

# Marketing and Commercial Activities Offered on Websites of European Union Banks

Mario Spremić, Natalija Kokolek, Božidar Jaković, Jurica Šimurina

**Abstract**—This paper deals with various questions related to functionality and providing banking services in the European union on the Internet. Due to the fact that we live in the information technologies era, the Internet become a new space for doing economic and business activities in all areas, and especially important in banking. Accepting the busy tempo of life, in the past several years electronic banking has become necessity and a must for most users of banking services. On a sample of 300 web sites of the banks operating in European Union (EU) we conduct the research on the functionality of e-banking services offered through banks web sites with the key objective to reveal to what extent the information technologies are used in their business operations. Characteristics of EU banks websites will be examined and compared to the basic groups of business activities on the web. Also some recommendations for the successful bank web sites will be provided.

**Keywords**—Electronic banking, electronic business, European Union banks, internet.

## I. INTRODUCTION

INFORMATION technology and its pervasive use nowadays is one of the most frequently mentioned issue in the business world. Internet, major worldwide communication network, affirms the electronic market and the appearance of many new services which have an impact on business and society. The development of Internet technology, which is present everywhere in the world, has led to the possibility that the business is done electronically. We can conclude that we live in the era of “Electronic Business” or “eBusiness”.

Electronic business is a modern form of business organization which involves intensive application of information and, particularly, Internet technology in all core business functions and processes. Today represents the most advanced form of business organization which tends to all companies targeted on better market positions and intensive development of business activities.

Internet, as one of the most important tools of promotion, and especially a website should be a ‘mirror’ of the company, mainly because it indicates how much effort has been done in promoting its own brand and how to evaluate Internet as a media.

M. Spremić is with the Department of Informatics, Faculty of Economics and Business, University of Zagreb, 10000 Zagreb Croatia. (corresponding author to provide phone: +385-238-3278; fax: +385-233-5633; e-mail: mspremic@efzg.hr).

N. Kokolek is a student on postgraduate (doctoral) study programme with the University of Zagreb, 10000 Zagreb Croatia (e-mail: natalija\_kokolek@hotmail.com).

B. Jaković is with the Department of Informatics, Faculty of Economics and Business, University of Zagreb, 10000 Zagreb Croatia (e-mail: bjakovic@efzg.hr).

Due to the successful realization of the idea of creating a virtual bank, electronic banking is the fastest, most economical and most efficient way of doing banking business. Times change and today’s digital world has strong impacts on a range of consumer behavior, including the way they deal with their own finances. Electronics and mobility are key factor for financial institutions to be in progress. There have been a lot of research about the influence of e-business and related technologies on banking services. In a literature review we will analyze the evolution of the research in e-banking area and stress key conclusions. After that we will construct our own research methodology on a sample of 300 websites of the banks operating in EU around the functionality of e-banking services offered via web sites and revealed the its major functionalities and features.

## II. LITERATURE OVERVIEW

Intensive use of modern information technology in the banking industry can be analyzed from a various perspectives, namely, business efficiency, technology adoption, user acceptance, security issues, etc. Bose and Leung [1] investigated anti-phishing preparedness of banks in Hong Kong. Their paper aims to report how their framework could be used for assessment of preparedness of 30 banks in Hong Kong. Phishing has enormous impacts on the financial industry and it is becoming more and more relevant, especially in the headquarters of various financial institutions like in Hong Kong. It is known that online security, privacy and confidentiality are often listed as key concerns of customers. Also, it is believed that service providers who failed to address the security concerns might shatter the trust of their customers. According to these statements, objective of the model measuring accessibility, usability and information content, was to determine how well individual bank’s website presented materials related to security information in the context of anti-phishing. Findings and results indicate that phishing information was better in terms of accessibility and information content and anti-phishing measures information was better in terms of usability. Phishing e-mail was the easiest to access while malware was the most difficult. On the whole, Hong Kong banks attached more importance to anti-phishing measures information.

Kapusta, Munk, Svec and Pilkova [2] have made a study where they conducted several experiments in which they evaluated the relevance of the various data preparation steps of web server log file for sequence analysis. Authors compared two values of time threshold with experimental methods of user session identification based on the Reference Length and

H-ref. The source of data for their experiment was web server log file of domestic significant commercial bank operating in Slovakia which consists from 364 pages. The biggest problem of the first method was the need of the exponential distribution of the Length and the second problem was the portion of navigation pages. The results of the H-ref method were disappointing. This method can be used for portals that are characteristic with flood visitors, e.g. e-tickets. The best results were achieved by employing user session identification methods based on threshold time.

DeYoung, Lang and Nolle [3] have discussed about the impact of the Internet on bank performance. It is known that the most likely way that Internet banking can affect community banking is by influencing the nature of the relationships between banks and their customers. The purpose of their paper is how the Internet banking channel's impact on the financial performance, production process and product mix. Their study was focused on community bank performance during a two-year window from 1999 through 2001 according to their selection criteria. Authors found out that Internet adoption improved community bank profitability and increased use of brokered deposits and higher average wage rates for bank employees.

According to Hernando and Nieto [4] the impact on banks performance of transactional Web adoption takes time to appear. The analysis which includes 72 separately charted individual banks operating in Spain in 2002 is based on several financial performance ratios. This financial ratio measures business activity, operational performance and profitability. Spanish banks strategy has been in line with current worldwide trends.

Tsai, Huang, Liu and Lin [5] made a study based on a case study of E. Sun Commercial Bank. Authors have pointed out how much more advantage can be achieved by enhancing Web automated teller machines with the latest Web-enablement technology and what kind of business model can improve the performance of banking. They revealed that with Web automated teller machines and Web 2.0, we have an opportunity to make amends. This innovative technology or strategic thinking for change may be our better chance yet to steer the banking system.

Munk, Pilkova, Kapusta, Svec and Drlik [6] investigated domestic and foreign market participants' interest in mandatory Basel 2, Pillar 3 information disclosure of a commercial bank during the recent financial crisis in Slovakia. According to various literature sources, Pillar 3 should be the instrument forcing bank managers to disclose various publicly information. Authors have analyzed stakeholders' behavior during a quite extensive period, 27 months, and had to add additional attributes to log file records. They found out that stakeholders have not been able to cope with Pillar 3 disclosed information, or they did not have any incentives. Change of content and frequency might be beneficial for stakeholders and have a positive impact from time consuming and costs points of view for banks.

Yang, Shi, Wang and Yan [7] decomposed Website quality and profitability in e-commerce firms using two-stage DEA

model. The samples in this study were mainly from e-commerce companies in the stock market of Shanghai, Shenzhen, Hong Kong, National Association of Securities Deal Automated Quotations and Taiwan. Authors said that virtual operation in e-commerce firms needs to focus on e-business application match with organization structure and Internet strategy so that it can take advantage of cost savings to increase overall operation efficiency. Their findings provide interesting insights how to improve operation efficiency according to Website quality and profitability.

According to Hasan and Abuelrub [8] there are 4 dimensions criteria for evaluating the quality of any Web sites: content quality, design quality, organization quality and user-friendly quality. Authors proposed a framework that is capable of reliable applications across a broad range of Websites regardless of the service they provide.

Al-Qeisi, Dennis, Alamanos and Jayawardhena [9] investigated which elements of Website design quality really matter and how did these elements influence usage behavior. The results were based on a survey of 216 users of Internet banking. Findings indicate that the technical, general content and appearance dimensions of a Website are most important for users.

Medyawati and Mabruri [10] have made a study comparing perception of e-banking services between the customer of Mandiri bank and the BJB Bank in Bekasi City. This study took a sample of 105 respondents. The results showed that there was no difference in the perception of e-banking services between the customer of Mandiri bank and the BJB Bank.

### III. RESEARCH METHODOLOGY

As the basic for conducting this research, we use a sample of 300 banks operating in EU (in fact, their web sites) from the list of banks in the EU published by Banks around the world, (2014). We also include all 30 banks operating in the Republic of Croatia, as a newcomer to EU, from the list of banks in the Republic of Croatia, published on the Website of the Croatian banking association, (2014). We collected data in the period from 01 August (the beginning of the research) to 01 September 2014 and used descriptive statistics methods with inductive conclusions.

A new model for analyzing Websites of European union Banks was presented by authors (Fig. 1). All Websites of European union Banks should be view through five main forms: (1) Communication with customers on Websites of European Union Banks, (2) Marketing elements on Websites, (3) Languages on Websites, (4) Bank services and (5) Usage of Web 2.0 technologies on group-buying portals. The central part of the research analyses the Websites of European Union Banks with particular regard to that model.

Similar model used by [11] but they investigated the Website adoption and performance of Iranian hotels. The population of their study included 75 Iranian hotel Websites which were functional. The results showed the percentage of Websites in terms of their star ratings and the percentage of the hotel Websites that include each of 48 features that were classified under the six dimensions of hotel information,

product information, non-product information, payment, customer relationship management and reservation. The

results indicate that the page ranking and the hotel star rating are significantly related to Website performance.

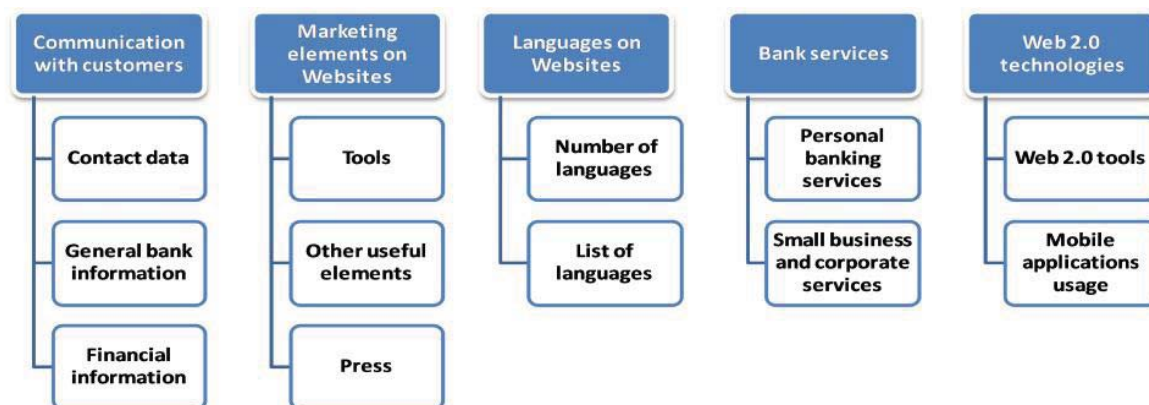


Fig. 1 Websites of European union Banks – research model

In the planned and conducted research were analyzed the Websites of 30 banks in Croatia and 10 Websites of banks in each country of the 27 other members, or a total of 300 bank Websites of the Member States of the EU. The attributes in this study are: available business information which includes share capital, total assets, number of branches, employees, clients and financial reports, than forms of communication with clients which includes contact data, general bank information, press and other elements on the Website like useful links, news, suggestions, complaints, compliments and sitemap. Also, we depicted the evidences on the forms of Web 2.0 and mobile technologies usage, use of banking services for clients, including personal banking services and small and corporate business services. Due to the set methodology, which consists of attributes and 300 Websites of banks, research will show the availability and functionality of the EU banks on the Internet.

#### IV. RESEARCH RESULTS

Available and relevant information is important and useful element on the banks Websites. It includes some financial information such as share capital, total assets, and number of branches, employees, clients and available financial reports. Table I represents available financial information found on Websites of EU banks. Share capital and total assets can be find on 99,00% of Websites in European union, and in Croatia all bank Websites have clearly stated this two items. Financial reports are available on 98% of Websites. Due to the success and popularity of banks depends on the number of clients and what is more branches available in the country, the grater probability is that a person will choose that bank, such data are essential. Number of branches can be find on 87,33%, employees on 40,00% and number of clients on 37% of bank Websites. The communication channels with clients includes contact data, general bank information, tools, some other elements like useful links, news, suggestion, sitemap, and finally press.

TABLE I  
AVAILABLE FINANCIAL INFORMATION ON WEBSITES OF EUROPEAN UNION BANKS IN 2014

Available business information	Share of European union Banks which have the stated element on their website	Share of Croatian banks which have the stated element on their website
Numerical values		
Share capital	99,00%	100,00%
Total assets	99,00%	100,00%
Number of branches	87,33%	73,33%
Number of employees	40,00%	46,67%
Number of clients	37,00%	30,00%
Financial reports	98,00%	90,00%

TABLE II  
COMMUNICATION CHANNELS WITH CLIENTS ON WEBSITES OF EUROPEAN UNION BANKS IN 2014

Forms of communication with clients	Share of European union Banks which have the stated element on their website	Share of Croatian banks which have the stated element on their website
Contact data		
Telephone	99,67%	100,00%
Telefax	99,67%	100,00%
E-mail	100,00%	100,00%
Address	99,33%	100,00%

All Croatian bank Websites have clearly stated their telephone, telefax, address and e-mail which is also clearly stated on all Websites of European union Banks. A total of 99.67% of European Union Banks have stated elements like telephone and telefax, and 99.33% have stated address on their Website.

Websites play an important role in e-business because through them users and clients find basic information about the bank. Table III represents available general bank information on Websites of Croatian banks and all members of EU.

TABLE III  
AVAILABLE GENERAL BANK INFORMATION ON WEBSITES OF EUROPEAN  
UNION BANKS IN 2014

Forms of communication with clients	Share of European union Banks which have the stated element on their website	Share of Croatian banks which have the stated element on their website
General bank information		
Headquarters	99,67%	100,00%
Branch network locations	97,00%	96,67%
Working hours	95,67%	83,33%
ATM network locations	83,33%	76,67%
ATM availability	83,00%	76,67%
ATM functionalities	83,00%	76,67%
Companies registration code	99,33%	100,00%
Bank account number	99,33%	100,00%
SWIFT	98,33%	90,00%
IBAN	99,00%	96,67%
Banking advertising slogan	25,33%	43,33%
Banking logo	100,00%	100,00%

TABLE IV  
AVAILABLE TOOLS AND OTHER USEFUL ELEMENTS ON WEBSITES OF  
EUROPEAN UNION BANKS IN 2014

Forms of communication with clients	Share of European union Banks which have the stated element on their website	Share of Croatian banks which have the stated element on their website
Tools		
Calculator	94,33%	83,33%
Exchange rate list	97,00%	100,00%
Other		
Useful links	97,00%	80,00%
News	99,67%	100,00%
Suggestions, complaints, compliments	96,00%	70,00%
Sitemap	62,67%	53,33%
Press		
Press reports	99,33%	96,67%
Newsletter	19,00%	20,00%
Social responsibility	87,00%	46,67%

Websites have nowadays become an essential media for any company as a form of advertising and also for any person who knows the basics of working on a computer. To make it easier to find the branch in the city, available branch network locations, headquarters and working hours shown on the Website are very useful. More than 95% of EU banks have these stated elements on their Website. To find out automated teller machine network locations and their availability and functionalities have 83.00% EU banks on their Websites. Results for Croatian banks are similar to other banks in the EU.

In a situation where are so many competitors offering the same or similar services, companies need to define diversity points to the development of recognizable elements of brand identity. One of them is the advertising slogan and the other one is company's logo. Company's logo is a graphic sign or unique symbol which clients recognize in most situations. All 300 EU banks have their own logo. The importance of the advertising slogan was noticed by 25.33% of European banks which is a weak result and banks should make an effort in

marketing activities. A slightly better result is related to the Croatian banks where 43.33% have used slogans as part of their brand and advertising campaigns.

Elements like companies registration code, bank account number, SWIFT and IBAN have more than 98,33% of Websites.

Table IV represents available tools and useful links during visits to banks Websites. Tools like calculator and exchange rate list, useful links, news and to write suggestions, complaints and compliments have most of the European Union Banks on their Websites.

A sitemap is a list of pages on a Website, typically organized in hierarchical order. This help visitors and search engine bots to find pages on the Website. More than half of Croatian banks have the stated element on their Website.

Newsletter are offered by 19.00%, including Croatian 20.00% of banks which is a big minus for the banks because they don't use effective direct promotion of their own services.

E-banking is today oriented to customers and banks use it as a communication channel with clients and creating added value. Social networks represent a trend in social communication and in a short time have gained huge popularity. Members of social networks are not just students and young people looking for entertainment, but they are also intellectuals and business people all around the world.

Web 2.0 includes new forms of social computing which bridge over cultural differences and have impact at development of the new Internet services. This kind of systems engages a huge number of users and it keeps developing from day to day.

Usage of Web 2.0 and mobile technologies on Websites of European union Banks includes: Facebook, Twitter, Google +, LinkedIn profile, RSS, Flickr, Youtube, Chat and Blog. They also contain special mobile applications for usage. Table V shows the data on the share of EU and Croatian banks which have the stated forms of usage of Web 2.0 and mobile technologies on their Website.

TABLE V  
USAGE OF WEB 2.0 AND MOBILE TECHNOLOGIES ON WEBSITES OF EUROPEAN  
UNION BANKS IN 2014

Forms of Web 2.0 and mobile technologies usage	Share of European union Banks which have the stated element on their website	Share of Croatian banks which have the stated element on their website
Web 2.0 tools		
Facebook	44,00%	36,67%
Twitter	33,33%	0,00%
Google +	14,33%	3,33%
Linkedin	19,67%	6,67%
RSS	12,33%	6,67%
Flickr	3,33%	3,33%
Youtube	28,00%	16,67%
Chat	5,00%	6,67%
Blog	4,00%	6,67%
Instagram	0,00%	0,00%
Mobile applications		
Apple store	59,67	50,00%
Google play	58,33	46,67%



Facebook is the most used social network. 44.00% of the European Union Banks use Facebook profile for additional promotion. 33.33% of the banks Websites use Twitter, an online social network service that enables its users to send and read text-based post, known as tweets. Comparing with the Croatian banks, they should be more active on social networking sites, because only 36.67% of banks are active on Facebook and none on Twitter. LinkedIn, the business social network is used by 19.67% in the European Union, while Google + use 14.33% banks. An image and video hosting Website and service, Flickr, use only 3.33%. Contact the bank through live chat offer 5.00% of banks. Instagram is not used by European Union Banks.

Another statistic is the usage of mobile applications. Mobile applications are software applications, usually designed to run on smart phones and tablet computers. They are available through application distribution platforms, which are typically operated by the owner of the mobile operating system, such as the Apple App Store or Google Play. Mobile banking application offers more than 58.33% of banks which will increase in the future due to rapid development of mobile technology.

According to Table VII, all banks in Croatia offer the services on their web sites in the official language and it refers to 97,33% in the European union. 60.33% of Websites are available in English.

Banking business is based on innovation and improving relationships with customers and put a special focus on the youth segment of clients. Table VIII shows the data on share of European Union Banks which have the stated form of personal banking services on their Website.

TABLE VI  
NUMBER OF LANGUAGES ON WEBSITES OF EUROPEAN UNION BANKS IN 2014

Forms provided by the website	Share of European union Banks which have the stated element on their website	Share of Croatian banks which have the stated element on their website
Content languages on Websites		
One language	35,00%	30,00%
Two languages	40,33%	60,00%
Three languages	12,00%	6,67%
Four languages	2,33%	3,34%
Five languages	0,33%	0,00%

TABLE VII  
LIST OF LANGUAGES ON WEBSITES OF EUROPEAN UNION BANKS IN 2014

Forms provided by the website	Share of European union Banks which have the stated element on their website	Share of Croatian banks which have the stated element on their website
Language		
Official language	97,33%	100,00%
English	60,33%	66,67%
German	4,67%	3,33%
French	2,00%	0,00%
Italian	1,00%	6,67%
Other	16,00%	6,67%

TABLE VIII  
AVAILABLE PERSONAL BANKING SERVICES ON WEBSITES OF EUROPEAN UNION BANKS IN 2014

Forms of banking services for clients	Share of European union Banks which have the stated element on their website	Share of Croatian banks which have the stated element on their website
Personal banking services (Youth and student banking)		
Accounts	53,66%	53,33%
Savings	50,33%	53,33%
Student loans	47,33%	33,33%
Personal banking services		
Accounts	98,00%	100,00%
Savings	97,33%	96,67%
Insurance	52,00%	20,00%
Cards	98,00%	96,67%
Credits	97,00%	96,67%
Online banking	97,67%	100,00%
Mobile banking	59,33%	50,00%
SMS banking	76,67%	56,67%
Queueing app	1,00%	3,33%

According to the Table VI it can be seen that 40,33% of surveyed banks provides page content in two languages, while 35% provides an overview of Websites in just their official language which is unsatisfactory information. Page content in five languages provides only one bank, Rietumu Bank from Latvia. The most Website banks in Croatia have been translated in two languages, 60%, which is satisfactory result.

Banks offer their clients a wide range of savings and investment products. More than 50.33% of banks offer opening account and savings for young people, while 47.33% offer students help in the financing education with a selection of student loans.

Due to the main focus of the users and customers, it is important that services are clearly identified and specified so that users can find all the information they are looking for. Opening the different types of accounts, contracting the savings, offering loans and several cards with deposit accounts, and access to online banking on Websites of European union Banks have clearly stated more than 97,33% of banks. Insurance such as life insurance, accident insurance, housing loan insurance offer 52,00% of banks in the European union.

SMS banking is a type of mobile banking, enabling clients to use banking services over mobile phones using SMS messaging. 76.67% of banks offer these services, while mobile banking is offered by 59.33%. Worth mentioning is Erste Queueing, mobile app which allows you to draw a virtual queueing number at the Erste Bank branch office of choice and informs you how many people are ahead of you in line, thus enabling you to avoid long waiting times at the branch office. Table IX shows the services offered by banks to small businesses and corporates. Today many companies seek a consistent approach to optimize the entire financial supply chain – from purchasing and sales to payment and collection. Payment services and savings offer 98.00% of European Union Banks. Financial services, online banking and SmartOffice offers more than 97.33% of banks.

International Desk provides information and support to all corporate clients about Bank Group, particular banks and their products and services and intermediates contacts to account managers. This service is offered by 86.67% of banks.

After the research and analysis all the attribute, Table X represents 15 most successful banks in the European Union according to the results.

TABLE IX  
AVAILABLE SMALL BUSINESS AND CORPORATE SERVICES ON WEBSITES OF  
EUROPEAN UNION BANKS IN 2014

Forms of banking services for clients	Share of European union Banks which have the stated element on their website	Share of Croatian banks which have the stated element on their website
Small business and corporate services		
Accounts	98,00%	100,00%
Savings	98,00%	96,67%
Financing	99,33%	100,00%
International desk	86,67%	43,33%
Online banking	97,33%	100,00%
SMS banking	77,66%	53,33%
SmartOffice	97,33%	100,00%
Queuing app	1,00%	3,33%

TABLE X  
RANKING OF 15 MOST SUCCESSFUL BANKS IN THE EUROPEAN UNION  
ACCORDING TO THE RESULT OF RESEARCH

Ordinal number	Country	Bank name	Success (%)
1.	Croatia	Erste&Steiermärkische Bank d.d.	81,52%
2.	Austria	Erste Group Bank AG	79,35%
3.	Hungary	Erste Bank Hungary	79,35%
4.	Belgium	BNP Paribas Fortis	78,26%
5.	Belgium	KBC Bank	78,26%
6.	Belgium	ING Belgium	77,17%
7.	Belgium	BNP Paribas Bulgaria	77,17%
8.	Bulgaria	UniCredit Bulbank	76,09%
9.	Luxembourg	BGL BNP Paribas	76,09%
10.	Malta	Bank of Valletta	76,09%
11.	Croatia	Privredna bank Zagreb d.d.	75,00%
12.	Austrija	Bank Austria	75,00%
13.	Čzech Republic	UniCredit Bank C.Z.	75,00%
14.	Luxembourg	Banque Internationale á Luxembourg	75,00%
15.	Germany	Hypovereinsbank	75,00%

In the first place, with 81.52% efficiency is Erste Bank doing business in Croatia. In the second and third place are also two banks of Erste Bank Group doing business in Austria and Hungary, which confirms that they are the leading financial services providers in Central and Eastern Europe. Another bank group, BNP Paribas Group is also successful in providing banking and financial services in Belgium, Bulgaria and Luxembourg. They are in the 4<sup>th</sup>, 7<sup>th</sup> and 9<sup>th</sup> position. All the banks in the table have 75% efficiency or more.

## V. CONCLUSION

This paper presents the results based on the analysis of e-banking services available in the EU member states. The study includes 300 Website banks in the EU, precisely 30 Croatian

banks and 270 Website banks of other Member States. Websites have nowadays become an essential medium for any company as a form of advertising. The main reason for such an expansion of banking services on the Internet is the fact that users are more versed in the benefits of its use and the slow disappearance of fear of using new technologies. Taking advantage of the e-banking, it is not surprising that 97.56% of banks in the EU offer the services on the Internet. This result indicates that citizens, entrepreneurs and companies are realizing that online banking achieved significant savings in daily operations. Moreover, 59.34% of surveyed banks offer services through smart phones, so, mobile banking has great potential and prospects for further development, especially since it is known that the number of mobile phone users is constantly growing. Banks in the EU, including Croatia, should contribute to the popularization of the use of Internet services by establishing direct line of communication with their clients, instead of traditional way of support by phone. But, despite the simple introduction of this communication channel, only 14.92% of banks in Croatia used Web 2.0 technology which indicates that they are not ready to exploit the faster communicating possibilities to the full.

According to the results of the research, it can be said that e-banking services in Croatia are of the similar functionality compared to the other banks in the EU. However, it requires a lot of investment and taking the best from technology so the services can be at the top level. Time and technology won't wait for anyone, so those banks which fail to catch up with the time and new technologies, can be quickly find in a difficult situation.

## REFERENCES

- [1] I. Bose, A.C. M. Leung, "Assessing anti-phishing preparedness: a study of online banks in Hong Kong (Original research article)," in *Decision support systems*, vol.45. pp. 897-912, November 2008.
- [2] J. Kapusta, M. Munk, P.Svec, A.Pilkova, "Determining the Time Window Threshold to Identify User Sessions of Stakeholders of a Commercial Bank (Portal Original Research Article)," in *Procedia Computer Science*, vol.29. pp.1779-1790, 2014.
- [3] R. De Young, W. W. Lang, D. L. Nolle, "How the Internet affects output and performance at community banks (Original Research Article)," in *Journal of Banking & Finance*, vol.31. pp.1033-1060, April 2007
- [4] I. Hernando, M. J. Nieto, "Is the Internet delivery channel changing banks' performance? The case of Spanish banks (Original Research Article)," in *Journal of Banking & Finance*, vol.31. pp.1083-1099, April 2007.
- [5] W. H. Tsai, B. Y. Huang, J. Y. Liu, T. S. Tsaur, S. J. Lin, "The application of Web ATMs in e-payment industry: A case study (Original Research Article)," in *Expert Systems with Applications*, vol 37. pp. 587-597, January 2010.
- [6] M. Munk, A. Pilkova, J. Kapusta, P. Svec, M. Drlik, "Pillar 3 and Modelling of Stakeholders' Behaviour at the Commercial Bank Website during the Recent Financial Crisis (Original Research Article)," in *Procedia Computer Science*, vol.18. pp.1747-1756, 2013.
- [7] Z. F. Yang, Y. Shi, B. Wang, H. Yan, "Website Quality and Profitability Evaluation in Ecommerce Firms Using Two-stage DEA Model (Original Research Article)," in *Procedia Computer Science*, vol.30. pp.4-13, 2014.
- [8] L. Hasan, E. Abuelrub, "Assessing the quality of web sites (Original Research Article)," in *Applied Computing and Informatics*, vol.9. pp.11-29, January 2011.
- [9] K. A. Qeisi, C. Dennis, E. Alamanos, C. Jayawardhena, "Website design quality and usage behavior: Unified Theory of Acceptance and Use of

- Technology (Original Research Article),” in *Journal of Business Research*, vol. 67. pp.2282-2290, November 2014.
- [10] H. Medvawati, A. Maburi, “Website Quality: Case Study on Local Government Bank and State Own Bank in Bekasi City (Original Research Article),” in *Procedia - Social and Behavioral Sciences*, vol.65. pp.1086-1091, December 2012.
- [11] S. Salavati, N. H. Hashim, “Website adoption and performance by Iranian hotels (Original Research Article),” in *Tourism Management*, vol. 46. pp.367-374, February 2015.