Comparative Analysis of E-Commerce in Developing And Developed Countries, Case Study: Macedonia, Serbia And Germany

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Abstract. There is a big gap between developed countries and developing ones in utilizing e-commerce. In this paper, we examine the growth barriers of e-commerce in developing countries in comparison to the e-commerce situation in developed ones, by conducting a comparative analysis of e-commerce in Macedonia and Serbia opposed to Germany, as a developed country. We review the basic features of the economies and e-business practices found in Macedonia, Serbia, and Germany; assess the most important legislation on e-commerce in the three countries; consider rules, regulations and working conditions for e-retailers; conditions for working with banks; payment types and payment processors; domain legislation and hosting solution; e-commerce software solutions; marketing activities and delivery services with post-sale customer care.
What can be concluded from this analysis is that developing countries must follow the positive example set by the developed European countries. Furthermore, first measures must be contingent to the country's environment and culture. We list several recommendations that Macedonia, Serbia, and other developing countries should follow in order to develop their e-commerce sector, regarding public awareness about the advantages that e-commerce and digital economy in general bring, about the legislation and support services that e-commerce needs in its service delivery.

Keywords: E-commerce, developing countries, Germany, Serbia, Macedonia.

1 Introduction

By definition, digital economy is one which functions primarily by means of digital technology, especially electronic transactions made through the Internet. The digital economy is comprised of digital businesses or e-businesses. A critical part of the e-businesses is e-commerce, that is, commercial transactions conducted electronically on the Internet. The advantages of e-commerce are classified into three major categories: advantages to organizations (expand to national or international markets with minimal investment, lower costs, better customer service, faster business processes,

etc.), to consumers (24x7 availability, convenience, lots of choices, ease of communication, etc.) and to society (reduced costs of products, increased productivity [1], creating jobs, etc.).

The digital economy, according to the EU development strategy Europe 2020, is growing at seven times the rate of the rest of the economy and creates five jobs for every two 'offline' jobs lost [2].

The gap between developed countries and developing ones in exploiting e-commerce is sizeable [3][4][5][6][7]. There are several factors in creating this gap. In this paper, we will examine the growth barriers of e-commerce in developing countries versus the e-commerce situation in developed ones, by conducting a comparative analysis of e-commerce in Macedonia and Serbia opposed to Germany, as a developed country. We will review the basic features of the economies and e-business practices found in Macedonia, Serbia, and Germany; assess the most relevant legislation on e-commerce in the three countries; consider rules, regulations and working conditions for e-retailers; conditions for working with banks; payment types and payment processors; domain legislation and hosting solution; e-commerce software solutions; marketing activities and delivery services with post-sale customer care.

This paper uses a single-case research design. Multiple data sources are used. First, extensive secondary materials from appropriate literature and relevant web sites are collected and analyzed. Second, the lack of secondary information is complemented with primary information gathered through surveys and questionnaires. The survey sample was chosen carefully, from the people who are related to e-commerce field directly on indirectly. 80% of the chosen people were related to: banks, ministries, non-governmental organizations, employees in e-commerce companies and owners and founders on e-commerce companies from Germany, Serbia and Macedonia.

The structure of the paper is as follows. First, some basic information on the three countries is presented in section 2. E-commerce markets in Germany, Serbia, and Macedonia are sketched in section 3. Legal framework and e-commerce supporting services in the three countries is explained in section 4. The discussion of the comparative analysis of the three countries and the conclusion is reached in section 5.

2 Basic Information

Macedonia, Serbia, and Germany are not of the similar size and do not have a similar history. Macedonia and Serbia were established as independent states after the fall of communism: they were subject to a socialist planned state economy, more or less lacked private initiative, and experienced the transition from socialism to capitalism.

Germany, on the other hand, went through a transition itself. After the fall of communism, it went through the reunification of West and East Germany. The result of this transition was an even stronger economy, more specifically Europe's largest national economy, which ranks fourth globally in nominal GDP, and fifth in purchasing power parity GDP.

These three countries have a difference in size, economic power, and wealth. However, the similar GDP per capita of Macedonia and Serbia indicating their similar

level of development, ranking them as developing countries is a sound ground for comparing the two.

Germany is a highly developed country, with widely spread e-commerce and a respected digital economy. The aim of this paper is to reveal the possible development paths for Macedonia or Serbia in the field of e-commerce, in order to achieve the development stage of Germany. In other words, Germany should become an e-commerce benchmark for Macedonia or Serbia.

Some of the basic data for the three countries are shown in Table 1.

Table 1. Germany, Serbia and Macedonia, basic data, 2016

Criteria	Germany	Serbia	Macedonia
Area	357,022 km2	77,474 km2	25,713 km2
Population (July 2016 est.)	80,722,792	7,143,921	2,100,025
GDP (purchasing power parity, USD, 2016)	3,979 trillion	101,8 billion	29,52 billion
GDP (official exchange rate USD, 2016)	3,495 trillion	37,53 billion	10,49 billion
GDP growth, 2016	1,7%	2,8%	2,4%
GDP per capita (PPP USD, 2016)	48,200	14,200	14,500
Population between 15 and 64 years	65,41%	68,3%	71%
Urban population	74%	55,5%	62%
Internet penetration	86,8%	64,7%	69%
Daily use of Internet of the population between 18 and 34 years	97%	93%	92%

Nevertheless, it seems that the Internet evens people out, regardless of the level of development of their country - the percentage of individuals that are between 18 and 34 years and use the Internet daily is quite similar, 92% (Macedonia) and 97% (Germany).

3 E-commerce market

A brief overview of the data on the current situation of the e-commerce market in Germany, Serbia and Macedonia is listed in the Table 2.

Table 2. Germany, Serbia and Macedonia, e-commerce data, 2016

Criteria	Germany	Serbia	Macedonia
Number of registered e-stores	>50,000	1,000	669
Number/Percentage of active e-stores	>43,000	25% of the registered	17% of the registered

Percentage of the population that buy online	90%	26,3%	14,8%
What people buy online	62% electronic equipment	49,8% clothes and accessories	66,9% clothes and accessories
Total online revenue	59 billion euros	94 million euros	63 million euros
Average transaction (eur)	78	40	27
Payment cards issued	135 million	6,45 million	1,7 million
E-commerce legislation	E-commerce Law, Federal Data protection, European Data protection Directive	E-commerce Law, 2009	E-commerce Law, 2007
Online payment method	Online payment services - PayPal	Payment cards	Payment cards
Country Payment Processor	Few	No	1
Bank Monthly fees	Fix entry fee - 199 eur; Fix fee: 250-25.000 eur/year	Fix entry fee - 30.000 dinars Fix fee – 3.000 dinars a month fees - 2% - 5%	No fix fees; 1,5%-4% per transaction
Domain registration	DENIC .de	RNIDS .RS .СРБ	MARNet .mk .мкд
Total number of registered domains	12,463,942	96,494	26,611
Software solutions – most used	Open-source	Open-source	Open-source
Marketing techniques – most used	Video ads Virtual reality Optimization Indexing applications	E-mail marketing Social media marketing SEO Blogs	Search Engine Marketing (SEM) Search Engine Optimization (SEO) Social media marketing Pay Per Click (PPC) E-mail marketing Video marketing Blogs Banners
Prices for delivery in the country	0-10 eur	80-2,200 dinars	80-250 den
Prices for delivery abroad	0-20 eur	22-123 eur	>20 eur

3.1 Germany

Germany has one of the largest electronics consumer potentials in Europe. With more than 51 million digital users in 2014 (94% of Internet users aged over 14 years), it experiences the greatest potential in Europe [8]. Germany is a leader in m-commerce (sales through mobile phones) with 10% of orders made via mobile devices [9].

According to the global retail consumer index A.T. Kearney [10], Germany has the second highest e-commerce potential in Europe, behind the UK, but it has three times higher growth potential than the UK. Online retail sales in Europe are forecast to reach 234 billion euros by 2018, with an average annual growth rate of 12% in the period to 2013-2018 [11].

From year to year, Germany has seen a significant increase in e-market. In 2014 the German B2C multi-channel online and email-oriented businesses have made a total profit of over 49 billion euros. The German e-commerce economy represents 9% of the total national income of the retail industry (457 million euros) in 2014 and rose. According to the German Association of Internet industry, more than 50% of German GDP in 2017 will be related to e-commerce, compared to 37% in 2012 [12].

German retail companies operate as well on the global market. Amazon (Amazon.de) is the leading electronic retailer, regarding the number of online shoppers and profit from e-commerce in Germany. The annual revenue of Amazon.de is 7.79 billion euros in 2015 [12].

Otto, Tchibo and Conrad Electronics take part in the top 10 e-shops in Germany over the years. Companies with a focus on a particular category of products such as Zalando, Cyberport, H&M occupy top places. Many German electronics retail companies already compete on the international business market. Almost 90% of companies do business beyond national borders. Twenty-eight German e-companies take part in the top 100 list of European e-trading companies in 2014 and work on the international expansion.

Germans mostly buy clothes (annual consumption of 6.8 billion euros), books and electric appliances (5 billion euros) over the Internet. Most used methods of delivery are home delivery (92%), delivery at a specified pick-up point (21%), click-and-collect delivery (20%). Methods of payment are credit or debit card (29%), invoice (26%) and digital payments (22%).

Online buyers in Germany are returning half of the purchased products, and it is the highest return rate in Europe. E-traders try to overcome this problem by providing additional tools for returning products and educating their customers to understand the product before they order.

Germany's total e-commerce purchases account for approximately 25% of the total turnover of e-commerce in Europe. The average transaction volume in Germany is 66.8 euros, and the average shopper spends 987 euros a year buying on the Internet [13].

3.2 Serbia

According to surveys, e-commerce in Serbia is underdeveloped. Local experts say that underdevelopment is due to unfavourable developments in the economic and information area, in combination with a weak legal framework.

About 1,000 companies are registered e-commerce operators, but only 20% of them operate and work. The electronic market in Serbia mostly offers digital devices, event tickets, flights, insurance policies. In 2015 in Serbia there were 1.2 million online transactions, which is 100,000 transactions per month.

When talking about e-commerce, bear in mind that 26.3% of Internet users have ordered goods or services over the Internet in the last three months; 54.6% of people will never buy online.

The younger population in the three countries that are the focus of our interest demonstrates similar dependence on the Internet: 93% of the population 18 to 34 years are online on a daily basis [14].

Serbians buy online mostly clothes and sporting goods - 49.8% and digital devices - 20.9%. Until 2016 in Serbia, banks have issued 6.45 million payment cards. The average transaction volume in Serbia is 5.000 dinars or 40 euros.

In Serbia, e-retailers face a barrier when it comes to delivery, especially when it comes to delivering shipments abroad. Here the costs are very high, and the process is complicated. By facilitating these circumstances, would have been completely exploited the potential of e-retailers [15].

The most common reasons why people in Serbia do not practice electronic purchasing include the following [14]:

- 40% - are not used to it;
- 10.5% - have security concerns;
- 9.6% - inadequate payment card;
- 42% - have not needed it.

Regarding the legal framework, Serbia has initiated the adoption of the Law on Electronic Signature and E-commerce Development Strategy, which is an integral part of the Strategy for Information Society Development by 2020.

3.3 Macedonia

The development of e-commerce in Macedonia lags behind the developed countries. There have been several reasons:

- low internet penetration in the past;
- low penetration of payment cards, in the past;
- lack of confidence in e-commerce and e-payment, obtained through the media;
- lack of e- shops;
- many global online stores with restrictive policy for delivery and payment for Macedonia.

This situation started to change about ten years ago when internet penetration started rising, and banks began issuing payment cards that could be used on the internet. At that time, a Ministry of information society was established, the number of international e-stores that offered their products in Macedonia was increasing, and legal framework creation started. In that time the first e-commerce businesses began to operate in Macedonia and faced a number of problems. In 2010, the Ministry of Information Society conducted an analysis in the field of e-commerce [16], and after that traditional companies started to open their new outlets on the internet.

In 2011, the e-Government project was started, and part of that project was to develop and support e-commerce field. The Government started the implementation of the recommendations contained in the 2010 analysis, e.g. creating and promoting a one-stop-shop website on e-commerce and organizing regular meetings with online retailers and other stakeholders. Several other actions were taken in order to further develop e-commerce, such as the project of opening 50 e-shops, which was implemented during 2012-2013 [17]. The aim of this project was to help to entrepreneurs with the best business plans to open and host an e-store for free for a period of one year. Aside from the project, a growing number of traditional domestic businesses decided to open online stores. At the same time, the government started to offer part of its services online.

Despite these developments, a number of serious issues remained unsolved, and it prevented more serious development of e-commerce in the country. Much of rewarded entrepreneurs within the project of 50 e-stores didn't start their online operations at all or gave up at the very beginning. Other traders who decided to open e-stores aside from the project are also no longer active. On the other hand, people or businesses are using various Internet channels, mostly social networks, that perform grey economy operations and are unfair competition to the registered online traders.

4 Legal framework and supporting services

In this section, we will explain the legal framework and supporting services in the tree countries.

4.1 Germany

Legislation in Germany is highly developed, paying particular attention to customer care, digital signature, customs, and costs. Customer care and personal information protection are regulated with Federal Data Protection Act (Bundesdatenschutzgesetz – BDSG) [18]. The European Data Protection Directive 95/46 and Directive 2009/136/EC are important for the regulations for the use of "cookies." There are also regulations for the protection of personal data: German Banking Act (Kreditwesengesetz – KWG) and Money Laundering Prevention Act (Geldwäschegesetz – GwG), Telemedia Act (Telemediengesetz – TMG) and Telecommunications Act (Telekommunikationsgesetz – TKG) [19]. Customer care and protection rights Acts are following: German Civil Code (Bürgerliches Gesetzbuch – BGB) and Introductory Law to

the Civil Code (Einführungsgesetz zum BürgerlichenGesetzbuch – EGBGB). All e-commerce companies must work according to German Commercial Code, after they are registered in the Trade Register (Handelsregister) [20]. The German payments market is dominated by alternative payment methods and eWallets. Bank Transfers (SOFORT banking and Giropay), SEPA direct debits, ELV (local direct debit), PayPal and Open Invoice (Billpay, PATEpay and Klarina) account for 80-85% of the payments market share. This reflects current German "banking" situation where 95% of all Germans have access to online banking, and only 25% are in the possession of credit cards [21]. Cards take only around 10% of the total number of transactions conducted online. From the end of 2015, large German banks launched a new online payment method called Paydirekt, which allows shoppers to pay for their online purchases through their trusted home banking environment and checking account. Leading banks that operate with e-commerce retailers in Germany are Deutsche Bank, B+S Card Service, Elavon, Acceptance, ConCardis, Easycash, Evo Payments International GmbH, Postbank P.O.S. Transact, Wirecard AG, American Express, JCB International and Diners Club International [22].

Regarding supporting services, first one for e-commerce businesses is to pick a domain name. The domain name in Germany can have 63 letters and numbers. The registration is possible in Deutsche Network Information Center (DENIC) and under their network, more than 16 million domains are registered. After the registered domain, e-retailers choose for an appropriate e-commerce solution - "hosted" or "self-hosted" solution. German e-retailers mostly favor "hosted" solution. Most preferred "hosted" solutions in Germany are: Shopify and BigCommerce. Good "self-hosted" solutions in Germany are Magento and WooCommerce. Marketing trends in Germany are changing in tandem with technology. The online marketing industry is complex, but certainly exciting for e-retailers that follow marketing trends. Innovative marketing trends that became popular in 2016 are video ads, indexing applications, special ads for mobile devices, digital assistants for optimization, virtual reality, etc. Logistics is the final and vital step to finalize the process of delivering products. Logistic companies like Deutsche Post, Hermes Logistics and GLS have more than 10.000 pick-up points and work very effectively [23]. German e-retailers pay particular attention to the post-buying process. They care about positive feedback from customers.

4.2 Serbia

E-commerce Law in Serbia was passed in 2009, but a new law is being prepared because this one does not meet current needs [24]. In Serbia, there is a "Strategy for the information society," which means that until the end of 2020, this country must have "Law on electronic signature" and "Strategy for e-commerce development." The EU Directive, as a standardized guide with best European e-commerce practices, has been incorporated in Serbian e-commerce system, but some parts of it are not developed to the point that should be [25]. The history of e-commerce in Serbia is since 1999, and the operating bank was AstraBank. There was a gap in e-commerce services from 2001-2007, as a result of the non-functioning bank processing system that will support the e-commerce transaction. In 2007, Banca Intesa bank first got the

license from the companies Visa and MasterCard, started offering e-commerce services to the e-retailers in Serbia [26]. Nowadays, banks that provide e-commerce services are Banka Intesa and UniCredit Bank [27]. They use foreign payment processors (FirstData, AllSecure, ISPC) because there is still no Serbian payment processor. Serbian people mostly pay online with debit or credit cards.

Serbia is one of the countries that have Cyrillic (.СРБ) and Latin (.RS) domain. Their Cyrillic domain was established second in the world, after Russia's [28]. The RNIDS foundation (Register for National Internet Domain of Serbia) is an organization for registering Serbian national domains [29]. Serbian e-retailers mainly decide to own "open source" solution for e-commerce, because it is cheaper than customized solution and easy to use. In Serbia, e-retailers mostly choose: Magento, WooCommerce, osCommerce, DrupalCommerce, Opencart, PrestaShop and VirtueMart and platforms of choice for creating e-store are: Shopify, BigCommerce, Volusion, Zepo, and Kartrocket. E-retailers in Serbia pay attention to marketing, especially digital marketing. In 2015, e-retailers spent 12.2 million euro on marketing [30]. Most common marketing vehicles are e-mail marketing, social media marketing, Search Engine Optimization, and Blogs. Domestic logistics is not on a high level in Serbia, and international logistics is expensive. Distributing companies operating in the territory of Serbia are: Serbia Post, Bex courier, UPS Express Courier, Ciclo Courier [31].

4.3 Macedonia

In the Republic of Macedonia, the Law on e-commerce was passed in 2007, according to the EU Directive of e-commerce [32]. The Law is fully harmonized with the EU Directive being introduced in Macedonia in 2000. There are two institutions that control the legal work on e-commerce companies – State Market Inspectorate (DPI) [33] and Agency for Electronic Communications (AEK) [34]. There are also other laws and legislation which apply to e-retailers: Law on electronic signature; Law on electronic communications; Trade Law; Law on customer right protection. In Macedonia, there are 14 banks that work with e-commerce. There is one payment processor in Macedonia – Casys [35]. Most of the banks work with Casys, and several of them work with a foreign payment processor. The banks in Macedonia are trying cut all the fees and monthly commission, and their fees are per transaction [16].

Similar as in Serbia, in Macedonia, there is a Cyrillic domain (.мкд) and Latin (.mk). The Cyrillic domain was introduced to the country in 2014. The MK-DNS foundation (Macedonian Academic Research Network) is an organization for registering Macedonian national domains. There are 35.000 registered domains until the end of 2016 [36]. E-retailers in Macedonia mostly choose „open source" solutions in which they find control, security and stability [37]. According to the hosting, they choose mostly hosting company that has servers in other European countries or USA [38][39]. Macedonian e-retailers pay attention to marketing activities, especially digital marketing activities: Search Engine Marketing, Search Engine Optimization, Social Media Marketing, Pay-per-Click marketing, e-mail marketing, blogs, e-magazines, banners. About the logistics in Macedonia, they offer quite decent and

inexpensive domestic services. However, the international delivery is more expensive than domestic one.

5 Conclusion

From the analysis conducted in this paper, we may conclude that lagging behind, Serbia and Macedonia are attempting to follow good practices of developed countries, such as Germany. Key indicators from the field of e-commerce for the three countries are summarized in Table 4. In Macedonia, there are 669 registered e-stores, in Serbia – 1000 e-stores, in Germany – above 50.000 e-stores. However, in Macedonia, only 17% of the e-stores work, which gives the number of 114 e-stores and in Serbia only 25%, which gives the number of 250 e-stores and in Germany – 85%, which gives the number of 46.770 e-stores.

From active e-stores analysis, that is the number of active stores per capita, the result is evident, Germany with 0,58 stores on 1000 citizens is the leader. There is a small difference between Macedonia and Serbia, with about ten times less active e-stores per capita.

According to the percentage of people that shop online, the result is also that the leader is Germany with 90% of the internet users that shop online. The percentage in Macedonia and Serbia is much lower, with 14,8% and 26,3% respectively.

An important indicator for e-commerce development is the total annual amount of money spent in the e-commerce sector. The distribution between the three countries is very similar to the previous paragraph, indicating German supremacy, with 59 billion euros in Germany, 94 million euros in Serbia and 63 million euros in Macedonia.

What are the main reasons for the underdevelopment in e-commerce in Macedonia and Serbia? Some of the answers could be found in following: the transition from communism to capitalism took decades; both countries confronted serious obstacles in the process of structural adjustments; the privatization of the state-owned companies was time-consuming and inefficient. Furthermore, the adjustment of the legal system to EU requirements is still on-going, and legal protection is still pointed out as problematic for foreign companies. Both countries are burdened with political instability. They receiving insufficient direct investment.

In Germany, on the other side, there was simply taking over of the economy of the West Germany, and quick transfer of the laws of the West to the East Germany. In addition, there have been more investments from West to the East Germany than from whole EU in Serbia and Macedonia.

IT sector has followed these weaknesses and obstacles. And it has an impact on e-commerce.

So, inadequate economic development, incomplete legal framework, neglect of the importance of incorporation of IT strategies in Business strategies of the companies in Serbia and Macedonia conditioned the poor development of e-commerce.

The main conclusion that emerges from this analysis is that developing countries must follow the positive example of the developed European countries. Furthermore, initial measures must be contingent to the country's environment and culture. The

several recommendations that Macedonia, Serbia, and other developing countries should follow in order to develop their e-commerce sector are:

- Government should build legislative framework in order to create favourable environment for e-commerce.
- People must be more informed. Government should raise awareness of the advantages of e-commerce and digital economy in general.
- Government should introduce one-stop-shop for e-commerce business information, in order to ease e-commerce business starting and conducting.
- Government should closely track the development of e-commerce by measuring its development indicators.
- Government should encourage banks to offer favourable loans for e-commerce businesses.
- Government should encourage establishment of several payment services for e-customers.
- The logistic network in the countries should be improved.

One of the conclusions of this analysis is that the younger generation uses the Internet equally, and the demand of online services will grow regardless of the country. The discrepancy of e-commerce development between Germany and Macedonia and Serbia should not be demotivating for developing countries, but it should be seen as a growth potential. They should exploit the best practices from developed countries such as Germany, to follow their development path towards developed e-commerce and digital economy.

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