

THE SECURITY AND PRIVACY ISSUES AS ONE OF THE BARRIERS IMPEDING THE E-BUSINESS DEVELOPMENT IN ALBANIA

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Abstract

The characteristics of international trade are constantly changing. Electronic business is an example of a development that has involved new preconditions and new barriers. Security and privacy issues are becoming more crucial in the current global e-business environment as key factors for its future success.

The main purpose of this research is the study of the perception of the security and privacy issues by consumers as one of the barriers impeding the e-business development in Albania. In Albania, as in other Western Balkan countries, e-commerce is regarded as an opportunity for the development of the international trade.

This research gives a general review of the latest developments in e-commerce security and privacy in the world compared to the results of the survey conducted in Albania. The Albanian consumers are interested in being involved in e-commerce but sceptical and with a basic level of knowledge regarding privacy and security issues.

Keywords: electronic-business, electronic-commerce, privacy and security

JEL classification: L81

1. INTRODUCTION

The main focus of this research is the perception of the privacy and security issues impeding the Albanian consumers to be involved in the electronic business.

According to the Score Project EU (2007), The Government of the Republic of Albania considers the development of the information society and the use and deployment of ICT in the country as one of the highest priorities in achieving higher living standards and economic growth. The goals of the National ICT Strategy are to exploit the potential of ICT in order to promote human development in the country, to support growth and sustainable development and to increase living standards for the whole population. But is there a gap between objectives and reality?

Actually there are only few Albanian companies selling online. They are limited to some gifts and flowers shops or to travel agencies which do more advertising than selling online while the Albanians as consumers are still not too active buying online. Over the last years, the situation has been changing while foreign online shops and auctions are getting popular and the popularity of online

casinos is also increasing. Many large companies have started to integrate Internet and internal networks in the daily work while the level of use of e-commerce by small business in Albania is still very low, although small businesses are finding e-mail useful for business communication and document transfer. At present, the use of Internet-based financial transactions is still slow; there is almost no integration between the Internet and internal applications.

A key factor for the future success of e-Commerce is security, a requirement that is becoming more crucial in the current global e-Commerce environment. It is commonly believed that robust security improves trust and this will ultimately increase the use of Electronic Commerce (E-Commerce) (Kim, C., et al., 2009).

This research has been based on an empirical inquiry that investigates the privacy and security issues in Albania as a case study. The approach used for the research is the survey approach.

2. LITERATURE REVIEW

In the literature, the Internet vendor trust and confidence has been identified as critical factor for the success of e-commerce.

On their research (Turner, Zavod, Yurcik, 2001) conclude that „Consumers were unfamiliar with many basic security features, but depended on 1) the company’s reputation, 2) their experience with the site and 3) recommendations from independent third parties to ensure security.“ On this research consumers were described as „interested but sceptical“.

According to Eurobarometer 2011, a third of EU consumers have used the Internet to buy goods or services from sellers or providers in their own country, 7% had conducted Internet purchases from a seller or provider located in another EU Member State and 4% from a seller or provider located outside the EU. The main reason for these results can be found further on the same study. Almost half (48%) EU consumers said they were more confident when ordering goods or services via the Internet from sellers or providers in their own country than from those in other parts of the EU; very few respondents said the opposite (4%).

In light of these results the need for improved security comes to the forefront in the development of electronic commerce as a form of the international trade. The electronic commerce is associated with three broad risks: business practices, transactions integrity and information protection (privacy). Because the consumer does not know the business behind the Web he cannot be sure of the business practices followed by the entity. Similarly the consumer is worried that the transaction may be changed or lost and that the private information may be not protected.

E-Commerce security must include a set of procedures, mechanisms and computer programs for authenticating the source of information and guaranteeing the process (Kim, C., et al., 2009). With the increasing awareness of the use and abuse of such information among consumers, many companies found it in their own interest to adopt and even support the development of privacy standards. Given the widespread consumer concerns about privacy, a large part of the industry has understood that the collective market share of e-commerce will increase faster with the adoption of well-understood and widely used privacy standards. Some of the major privacy assurance providers have developed standards and offered priva-

cy seals like TRUSTe, BBB Online, PriceWaterhouseCoopers and WebTrust. The Better Business Bureau offers BBB Online, and a consortium of accounting firms led by AICPA and CICA offers the WebTrust seal.

Technologies to protect individual privacy can generally be split into two main methods: those that attempt to preserve an individual's privacy by enabling anonymous communication channels and those that attempt to minimize the amount of personal information given to an e-business during the on-line interaction (Smith, R., and Shao, J., 2007).

E-Commerce transactions take place in an open environment that cannot be trusted since the network is highly vulnerable to outside security threats. This network can be made secure with the help of cryptography. As Thomas J. Smedinghoff & Ruth Hill Bro (Smedinghoff,T.,and Bro.R,1999) say in their article „Electronic signature legislation is a vehicle for advancing e-commerce”. For digital signatures to function correctly a PKI (Public Key Infrastructure) is required.

P3P is a technology to help consumers and guide their decision-making about whom to trust (Smith, R., and Shao, J., 2007). Platform for Privacy Preferences (P3P) attempts to minimize the amount of personal information exchanged and is a protocol for privacy protection on the Web. The World Wide Web Consortium (W3C) is the governing body issuing the standard. P3P works through browsers, and it alerts the user when the website collects information about the user. It also tells the consumer what information is being collected by the website.

E-commerce means buying and selling products, services and information on the Internet by using electronic payment systems. As the trend of on-line transactions continues to grow, there will be increases in the number and types of attacks against the security of on-line payment systems. These attacks generally threaten the system security, resulting in systems that may be compromised and less protected, causing consumer privacy issues. Consumers may be at the risk for losing their personal information, since they may be unaware of the security aspect of performing on-line transactions. Researchers as Dejan Simia (Simia,D,2005) agree that the security of the payment system is a major factor to the security and privacy of e-commerce. The research of Mr.Dejan Simia gives some very useful prevention and detection techniques such as:

- Applying a set of simple rules,
- Implementing EMV Level 2,
- Using advanced security protocols, and
- Using intelligent tools for fraud prevention and detection.

SSL is being widely used to encrypt debit/credit card details. Secure Sockets Layer (SSL) is a commonly used protocol used to encrypt messages between web browsers and web servers (E-commerce Working Group, 2009). SSL is also widely used by merchants to protect the consumer's information during transmission, such as credit card numbers and other sensitive information. SSL is used to provide security and data integrity over the Internet and thus plays an important role. SSL has now become part of Transport Layer Security (TLS), which is an overall security protocol. Transport Layer Security (TLS) is a protocol that is used for securing the communications among the applications and their users on the Internet. It uses encryption and enables the authentication of both users and merchants through digital

signatures. Proprietary systems provide another alternative by providing users with an electronic wallet that stores card details on PC.

A Virtual Private Network (VPN) can also be created using encryption (E-commerce Working Group, 2009). It is a secure way for machines to communicate through a public network, privately.

Consumers are also looking for ways to protect their privacy themselves. They delete cookies so that their movements are not tracked. Tools like Anonymizer™ can also be used to protect the privacy of users. It is a tool that is used to keep the movements of the users untraceable. This allows the users to surf the web anonymously without giving out their personal information and IP addresses.

According to the research of Duh, Jamal, and Sunder (2002) "Privacy, integrity, and security of online transactions demand new types of assurance services in e-commerce". E-commerce firms face significant new risks, and parallel efforts are underway to develop proprietary and shared industry standards for assurance services in this field." According to the Special Committee on assurance services „assurance service can help to address the risks and promote the integrity and security of electronic transmissions, electronic documents, and the supporting systems. One such service, CPA WebTrust, provides explicit assurance about the disclosure of an entity's business policies and about the controls over privacy and information integrity in consumer purchases over the Internet."

3. REVIEW OF THE DEVELOPMENT OF E-COMMERCE SECURITY, PRIVACY AND ASSURANCE SERVICES IN ALBANIA

In Albania, as in other Western Balkan countries, e-commerce is regarded as an opportunity for the development of the international trade but also as an opportunity to achieve economic growth. Meanwhile, the security and privacy issues are becoming more crucial as key factors for it's" development.

In the spirit of consolidating and tailoring the legal framework to achieve "the information society" (so proclaimed by the actual Government) the law No. 101128 "On E-commerce" dated 11.05.09 was brought into effect. The object of the law is to promote a without border commerce thus further enabling the freedom of movements of goods and services in light of Albania now being in the phase of application for full membership to the EU. In order to support the security and privacy e-commerce issues, two other laws have been approved: the law "On electronic signature"ⁱ and the law "On data protection and consumer protection"ⁱⁱ. The National Authority for Electronic Certification is the competent authority with the task of supervising the compliance with this Law and bylaws issued to its pursuance and the registration of the Certification Service Providers.

The e-commerce security and privacy will be soon one of the emerging issues impeding the e-business development in Albania as in other countries. In such circumstances the need for assurance services will be appealing for decision makers. Assurance services will help them to address the risks and promote the integrity and security of electronic transmissions, electronic documents, and the supporting systems.

4. METHODOLOGY OF THE RESEARCH

This research has been based on an empirical inquiry that investigates the research topic within its context in Albania as a case study. The approach used for the research is the survey approach.

With the purpose of evaluating the awareness of Albanian individuals on privacy and security issues of e-commerce were filled out by 200 Albanian individuals that are users of internet and are involved or intend to in e-commerce activities like buying online or booking travels online etc. and who do have at least an average knowledge of computers. Results of this study were elaborated by the SPSS.

The next step of the research was to interview representatives (managers or specialists) of the following categories of population:

1- Central Bank of Albania and major banks operating in Albania (like Intesa San Paolo bank, Raiffeisen Bank, National Commercial Bank etc) that facilitate the e-commerce process by providing and improving the security of electronic payment methods.

2- Consulting/audit professionals and firms (who are and may be involved in evaluating business systems and controls and offering assurance services for e-commerce) and also representatives of their regulating bodies. For the purpose of this study, the companies selected were branches of big international companies (such as Ernst & Young, PricewaterhouseCoopers or KPMG), big consolidated Albanian consulting/auditing companies and representatives of IEKA (The Institute of the Authorized Accounting Auditors).ⁱⁱⁱ

These interviews were made with the purpose to get updated with, evaluate and study:

1. The security of the payment system in Albania
2. The development of e-commerce assurance services as a challenge and an opportunity offered to audit and consulting professionals broadening their strategies and range of services beyond the traditional services.

5. RESULTS AND ANALYSES OF THE QUESTIONNAIRE'S SURVEY

One of the objectives of this questionnaire was to study the awareness of the public in Albania regarding e-commerce security and privacy issues. With the data collected it may be given a modest result for the individuals who are working, who are in the age group of 26-35 years old and have good knowledge of computers. This means that in order to generalize the results some more statistics are to be used regarding the age groups in Albania, working force etc.

As it is shown on the table 1, only 39% of the people who have answered the questionnaires use the internet to purchase online while 40% of them prefer to buy from national vendors rather than from cross border.

Table no. 1 The main reasons the Internet is used for (on percentage of the total)

Description	Percentage
A. Email	100.0%
B. Visiting websites	89.5%
C. Travel booking	63.0%
D. Run a website	23.0%
F. Socializing	63.0%
G. Internal communications at work	73.5%
H. Buying online	39.0%
I. Selling products/services online	0.0%
J. Other (online gaming, research)	6.5%

Regarding the methods of payments used to buy online it clearly results from table 2 that 90% of all the individuals buying online have used credit or debit cards while only 16 % have used e-banking, 3,5% smart cards and only 1% “peer to peer payments

Table no. 2Methods of payments

Method	Percentage
A. Credit Card	90.00%
B. Electronic banking	16.00%
C. Smart cards	3.50%
D. Peer to peer payments	1.00%

Table 3 below shows that 61% of the individuals interviewed are very concerned about the privacy of information, 56.5% about security, 46% about protection from viruses and 42.5% about integrity of the seller. The next tables (4 and 5) show that although they are quite concerned about privacy and security they show a minimal knowledge of assurance providers and security and privacy issues.

Table no. 3Main concerns of the individuals (in % to the total)

Description	Very concerned	Fairly concerned	Not concerned	Not answered
A. Privacy of personal information	61.0%	36.5%	2.5%	
B. Security / fraud	56.5%	43.5%		
C. Protection from viruses	46.0%	54.0%		
D. Unsolicited email (spam)	10.0%	77.0%	5.5%	7.5%
E. Lack of personal contact		38.5%	47.0%	14.5%

Description	Very concerned	Fairly concerned	Not concerned	Not answered
F. Concerns about the performance of the company selling products	20.0%	40.0%	28.5%	11.5%
G. Concerns about the integrity of the seller	42.5%	37.0%	17.0%	3.5%
H. Others (not specified)		4.0%		96.0%

Table 4: Who should be responsible for providing assurance?

Description	Percentage
A. The company selling online	71.0%
B. The respective state authorities	56.0%
C. Private assurance providers	29.5%
D. Accounting/Auditing specialists	12.5%
E. The buyer himself	43.5%

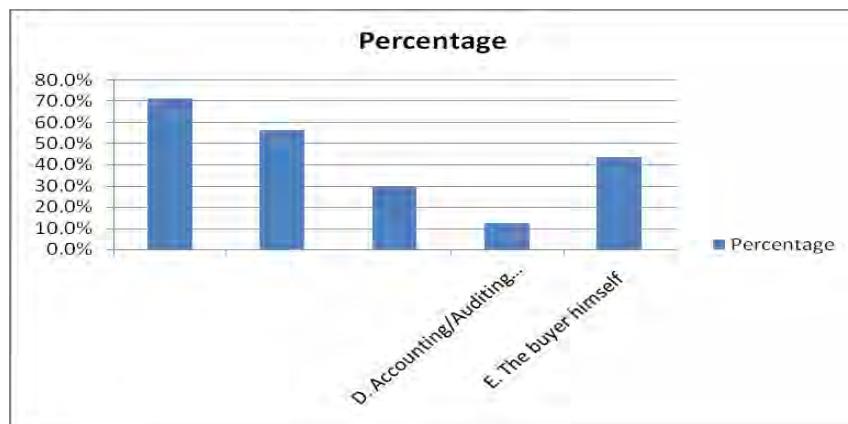


Figure no. 1 Who should be responsible for providing assurance?

Table no. 5 Level of awareness on several assurance providers

Name of the provider	Percentage
A. Web Trust	24.50%
B. TRUSTe	23.00%
C. PriceWaterhouseCoopers	40.50%
D. Enshrine	0.00%
E. Safe Trade	9.00%
F. BBB Online	3.50%
G. Others (SSL)	3.50%

As it may be understood from table 4 and table 5, they fairly consider the private assurance providers or the accounting/auditing specialists and they show minimal knowledge of e-commerce assurance providers.

6. RESULTS FROM THE INTERVIEWS

From the interviews conducted with specialists working at the major banks in Albania it results that banks in Albania are working on privacy and security issues also. In their websites one can easily find detailed instructions that show the bank provisions and also help clients to pay attention to the privacy and security while making payments online. As a matter of fact basic security techniques are actually used.

In the long term some banks are also planning to serve as intermediaries in the e-commerce payment process providing the escrow service. According to (Duh, Jamal, and Sunder, 2002) „In the escrow program, the buyer makes payment through a third party that holds the funds until the buyer inspects the purchased item and decides whether to accept or rejects it. Depending on the outcome, the escrow service releases the funds to the seller or returns them to the buyer.“ Anyway it is a plan that has not been put in practice yet and needs to be elaborated and tested in the market.

Between the businesses struggling to move following the stream, the banks managing the payment system and the state as the supervisor of the whole process come the assurance specialists. From the interviews conducted with accounting/auditing specialists and with representatives of IEKA, it results that they are not involved in any e-commerce assurance service for Albanian companies yet either been involved in partnerships with foreign assurance providers. Branches of big consulting and auditing companies such as Ernst & Young, PricewaterhouseCoopers offer some types of assurance services but because the online business is not developed in Albania the need for e-commerce assurance service has not been materialized yet.

Analyzing the reaction of the consulting/auditing profession to the emerging e-commerce issues in Albania it results that these professionals and their regulating bodies are working on gaining the theoretical capacity for providing professional e-commerce assurance services. On the other hand, many of them lack the technolog-

ical capacity to actually offer this service. Many accounting and auditing professionals are focused on traditional accounting and auditing. Except for some employees of big consulting companies, other professionals have a lot to do as regarding general knowledge on computers, internet applications, e-commerce or security and privacy issues.

7. CONCLUSIONS

In this paper, the electronic commerce was considered as an innovation that can radically change the way business is performed but also the everyday life of the people around the globe. In this perspective, privacy and security are important issues that need to be addressed to ensure the future growth of e-Commerce. As Internet usage is largely unregulated, global privacy, security consistency and payment flexibility is required. The main focus of this research has been the perception of the privacy and security issues impeding the Albanian consumers to be involved in the electronic business.

Based on the literature review and on the results of the survey conducted, the conclusions of this research are as follows:

- Albanian consumers^{iv} are interested in purchasing online while worried and sceptic about privacy and security issues. These result to be the main obstacles to the e-commerce development as regarding the consumers. At the same time they are not much aware of the latest development of privacy and security solution, assurance services or assurance services providers.
- Banks are playing an active role in developing new methods of payments but more efforts need to be done regarding security and privacy issues.
- Accounting/Auditing professionals are motivated to be engaged in providing assurance services in the near future but they still have to gain the necessary technological capacity to actually do this.

8. RECOMMENDATIONS

The individuals buying online as consumers play a very important role in the e-commerce development in Albania. As e-commerce is developing fast they must get full awareness of their role regarding privacy and security issues. They must get informed of the latest security and privacy solutions and opportunities and wisely buy online.

On the other hand, Albanian on-line companies need to gain customer's trust to provide for growth in the market. As Diamin (2009) says „It is imperative that companies understand achieving success and sustaining competitiveness in the highly volatile and demanding e-commerce market “lies in their ability to securely protect their information assets and IT infrastructure”. To ensure privacy and security, the companies need to adopt security and privacy policies for safeguarding the consumer's information. E-commerce businesses must have the ability to give consumers control of their privacy in order to create an acceptable level of trust. In

order to achieve this, technical solutions and robust solutions should be implemented. In the attempt to do so the solutions used in other countries must be studied and effectively used. Technical solutions and self-regulation (mentioned in the literature review) may help the protection of consumers' privacy. Today, some of the best practices are found to be the robust solutions which combine some individual solutions. These may be the ideal recommendation to provide adequate privacy and security to consumers. These robust solutions consist of legislation, self-regulation and technical solutions, integrated together to achieve this goal. The use of these solutions may be subject to a future research.

Using the encryption with public keys is a critical factor in performing a secure e-commerce. Yet, other protocols exist and must be evaluated from NAEC and the Albanian government so we all can benefit from the best options in use.

Proper laws should be legislated to ensure consumer privacy. Still the 'good intention' of the government by legislating laws is not always enough. The legislation needs to be properly organized in order to be enforceable. Laws in other countries could be re-searched. Probably, e-government programmes that promote and support e- businesses could help forward the rolling out of e-commerce business in the country.

The Chambers of commerce and industry have a special role to play as they act between the government agencies and their companies-members in order to influence the latter towards the adoption of electronic commerce. Their role is important as they are in direct contact with businesses and can have a great influence on their decisions. The transfer of their knowledge to these businesses is very important and is the essence of the effort to help companies invest on privacy and security issues.

The accounting/auditing professionals must gain the necessary capacity to be engaged in providing assurance services in the near future.

My last recommendation is that rather than being sceptic and traditional it is in the best interest of the e-commerce Albanian community to follow good privacy practices, implement good security methods, and protect consumers' information in the interest of growing the e-commerce activity and help the industry develop in Albania as in other countries of the world.

As Robert F. Kennedy once observed, "Just because we cannot see clearly the end of the road that is no reason for not setting out on the essential journey. On the contrary, great change predominates the world, and unless we move with change we will become its victims."

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ⁱ Law Nr.9880 date 25.02.2008 "For Electronic Signature"

ⁱⁱ The consumer Protection Law No. 9902, dated 17 April 2008

ⁱⁱⁱ IEKA is a member of IASB (international Accounting Standards Board)

^{iv} As mentioned below this research may give a result for the individuals who are working, who are in the age group of 26-35 years old and have good knowledge of computers. This means that in order to generalize the results some further simple statistics are to be used regarding the age groups in Albania, working force etc.