as other online services.

E-commerce has broadened the borders of the trade. Many commercial web sites have catalogues and support online transaction, but e-commerce is much more than that. It includes everything from sourcing to settlement and all the processes that underlie trading.²

1.2. THE POTENTIAL BENEFITS FOR THE DEVELOPING COUNTRIES FROM E-COMMERCE

E-commerce systems offer many benefits to its potential users. Most of those advantages are correlated with obtaining easy and save access, with eliminating the differences in time, place and language between the involved parties at the same time. E-commerce has created global marketplace, which is open 24 hours a day, and is freely accessible to millions of producers, sellers, customers, products, services and information. This market is highly flexible and adaptable, allowing changes in short time with marginal costs. Electronic market is not a physical building, but it is a network that brings buyers and sellers together, although they are miles away from one another, and not necessary at the same point of time.

Many authors argued that e-commerce is a great possibility for the companies from the developing world to reduce the operational and transactional cost, to increase revenue and competitiveness, to access the global market and to eliminate the effects from geographical distance. It is really impossible to mention all the possible benefits from the e-commerce for the developing countries. Block and Seger have mentioned the following marketing impacts of –commerce:

- **Product promotion** – E-commerce enhances the promotion of products and services through direct, information-rich and interactive contact with customer.

¹ A. Gunasekaran, et.al., "E-commerce and its impact on operations management", International journal of production economics, 2002

² Ibid.pg.3

- **New sales channels** – E-commerce creates a new distribution channel for existing products, owing to its direct support of research on customers and the bi-directional nature of communication.
- **Direct saving** – The cost of delivering information to customers over the Internet results in substantial saving to senders. Major savings are also realized in the direct delivery of digitized products, as compared to the cost of traditional delivery.
- **Reduce cycle time** – The delivery time digitized products and services can be reduced to seconds. Also, administrative work related to physical delivery especially across international borders, can be reduced significantly, reducing the cycle time by more than 90%.
- **Customer service** – Can be greatly enhanced by enabling customers to find detailed information online, intelligent agents can answer standard e-mailed questions in seconds.

At the end of this part we will try to summarize the overall benefits from e-commerce for the developing countries.

Table 1 Benefits from e-commerce

1. Revenue growth.	2. Reduction in the operation costs.	3. Reduction in the costs of purchasing and procurement.	4. Reduction in the marketing costs.
5. Reduced / service differentiation.	6. Growth of the customer loyalty.	7. Reduction in the cost of maintaining information.	8. Better relationships with suppliers.
9. Better relationships with customers.	10. Better competitive position.	11. Better external communication.	12. Better company image.
13. Better internal communication.	14. Extending firms' market reach.	15. Improved process speed.	16. Higher level of the overall satisfaction.

The Internet and e-commerce can enable all companies, including micro, small and medium enterprises in developing countries to find buyers for their products and services all over the world. Now, they are in the position to reach the global market quickly and cheaply: “The next vendor is only a mouse-click away” (UNCTAD, 2000).

However no matter, how big benefits can bring e-commerce, and no matter how many opportunities lies on the global electronic marketplace, most of the conducted studies show that very small part of the developing countries had took advantage of e-commerce possibilities. Contrary, most of them have still very limited Internet access, and poor usage of all opportunities of modern communication technologies. In order to explore the reasons for desperate usage of e-commerce, in the next section we will analyze the main obstacles for e-commerce development in the developing countries.

2. FACTORS HAMPERING GROWTH OF E-COMMERCE IN DEVELOPING COUNTRIES

Although many experts considered that e-commerce would be the main driver of the economic growth in developing countries, previous studies have showed that developing countries haven't derived the expected benefits from e-commerce. That means that there were many factors, which hampered the usage of e-commerce, and which were unfortunately underestimated before. Adoption of e-commerce requires possessing adequate infrastructure, legal framework and government support. Obviously the experts did not consider all the relevant requirements, which are necessary for successful e-commerce implementation. Obviously the experts underestimated the bottlenecks in the telecommunications, electronic payment systems, security standards, skilled workforce. Probably they did not take into account the fact that implementation of e-commerce in the companies is correlated with huge amount of initial investment, which is not affordable for most of the companies in the developing world.

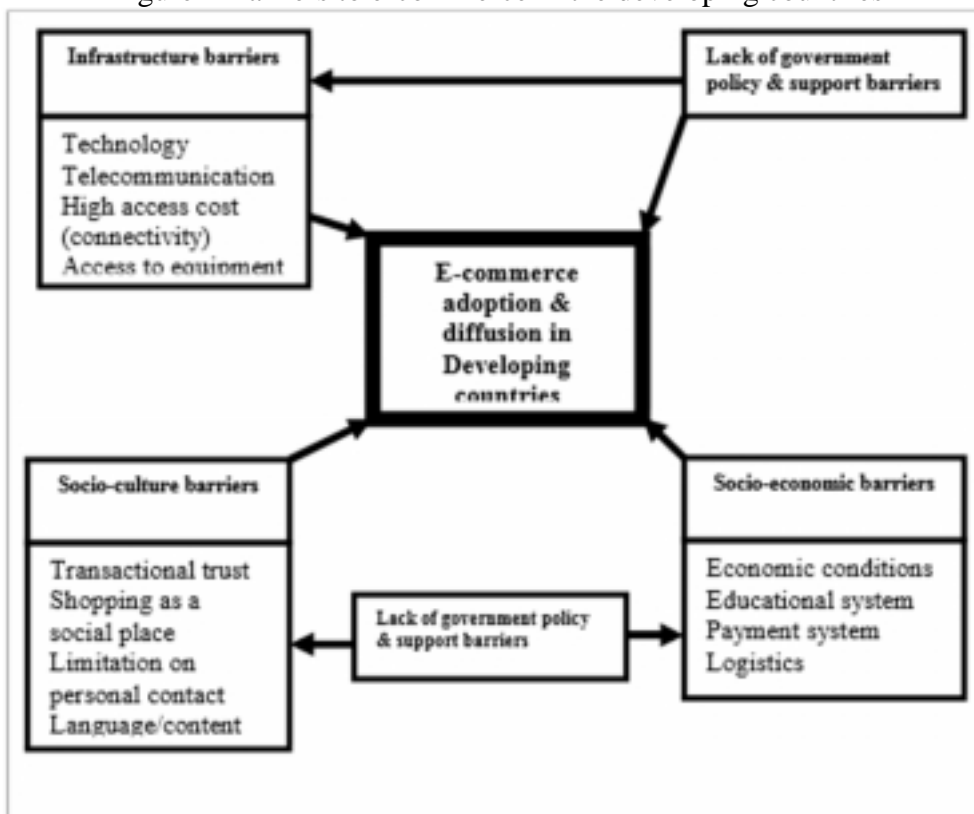
Development of the e-commerce is dependent of possessing telephones and computers, because accessing web is possible only with them. Unfortunately those technologies are still far from available for the people and companies from the “third world”. In addition, Internet access is still very expensive, and in spite of the fact

that the PCs prices have fallen in the recent years, the usage of Internet in these countries is still very low. That means that Internet is not yet a universally affordable medium.

Although the main obstacles for e-commerce are correlated with absence of the basic infrastructure and with the lack of governments' IT strategies, we should not underestimate the fact that the citizens in the developing world are very skeptical about the innovations. They are very careful with the innovations, especially when they are related with spending money. So, the lack of confidence is one of the main reasons for poor development of e-commerce, and it is understandable that the trust is a precondition for e-commerce development. Too many people, and too many companies still consider that "we have not yet achieved an ideal world of painless and secure transaction utilizing Internet."³

There are many reasons why adoption of e-commerce in developing countries did not reach predicted level. Albeit reasons vary among countries, we will try to elaborate them.

Figure 1 Barriers to e-commerce in the developing countries



Source: Japhet Lavrence, Usman Tar, 2010, *Barriers to E-commerce in developing countries*, Information, Society and Justice, Volume 3, No.1

- **Infrastructural barriers** – such as lack of credit cards (for the citizens in the developing countries) and adequate payment means, poor distribution, lack of trust-worthy online merchants of reasonable size, inadequate legal system, and lack of large scale telecommunication transmission capacity, Internet security”, etc. In the scope of the infrastructure barriers are:
 1. Technology – poor access in technology (computers, connectivity, and getaway to Internet), limited bandwidth, weak telecommunication infrastructure and unsecure electricity supply.
 2. Telecommunication – telecommunication networks are the main factor in connecting regions and countries. Poor telecommunication costs slow and expensive Internet. In some countries telecommunication services are so desperate, that some regions do not have access to Internet at all.
 3. High cost for connectivity – expensive Internet provokes small number of Internet hosts. The prices of Internet, as well as the prices of the infrastructure which is necessary for Internet access are key

³ G.A.A. Almeida, et.al., 2007, *Promoting e-commerce in developing countries*”, Internet Governance and Policy Discussion Paper The 1st International Conference on Research and Education – Challenges Toward the Future (ICRAE2013), 24-25 May 2013,

determinant of e-commerce usage. In the most of the countries in the developing world the cost of Internet access are far above the possibilities of the population in these countries.

4. Access to computer equipment – the prices of the computers and its additional parts are still very expensive in the developing countries. Although the prices of the computers have fallen drastically, because of the low level of monthly income, and the high level of unemployment, a great part of the people in the developing world, still can not afford to buy a computer. Even if they manage to buy computer, they can not afford Internet connection, because of the high prices for Internet access. The lack of computers is seen as one of the biggest obstacles for wide adoption of e-commerce.
- **Socio-cultural barriers** – There are various socio-cultural barriers, which hinder the process of e-commerce adoption.
1. Transactional Trust – It is widely accepted that people are very careful when they spend their money. They are even more careful when they spend them on something new and unchecked. The culture in the developing countries is opposite the usage of e-commerce. People still prefer to directly interact with other party, instead of doing it virtually. They prefer first to see and touch, and then to buy. Another problem is trust in payment and in the delivery of the products and services. Buying and selling virtually is still something that is unreal and unsafe for many people in the developing countries.
 2. Shopping as social place – People still want to interact with each other directly during the process of doing business. Very often personal conversation and the ability of selling staff play the crucial role in sale and purchase processes.
 3. Limitation on personal contact - The limitation of personal contact as barrier to e-commerce adoption is a reflection of people in developing countries that prefer more direct and individual contact with their merchants (Lawrence, 2002). Many companies consider that the decrease in personal interaction with customers could lead to less understanding of the customers needs, as they can not express their comments, criticisms or request for new products while interacting with sellers. Some entrepreneurs substantially rely on direct contact in order to build confidence, especially in the early phase of establishment.
 4. Language -English is the basic language that is used in many Western countries where new technologies were originated. It is also the main language which is used on the Web. Unfortunately the great part of the population in the developing countries neither speaks nor understands English, and so they can not understand how their lives can be changed and improved with the help of the new technologies, Internet, e-commerce and on-line shopping.
- **Socio-economic barriers** - There are many socio-economic obstacles which hinder the process of e-commerce adoption. Among them the most prominent are the following:
1. Economic condition – People’s monthly salaries are very low, and so they could not afford to buy computer, or to pay the costs for internet access. Because of the bad economic conditions, even the government could not support the process of e-commerce promotion and adoption, because the public budget could not afford such public expenses.
 2. Educational System - Poor educational system in most developing countries is also obstacle of e-commerce adoption. Lack of ICT skills and business skills are impediments for effective adoption of e-commerce.
 3. Payment system – In order to realize e-commerce transactions, such as online shopping, there must be available adequate and reliable payment system, which enable payment through Internet. Those kinds of instruments are payment cards (debit, credit, smart). There must be also adequate infrastructure which will avoid fraud and other illegal actions. Few people in developing countries have credit cards and most banking sectors face lack of national clearing system, so potential customers are suspicious of being cheated (Efendioglu et al, 2004). In many developing countries users may be unable to buy online because payment cards are not accepted without a signature. Additional confirmation via fax may be necessary in order to complete the payment. In addition, in the case of fraud, the credit card holder and not the issuer bears the loss, which makes the customer reluctant to provide information and to use credit cards in an environment where the privacy and security issues are not guaranteed.

4. Logistics – E-commerce needs efficient logistic infrastructures to support it. The distribution and delivery systems are crucial for e-commerce development. It is not sufficient to have a name and a product to adopt e-commerce successfully, but it is necessary to have adequate distribution and delivery channels, which are capable to meet the customer expectations. Speed is one of the most important manifestations of e-commerce. Overnight delivery, just-in-time processing, 24/7 operations, are all examples of how much faster and more precisely timed economic activities are in the e-commerce world. The inefficient distribution, poor delivery systems and the lack of good transport and postal systems are primary obstacles of the growth of e-commerce.
- **Political and Governmental Barriers** – According to many experts these barriers mostly affect e-commerce adoption, because the great part of the previous mention obstacles are closely correlated with government policies and legislative. In order to get better understanding about the meaning of government influence on e-commerce we will dedicate next section on that issue.

2.1. THE INFLUENCE OF GOVERNEMENT ON E-COMMERCE PRESENCE

Although the benefits from e-commerce are many sided, many developing countries still can't exploit these benefits. The main reason for that lies in the lack of efficient policies, which hinder the adoption of e-commerce. As we already said most of the other mention barriers are closely related with government policy, also. Namely, e-commerce requires legal norms, which are crucial for consumer protection, contract enforcement, liability assignment, privacy protection, intellectual property rights etc. These norms are essential for building trust in new technological innovation, such as e-commerce. So, the government is the main institution that should assure the security of new information technologies and at the same time should increase the awareness about the benefits from e-commerce for the people and companies in the country.

Political will is necessary for removing barriers that stand in the way of widespread adoption of e-commerce. As we already concluded inadequate infrastructure is also the obstacle for usage of e-commerce. Government has the obligation to secure favorable infrastructure conditions for information technologies development. And not only to secure physical accessibility of infrastructure, but also to secure financially accessible infrastructure, which can be affordable for the people in the country. Poor infrastructure is the main obstruction of e-commerce adoption. The absence and poor quality of telephone lines, slow and high cost of bandwidth, expensive computers and internet access are the problems that supposed to be partly solved by government. There has to be a strong political will to adopt free market and to eliminate monopoly in telecommunication sector. Existence of competitive telecommunication market is a key condition for better quality and low prices of telecommunication services. Deregulation of telecommunication system is necessary for obtaining basis for e-commerce development.

So now, the key question is what government should do, in order to secure healthy climate for e-commerce development and to encourage companies and people to utilize the possibilities of e-commerce. According to our opinion the government actions should be canalized in two directions:

1. Government should create favorable environment for e-commerce development – Creating favorable e-commerce environment includes:
 - Securing inexpensive and easy access to information network.
 - Legal identification of e-commerce transactions.
 - Assuring costumers' fraud protection.
 - Assuring costumers' privacy rights protection.
 - Assuring legal crack protection.
 - Assuring legal intellectual protection.
2. Government should be an example for the citizens and companies through providing e-government services, but also through increased usage of e-commerce and it's applications in governments' operations. This government action includes:
 - Government should encourage widespread use of e-commerce by Small and Medium Enterprises (SMEs).
 - Government should implement awareness campaign, since SMEs have inadequately knowledge about information technologies and e-commerce.

- Introducing e-government services – these services can take different forms of online transactions, such as company registration, taxation, variety of business request and requirements etc.
- Government should support online companies through facilitating loans, grants, organizing trainings, courses etc.

In order to get better understanding about the effects from certain government policies in the next section we will elaborate the experience with the government policies for stimulating e-commerce in the Republic of Macedonia.

3. THE IMPACT OF THE GOVERNMENT POLICIES ON E-COMMERCE PRESENCE IN THE REPUBLIC OF MACEDONIA

The situation in Republic of Macedonia with Internet and computer users and with e-commerce adoption was very similar with the other developing countries. The majority of the people in the country did not have computers or Internet access in the period before 2006. Namely, only 26% of the households in Macedonia have had computers and only 14% have had Internet access in their homes. The things did not change very much in the following year, as well. In 2007 the number of households with computer in their home was 33.2%, and with Internet access only 16.5%.⁴ The number of people that had bought over the Internet in 2006 was 0.8% that was far below the average level in the developed countries. The State Statistical Office had committed an interview about the reasons for not having Internet access in the households. According to the results from the interview, 53% of the households which did not have Internet access in their home answered that the main reason for not having Internet was the high price of equipment, which is necessary for Internet access. 22% of the interviewed people answered that the main reason were the high prices of Internet access. In order to improve the situation with e-commerce adoption, but also in order to increase the overall usage of information technologies, the Macedonian government through the Ministry of Information Society and Administration had implemented many policies and introduced incentives with the aim exploring benefits from new information technologies, especially promoting of e-commerce adoption. In the following part are presented the main government programs and projects in the Information and Technology area, which affects in the same time usage of Internet and e-commerce, as well. The implementation of these policies started in 2007 and most of the projects are still active.

- **E- Education** – In order to increase the number of computer users the Government implemented E-Education program. In the scope of the program, the government has implemented many projects, such as:
 1. *Computer for every child* – This project was the biggest investment in education in Republic of Macedonia. Through the project were provided 17.818 PCs.
 2. *Internet for all primary and secondary schools.*
 3. *Granting valuable vouchers for buying computers* – Financial assistance for students.
 4. *Setting up Local (LAN) Networks and free Access to Internet in the Student Dormitories.*
 5. *-dorming* - electronic registration for obtaining rooms in the student dormitories.
 6. Other projects from this program are: *Increasing the Quotes for the Technical Faculties; University of Information Technology* (Establishment of the new University which will offer Studies Programmes harmonized with the modern flows of the information societies); *Scholarships for Talented IT Students* (granting 125 scholarships for young computer scientists).
- **E-citizens** – The aim of this program is to increase the number of people realizing their services through ICT. The program should increase the public administration efficiency, reduce the costs of enterprises and increase the responsibility and transparency in the communication with the citizens and the non-governmental organizations. In the scope of this program, were realized the following projects:
 1. *Free Internet- Clubs* - opening the free Internet clubs in 15 towns in the Republic of Macedonia.
 2. *Use Macedonian words* - encouraging the Macedonian youth to use Macedonian words and terms when explaining informatics-related words.

⁴ <http://mio.gov.mk/>

3. *Development of Macedonian Fonts* – Development of funds that will be used by state institutions, in order to unify the Macedonian Cyrillic and Latin fonts.
 4. *E-Inclusion* - strategic document with aim to define directions and specific measures for including all people in the development of the new “digital society”.
 5. *Computerization for 1 Euro Per Day* - in cooperation with the local banks and local companies the Government enabled the citizens to buy new computers under favourable credits and low interest rates, by repaying of only 1 euro per day.
 6. Other projects from this program are: *Provision of Used Computers for People with Special Needs; Free IT- courses; Free Internet for All Citizens;*
- **E-business** – The aim of this program is encouraging and assisting enterprises in conducting e-business.
1. *Regulatory Guillotine* - projects for improving the business climate.
 2. *E-cadastre* - establishment of new way of work in the State Authority for Cadastre.
 3. *Agricultural Information system* – The project includes National Animal Identification System and the Registry of Vine Plantations.
 4. *Digital Certificates* - promotion of the gains from the usage of digital certificates. The aim is to enable electronic submitting of documents and paying tax, which will reduce the cost and time for users.
 5. Other projects from this program are: *Service Level Agreement; Electronic Trade*-(development, implementation and hosting of 100 electronic shops during 2012 and 2013); *E-Work and E-Learning* (Packages of legal and organizational changes have been adopted in order to enable e-work and distance learning).
- **E-Infrastructure** – the aim of this program is establishing and maintaining adequate infrastructure, which is essential for successful implementation of all projects in ICT field.
1. *Government IT Network* – Establishment of Government network spinal infrastructure in order to secure adequate relations between ministries.
 2. Other projects from this program are: International connection; *Wide zonal “Wi-Fi” – coverage of the Republic of Macedonia; Fast Wide Zonal “Broadband” Infrastructure; Integrated Border Management; University IT-Network; National Certification Authority; Unique Database; Phonetic Communication through Internet – Protocol (IP); Introducing IT-Standards in the Public Institutions.*
- **E-Government** –Promoting of contemporary e-government services for the citizens. The program includes:
1. Electronic Claim and Payment of Services Given by Government Institutions – improving the interaction between business sector and citizens.
 2. E-Democracy – The project includes creation of website for participation of the citizens during the building of the information society.
 3. E-Judiciary - The installation of 150 computers in 33 courts. The computers will be used within the Integrated Court Information System (ICIS).
 4. Other projects from this program are: *E-Health; Document Management System in All Ministries; Government Process Management System; Citizen Relationship Management; Portal for Disabled Persons; Development of ICT in the Local Government; ICT Strengthening of Public Administration.*

In the scope of the elaborated projects we would like to focus more on the project for supporting creation of 100 virtual shops. This project is in accordance with the Action Plan for electronic commerce development. The government supported 50 entrepreneurs in 2012 and 50 enterprises in 2013, in ensuring easy and effective way for acquiring e-shops. Selected entrepreneurs will get completed shop, starting from the website design of the shop, through a simple system for taking orders, postage price calculating module according to the box size, weight, destination, manual product entering with an option for automatic import, credit card processor, as well as hosting for one-year period (as needed on Amazon Elastic Cloud). After expiring of the first year, the

entrepreneur will have to continue with his own shop hosting. The project also includes obtaining of professional item photographing, copywriting and data entering. There would be item descriptions in Macedonian and English. In addition, search engine optimization (SEO) would be provided, Pay per Click promotion and training for social networks optimization (SNO). A marketing expert would be engaged for training entrepreneurs in strategy, promotion methods, consultations with regard to positioning elements on websites, etc.

In the part that was elaborated before, we saw that the Macedonian government has made great efforts in order to improve usage of new ICT, and especially on adoption of e-commerce. As a result of these policies were reached significant results. Namely, in the years after the start of implementation of the ICT programs and projects there was an increase in the number of the household that have computer and Internet access, and also in online shopping. The results are as follow:

1. **Increase in number of households with computers:** In 2006 – 26%, 2007 – 33.2%, 2009 – 41.8%; 2010-53.6%; 2011 – 61.2%. This result is crucial since without infrastructure is impossible to realize any online transaction, including e-commerce. The results are also very competitive with other developing countries: Albania (49%); Montenegro (50%), Turkey (45.7%); Kosovo (20%); Greece (53%); Bulgaria (51%).
2. **Increase in the households with Internet access** – In 2006 – 14%; 2007 – 16.5%; 2008 – 29.4%; 2009 – 41.8%; 2010 – 46.1%; 2011 – 53.6%; 2012 – 57.5%. The increase in Internet access is very important since it's necessary for adopting e-commerce. According to the results from State Statistical Office the Internet is mainly used for searching, communication and reading news. Only small part was used for e-government (26% in 2009 and 22.25 in 2011), e-banking (8% in 2009 and 10.8% in 2011) and 7.3% for Internet selling in 2011. In Albania Internet is used only by 43.5% of the population, Montenegro 44.1%
3. **Increase in online shopping** – Only 0.8% of the people that had ever used Internet had made an online buying transaction in 2006. In 2009 3% of Internet users bought something online and 4.1% in 2011.

At the end we can conclude that the implementation of government policies had brought increase in all analyzed categories. The results are satisfying especially for computer and Internet users, while the results in online shopping were expected to be better. Namely, the online shopping in the Republic of Macedonia is far below the level in developed countries, but as well as developing countries. Here are the data about the people who had used Internet and made at least one buying transaction: Romania – 11%, Bulgaria – 29%, Estonia – 30% and Lithuania – 92%. However, we have to consider the fact that the country has not secure Pay Pal system still, which negatively affects online trade. We expect that very soon the country will become part of this system, and it will be a huge increase in online trade transactions.

CONCLUSION

At the end of this paper we can conclude that the government plays crucial role in adoption of e-commerce. Absence of adequate government policies are the main barriers in adopting e-commerce. Lack of appropriate ICT infrastructure, legislation and support, hamper the usage of e-commerce. Unfortunately developing countries are facing most of these obstacles, and so are not in the position to exploit the benefits from e-commerce.

With accordance with the theme of this paper we made an analyze of the effects of the policies that were implemented by the Macedonian government, in order to increase the usage of computers, Internet and e-commerce. Namely, Macedonian government has implemented five programs in the field of ICT. Those programs were E-Education, E-Government, E-Business, E-Infrastructure and E-Citizens. In the scope of each program were realized many projects which brought many positive results. One of the most important projects that was realized, was the Project for supporting creation of 100 virtual stores for start-up or existing entrepreneurs. It was expected that the project would bring huge increase in online shopping and would stimulate many SMEs to introduce online stores.

As a result of the implementation of the projects that were supported by the Macedonian government there was an increase in the number of computer users from 26% in 2006 to 61.2% in 2011. The increase was reach in the

number of households with internet access, also. The increase was from 14% in 2006 to 57.55 in 2012. In order to get more credible results we compare the numbers with the numbers in other developing countries. We concluded that Macedonia has more computer and internet users than Albania, Montenegro, Kosovo, Greece, Turkish and other countries.

Unfortunately the analyze about the online shopping did not match with the two previous mentioned indicators. Namely, there was an increase of the % of the internet users that made at least one online buying transaction from 0.8% in 2006 to 4.1% in 2011, but that increase is far below the developed and some of the developing countries. However, we have to consider the fact that the country has not secure Pay Pal system still, which negatively affects online trade. We expect that very soon the country will become part of this system, and it will be a huge increase in online trade transactions.

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