

REDESIGNING BANK-CUSTOMER RELATIONSHIPS IN THE ERA OF GLOBALIZATION AND INFORMATION TECHNOLOGY REVOLUTION

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Abstract: *This paper aims to develop a study on the changes brought by globalization and information technology revolution on the relationships between banks and their customers. As more and more of the customers of the banking industry become acquainted with the newest information technologies and value more their time, they demand also electronic access to banking services, forcing thus the banks to adapt themselves to their needs and to redesign the bank-customer relationships. However, beyond the many advantages for the customers and for the banks brought by the new design of these relationships there are also some disadvantages, especially for the banks, but also for the customers, that need attention. Therefore, while channels as internet banking, mobile banking and, more recently, social media banking seem to be the most likely alternatives for the banks to deliver banking services and products, they still have some limits, keeping still alive the interest for the brick-and-mortar bank branches.*

Keywords: *information and communication technology, e-CRM, internet banking, mobile banking, social media banking*

INTRODUCTION

The advances of the information and communication technologies developed during the latest decades, enhancing also the globalization phenomenon, have significant effects on the behaviour of the citizens and companies and, generally, on the entire society. In this regard, the relationships between different parties of the society, including the financial ones, have encountered major changes, while people tend to replace more and more the personal or direct contacts with contacts from the distance, searching to save as many time as possible and being helped by the new means of communication and information. Moreover, while generation X was not so acquainted with computers and found much later the benefits of Internet, laptops, smartphones or social media, the following generations, Y and Z, have grown having the opportunity to use sooner such means of communication and information and to discover their advantages, developing their lifestyle based on such tools and becoming somehow quite dependent on them. Therefore, it appears natural that, while the new generations are replacing in time the previous ones, more people are demanding access from the distance to all kind of products and services, including the ones delivered by banks, and, in the end, are building their relationships with the banks predominantly or even entirely using electronic channels.

At the same time, acknowledging the changes in the demand of its customers and facing not only the competition from the other banks but also from other financial non-banking companies, each bank is forced to redesign its business model by opening new channels of interaction and delivering of products and services, based on the new ICT (information and

communication technologies). Moreover, beyond the issue of surviving competition this new kind of bank-customer relationships, based on modern technologies, opens for the banks a wide area of opportunities which can now reach new customers and sell them faster more products and decrease at the same time their operational costs.

NEW ICT PENETRATION AND THE IMPACT ON THE SOCIETY

The progress of human society was always determined by the fact that in time each individual increases its needs for products and services, but also by the increase of the population in the world. Both these phenomena lead to a general increase of the demand of products and services, implying the need for a significant increase of the production activities, but also the exponential increase of the transactions to be made for fulfilling these demands. Therefore, while time remains the same for each of us, the only possible way for solving the issue of delivering many more products and services to the consumers is to create and use new technologies to make things happen faster and, thus, technology became the most important engine of the progress of the society.

Especially within the third millennium our society proves to evolve under the impact of the rapid development of the information and communication technologies, which solve a lot of time-saving problems whether if we refer to production activities, but mostly if we refer to transactions and delivery of goods and services. However, there is another side of the impact of these technologies which become at the same time the main reason for the increase of the demands of the individuals and companies who found out more rapidly about things that can be useful or desirable for them, leading in the end to the need for new solutions for time-saving and thus, naturally, to a more intensively use of ICT.

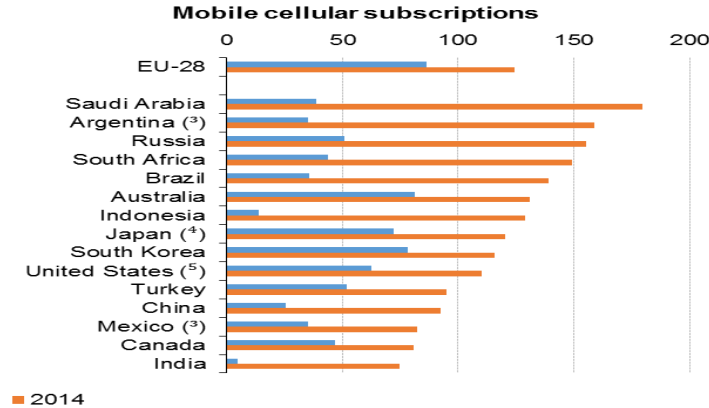
The fast changes in the use of information and communication technologies by individuals, almost all of them using the advantages of Internet, can be noticed all over the world. Analysing the usage of communication technologies between 2004 and 2014, we observe that, all over the world, people tend to embrace very rapidly the new technologies. In this regard,

Figure 1 is synthesizing in a short glance, the fact that technologies such as mobile communications became more attractive and very fast adopted by people from different countries.

As Figure 1 shows, while in 2004 the mobile cellular subscriptions per 100 inhabitants were in all analysed countries less than 100, in 2014 they exceeded significantly this number in the greatest majority of these countries. Thus, for 2014 we note that in EU-28 countries, Saudi Arabia, Argentina, Russia, South Africa, Brazil, Australia, Indonesia, Japan, South Korea and United States there are over 100 mobile cellular subscriptions per 100 inhabitants.

Moreover, there must be highlighted the important increases of the mobile cellular subscriptions per 100 inhabitants from countries like Saudi Arabia, Argentina, Russia, and South Africa, with more than 150 such in 2014, compared to less than 50 ones in 2004. Very significant changes in the use of mobile phones are visible also in other countries such as India, Indonesia, Brazil and China, during the time interval between 2004 and 2014. Indonesia show an incredible increase from about 20 mobile cellular subscriptions per 100 inhabitants in 2004 to 130 in 2014, India an increase from 5 such subscriptions in 2004 to over 75 in 2014, while in China the increase was from 25 in 2004 to almost 95 in 2014.

Figure 1 Mobile cellular subscriptions per 100 inhabitants, in the World, in 2014 compared to 2004



Source: Eurostat, *The EU in the world - research and information society*, available at: http://ec.europa.eu/eurostat/statistics-explained/index.php/The_EU_in_the_world_-_research_and_information_society

This outstanding evolution of mobile communication was sustained by the appearance of many applications for data transfers and, especially, after the emergence of smartphones, which facilitated accessing or receiving data or information and also sending information, playing thus an important role within the interactions between the consumers and the suppliers of goods and services (Board of Governors of the Federal Reserve System, 2016), including financial ones.

On the other hand, particularly in the last decade, it seems that people, regardless of age, have acknowledged the importance and the benefits of Internet and of the other information and communication technologies for improving their life style. In this regard, data in Table 1 come to confirm this major advance in the usage of Internet, in countries from different parts of the world.

Table 1 Internet usage and access by individuals aged 15–74, 2004 and 2014 - percentage - % -

Country	Individuals using internet (% of total)			Fixed broadband subscriptions (per 100 inhabitants)		
	2004	2014	2014/2004	2004	2014	2014/2004
EU-28	47.0	80.0	170	8.2	29.8	363
Argentina	16.0	64.7	403	1.4	15.6	1099
Australia	63.0	84.6	134	5.0	27.7	553
Brazil	19.1	57.6	302	1.7	11.7	680
Canada	66.0	87.1	132	17.0	35.4	208
China	7.3	49.3	675	1.9	14.4	756
India	2.0	18.0	911	0.0	1.2	5873
Indonesia	2.6	17.1	659	0.0	1.2	3103
Japan	62.4	90.6	145	15.4	29.3	190
Mexico	14.1	44.4	315	1.0	10.5	1084
Russia	12.9	70.5	548	0.5	17.5	3745
Saudi Arabia	10.2	63.7	622	0.3	23.4	8114
South Africa	8.4	49.0	582	0.1	3.2	2545
South Korea	72.7	84.3	116	25.5	38.8	152

Turkey	14.6	51.0	350	0.9	11.7	1352
United States	64.8	87.4	135	12.6	31.1	246

Source: Eurostat, *The EU in the world - research and information society*, available at: http://ec.europa.eu/eurostat/statistics-explained/index.php/The_EU_in_the_world_-_research_and_information_society

Data in Table 1 reveal incredible increases in the percentage of individuals using Internet, but also in the number of fixed broadband subscriptions per 100 inhabitants, between 2004 and 2014, in countries all over the world, confirming the rapid and significant penetration of Internet during a single decade. Thus, in 2014, it appears remarkable first the high proportion of Internet users out of the total population, recorded in countries like Japan (90.6%), United States (87.4%), Canada (87.1%), Australia (84.6%), South Korea (84.3%), but also in EU-28 countries (80%). At the same time, we note that, even if other countries were registering proportions of Internet users lower than 80% in 2014, the increases of these proportion between 2004 and 2014 were remarkable. In this regard, we observe an over 9 times increase of Internet Users in India, over 6 times increases in China, Indonesia and Saudi Arabia, over 5 times increases in Russia and South Africa, which reported to the size of the population of these countries means a lot of new users of Internet.

Analysing further data in Table 1 we observe also very fast improvements in the quality of the connections to the Internet, in terms of fixed broadband subscriptions per 100 inhabitants. Thus the highest proportions of fixed broadband subscriptions were registered in 2014 in South Korea (38.8%), Canada (35.4%), United States (31.1%), EU-28 countries (29.8%), Japan (29.3%) and Australia (27.7%). However, we have to note that between 2004 and 2014, the proportion of fixed broadband subscriptions increased incredibly fast in some of the other countries. Thus, these subscriptions increased over 81 times in Saudi Arabia, over 58 times in India and over 30 times in Russia and Indonesia, confirming the rapid growth of the appetite of the individuals for quality access to Internet. Deepening our analysis on the usage of Internet in the European countries we note the fast increasing trend in all these countries between 2007 and till 2016, but also some differences between these countries as shown in Table 2.

Table 2 Individuals who have ever used the internet - percentage - % -

Country/Year	2007	2008	2009	2010	2012	2014	2015	2016
EU(28 countries)	62	67	69	73	77	80	83	85
Belgium	71	74	79	81	83	87	87	88
Bulgaria	35	43	47	49	58	63	65	67
Czech Republic	54	67	67	72	79	84	87	87
Denmark	88	88	88	90	94	97	97	98
Germany	77	80	81	83	85	89	90	92
Estonia	68	74	74	78	80	87	91	90
Greece	38	44	47	48	58	67	70	72
Spain	57	61	64	68	73	79	81	83
France	66	74	75	80	85	88	89	90
Italy	43	48	52	56	61	67	70	73
Cyprus	44	46	52	55	64	72	74	77
Luxembourg	80	84	89	92	94	96	98	98
Netherlands	87	89	90	92	94	95	96	95
Austria	72	75	75	77	83	85	87	87

Poland	52	56	61	65	68	72	73	78
Portugal	44	46	50	54	66	70	72	74
Romania	29	33	38	43	52	61	68	70
Finland	83	87	88	89	93	94	94	96
Sweden	85	91	93	93	95	94	94	97
United Kingdom	78	81	85	87	90	94	94	96
Norway	89	92	94	94	96	97	98	98

Source: Eurostat Database

Table 2 shows an increase in the usage of Internet of more than 20% in The European Union, the average usage reaching 85% in 2016, but also in each of the countries in Europe. Almost all countries reported a usage above 70%, but we notice that are some countries, especially from the northern part of Europe in which almost the entire population uses frequently Internet. The penetration of the Internet reached, thus, 98% in Denmark and in Norway, 97% in Sweden, 96% in Finland, but there are also high Internet penetration levels also in other Western European developed countries such as Luxembourg with 98%, United Kingdom with 96%, The Netherlands with 95%, Germany with 92% and France with 90%. On the other side, there are some countries in which the Internet penetration is lower than the European average, such as Bulgaria (67%), Romania (70%), Greece (72%), Italy (73%), Portugal (74%), Cyprus (77%) or Poland (78%).

Because of the multiple advantages of the Internet, the interest of the individuals in using it has grown in the late years not only in terms of its general use, but also for some specific activities that are facilitated by using it. In this regard, a short image on the purposes aimed by the users of Internet from EU-28 countries is synthesized in Table 3.

Table 3 Internet use purposes – percentage of all individuals in EU28 - percentage - % -

Purpose/ Year	2007	2009	2011	2013	2015	2016
interaction with public authorities (last 12 months)	n/a	37	41	41	46	48
looking for information about education, training or course offers	19	23	29	31	32	33
doing an online course (of any subject)	3	4	5	6	6	6
sending/receiving e-mails	48	57	62	67	69	71
telephoning or video calls	n/a	17	20	25	29	32
participating in social networks (creating user profile, posting messages or other contributions to Facebook, twitter, etc.)	n/a	n/a	38	43	50	52
participating in social/professional networks	n/a	n/a	40	45	52	n/a
finding information about goods and services	46	52	56	59	61	66
reading/downloading online newspapers/news	21	31	40	48	53	n/a
downloading software	17	22	21	25	23	n/a
Internet banking	25	32	36	42	46	49
travel and accommodation services	31	35	39	38	39	40
selling goods or services	9	10	17	19	19	18
ordering goods or services	30	36	42	47	53	55
job search or sending an application	12	15	17	17	17	n/a
seeking health information	24	33	38	44	46	48

Source: Eurostat Database

Data in Table 3 show that most people use Internet for communication and obtaining information purposes. First of all, we note that between 2007 and 2016, the share of individuals using e-mail communication, raised rapidly from 48% to 71%, while the proportion of those accessing information in the online environment by reading / downloading newspapers / news increased from 21% in 2007 to 52% in 2015. Finding information about goods and services seems to be one of the most frequent point of interest for more and more Internet users, which is confirmed by the increase of proportion of people interested in such data from 46% in 2007 to 66% in 2016. Complementary, ordering goods and services tends to become more and more popular, while the proportion of individuals using Internet for this purpose raised between 2007 and 2016 from 30% to 55%. This increasing interest in finding information and ordering goods creates premises for Internet to become a major channel for promoting products and services, but also for selling and delivering goods and services, even if data show a slower increase in this area, from 9% in 2007 to only 18% in 2016.

At the same time, Table 1 reflects a rapid increase of the interest of the individuals for interacting with public authorities through Internet, from less than 37% to 40% in 2016, and also a significant increase of their active participation in social networks, which reached 52% in 2016, driven especially by the orientation of the generations of low to medium age, towards such interaction. Internet becomes, thus, the major interface facilitating the interaction between all participants to economic and social life, creating new marketing opportunities and contributing to the increase of sales of all kind of products and services, including banking ones. In this regard, we note the remarkable increase in the proportion of Internet banking users from 25% to 49%, between 2007 and 2016.

All previous data confirm a general tendency of people to use more intensely the information and communication technologies in almost all their activities, and leads to significant changes in the relationships between banks and their customers.

E-CRM VERSUS TRADITIONAL CRM

On the background of the increasing competition both between banks, but also with non-bank companies delivering similar financial products and services, customer relationship management (CRM) has become rapidly, since the end of the twentieth century, one of the most important issues for all banks.

CRM is a complex concept and usually is considered to be a way of managing the relationships with customers aiming to improve these relationships, increase customer loyalty and maximize the added value over period of relationship cycle (Martin et al., 2010). It also can be perceived as the overall process of building and maintaining profitable customer relationships by providing customers with superior value and satisfaction (Kotler and Armstrong, 2010).

Beyond the general target of satisfying all clients and obtaining so bigger revenues and profits, different organizations, including banks, can also have another approach on CRM, following the ideas of Parvatiyar and Sheth (2001), who consider CRM as „a comprehensive strategy and process of acquiring, retaining, and partnering with selective customers to create superior value for the company and the customer. It involves the integration of marketing, sales, customer service, and the supply-chain functions of the organisation to achieve greater efficiencies and effectiveness in delivering customer value”.

Regardless of the interpretation, CRM remains a concept focused on the relationships between an organization and its customers, used as a tool for enhancing its strategy for becoming more competitive. It allows gathering detailed information about customers to be used further to adapt the offer to consumers' requirements, to rise the efficiency of marketing and obtain savings of transactional costs and generally in operational costs, leading to an increased profitability.

Even if banks and financial institutions were between the initiators of CRM programs and strategies, they had to adapt these ones, under the impact of the advances of information and communication technologies, leading to an approach of CRM as „a business strategy combined with technology to effectively manage the complete customer life-cycle”(Hobby, 1999, p.29), but also as „...a combination of business process and technology that seeks to understand a company's customers from the perspective of who they are, what they do, and what they are like”(Couldwell, 1998, p.65).

Banks created CRM systems aiming to improve their performance and to get thus a competitive advantage, starting from the idea that these targets are dependent on ensuring the highest possible number of customers and by encouraging them to use more often as many as possible of bank's products and services. This means that banks should be able to attract new customers, but first of all to retain the existing customers, to identify existing and potential customers to whom the bank may sell certain types of products or services which are normally necessary for them. However, besides identifying the kind of products and services needed by the customers, this implies more and more now also to identify the ways in which customers want to obtain such products and services. Complementary, bank's performance and profit depend also by its capability to decrease the costs for delivering products and services to its clients, which is also influenced by the manner in which banks are developing the relationships with their clients.

The traditional CRM system used by banks, based on the use of brick-and-mortar branches on the direct interaction of their own employees with customers, implies high costs and limits the effects of interaction with customers strictly to the geographical area in which customers or bank employees can move, leading to a low impact on profitability. Moreover, gathering and processing higher volumes of data regarding the existing and the potential customers becomes difficult. Therefore, banks need to optimize their relationships with customers and, in this regard, the new information and communication technologies offer them the necessary support both for data processing, but especially for opening alternative channels of interaction with customers.

Integrating multiple channels of interaction with customers, based on the use of new technologies, has become essential today for banks, particularly in the context in which we customers tend to become interested in interacting with their banks more and more from the distance. This change in their customers behaviour is forcing banks to change their CRM strategy, creating a mix of interaction channels with customers, but also brings them advantages regarding the possible interaction with new other clients and the lower costs implied. On the other hand, it becomes a challenge for banks to develop the integrated management of information on each of these customers, in order to obtain a unified image of these clients' profiles.

Many recent studies (Capgemini and EFMA, 2014; European Banking Federation, 2015) are stressing that the customers' preferences and needs are leading banks to integrate all channels

of interaction with their customers, because the latter demand access to a mix of channels in their relationships with banks. Moreover, the need to rationalize the operational costs determines banks to change their strategy towards developing self-service alternatives for customers and towards the use of electronic channels in the relations with them, shaping thus the “so-called” e-CRM.

e-CRM becomes today the basic form in which are developed the relationships with customers, using the advantages of Internet and communication technologies, consisting of emails, web sites, forums, social media etc., in order to create and improve customer relationships. Such technologies enable banks to develop relationships with customers, both in terms of marketing and sales of products and services, but offer also the advantages of low operating costs and very high penetration rate among customers.

Overall, the development of multi-channel customer relationships, based on the latest technologies, is increasingly becoming the main challenge for the global banking system. However, an important issue of this strategy is to adapt bank’s structure, processes and products to the changes in customers’ behaviour and in their options for using one channel or another, without creating any dissatisfaction that might make them leave the bank. Moreover, banks need to integrate adequately the back-office systems with the multiple channels of customer interaction from front-office, so that they would work correlated.

On the other hand, the issues of faster processing the high volumes of bank customers’ data are solved within e-CRM systems by implementing the most advanced information technology consisting in the new instruments of data storage and processing or modern techniques of Data Mining for extracting and structuring the customers’ information. At the same time, technology helps banks also to overcome the major concerns of the customers regarding confidentiality and security, more and more banks implementing advanced security solutions, including Biometric Authentication Tools to combat identity theft and fraud.

Moreover, besides using their own resources, banks tend now to develop partnerships with Fin Tech companies to create such e-CRM systems and to relate with their customers on high technology channels (Capgemini and EFMA, 2017).

Under these circumstances, there is no surprise that banks but also researchers are recognizing the benefits of the new design of bank-customer relationships, based on e-CRM. For instance, a study (Casu et al., 2014) carried out a few years ago on the European banking system indicated that there is an increase in its productivity, due to the use by the European banks of the latest technologies that have enabled them to provide banking services more efficiently. The study also shows that, in the context of European banking market integration, cross-border transfers of technology supported essentially this growth process.

At the same time, beside the benefits of the banks, the new design of bank-customer relationships, has brings important benefits also on the customers reflected in the way they demanded such a change or the way they react to the new CRM architecture, based on multichannel interactions.

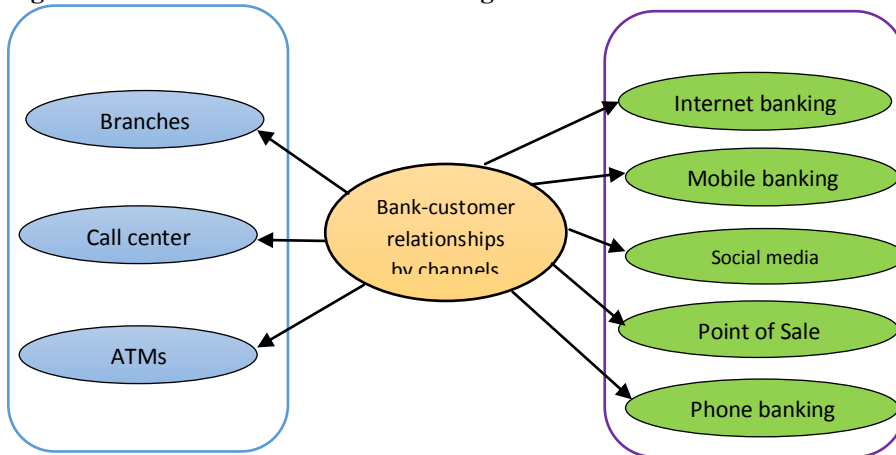
STEPS TOWARDS REDESIGNING BANKS’ CRM

The changes in the social and economic environment on the background of the very fast embracement, especially by the new generations, of the most advanced technologies of

information and communication, as well as the sharpening of the competition forced banks to make progressive steps towards redesigning the relationships with their customers. Such steps are also expected to be made further by the banks, while, as a recent report of Ernst and Young (2015) shows that banking industry is more and more influenced by four specific megatrends, consisting in globalization, digital business, demographic shifts and the change of the workforce. Due to these determinants, the report concludes that banks will have to reinvent themselves, to develop new products and more flexible business models.

As consequence of the multiple changes in the society and of the above megatrends, the bank-customer relationships were redesigned by many banks, leading for most of them to creating a multi-channel architecture, as in Figure 2, in which e-CRM tends to become the most important part of banks strategy.

Figure 2 Bank CRM multi-channel redesigned architecture



A study from 2012 of McKinsey Company and European Financial Management & Marketing Association (McKinsey & EFMA, 2012), on a sample of 10 European countries, revealed four types of bank customers, depending on the frequency of the use of bank branches and of the use of digital technologies. Thus, in 2012, there were still almost 47% of the customers, mostly over 40 years, that preferred the contact with their banks by using the branches, but even they were using also remote banking services.

A second category of 8%, mostly over 60 years, customers preferred at that time only the contact with branches or the use of ATMs. On the other hand, 41% of the customers were already using mainly channels as Internet and ATMs and their category had the most rapid increase of all categories. Moreover, only 4% of the customers were using frequently almost all the channels of interaction with their banks, but mostly mobile banking, Internet banking or social media banking, instead of using the bank branches.

Implementing ATMs, Internet or mobile banking, gives banks strategic advantages resulting in the increase of the number of customers and consequently of sales and revenues but also in cost savings. However, such an approach has also the disadvantage of meeting rarely the customers and thus less knowing their needs, leading to a much difficult adaptation of bank offer to demand (Filip, 2015). Under these circumstances, the new social media channels of interaction

with customers can correct this situation, even if they do not substitute entirely the advantages of the branch channel.

Despite of the mentioned disadvantages, especially customers tend to use more intensely the digital channels of interaction with banks, instead of the traditional ones. This behaviour has been also pointed out recently by a survey developed by Accenture on over 9000 individuals (Gera et al., 2015), in 2015, both from some representative mature markets, but also from some emerging ones, as Table 4 is showing below.

Table 4 Number of monthly interactions with bank by type of channel

Region/ Channel	Internet Banking	ATM	Mobile banking	Branch	Social media	Call centre	Other digital channel
Total	7	4	3	1	0.8	1	0.2
Mature	8	4	2	1	0.4	0.4	0.2
Emerging	7	5	4	2	2	1	1
Australia	8	4	3	1	0.8	1	0.2
Brazil	9	6	3	2	1	1	1
Canada	7	4	2	2	0.2	0.7	0.1
China	5	3	3	2	2	1	1
France	10	4	2	1	0.3	0.6	0.1
Germany	8	4	1	1	0.3	0.4	0.3
Indonesia	6	7	4	2	3	1	1
Italy	7	5	2	1	0.3	0.6	0.1
Spain	9	5	3	2	1	0.6	0.4
UK	8	4	3	1	0.8	1.1	0.1
US	7	2	3	2	0.2	0.6	0.2

Source: Accenture survey, 2015

Data in Table 4 shows clearly that in all countries, individuals were using the branches only once or twice a month and rarely also the Call centre, preferring to use mainly Internet banking (about 7 times a month), the ATMs and the mobile banking, in order to interact with their banks for products and services. Moreover, even launched much later than the other kinds of communication technologies the social media networks appear to gain rapidly an important place within the customers' preferences as means of interaction with banks.

CONCLUSIONS

The rapid penetration of the modern technologies of information and communication among customers all over the world, but also the increasing competition of the other banks and of the new non-bank financial institutions delivering similar products and services, put a significant pressure on banks to redesign their CRM strategies, especially regarding the ways they interact with their clients. Moreover, while remote bank-customer relationships, based on the new technologies, are bringing important advantages for the banks, consisting in much lower costs implied by these kind of interactions, but also the chance to gain new customers, these things encourage banks to invest more in developing the new channels for delivering their products and services. Therefore, Internet banking, mobile banking and lately also social media

banking services tend to become the most important targets within their general strategy, replacing progressively the traditional channels represented mainly by their branches.

However, the new orientation of banks towards delivering remote banking services is still threatened by the competition of non-bank financial institutions, which operate usually on lower costs and adapt themselves more rapidly to changes in customer behaviour. Banks need also to cope with customers' concerns regarding the confidentiality and security of transactions. At the same time, remote contacts with their customers has also the disadvantage of diminishing banks' capacity to understand clearly the expectations of their customers and, therefore, they need to enhance the communication with their clients on specific platforms such as social media ones.

References

1. Capgemini and EFMA, 2014. World Retail Banking Report 2014, [online]. Available at: <<https://www.capgemini.com/resources/world-retail-banking-report-2014-from-capgemini-and-efma>>,
2. Capgemini and EFMA, 2017. World Retail Banking Report 2017, [online]. Available at: <<https://www.worldretailbankingreport.com/>>, [Accessed 25 August 2017]
3. Casu, B., Ferrari, A., Girardone, C., Wilson, J., 2014. Integration, Productivity and Technological Spillovers: Evidence for Eurozone Banking Industries, Working Papers in Responsible Banking & Finance, University of St. Andrews, WP14-005
4. Couldwell, C., 1998. A Data Day Battle, *Computing Review* 21, pp. 64–66
5. Ernst&Young, 2015. Global banking outlook 2015. Transforming banking for the next generation, [online], Available at: <<http://www.ey.com/transformingbanking/>>, [Accessed 25 August 2017]
6. European Banking Federation, 2015. The digital transformation of banks and the Digital Single Market, [online], EBF DISCUSSION PAPER 015782, June 2015. Available at: <http://www.ebf-fbe.eu/wp-content/uploads/2015/06/EBF-Discussion-paper_Digital-transformation-of-banks-and-the-DSM_June-2015-2.pdf>
7. Filip B.F., 2015. Reshaping banking activity by implementing the newest technologies: Evidence from Europe, in Proceedings of the 26th International Business Information Management Association Conference, Innovation Management and Sustainable Economic Competitive Advantage: From Regional Development Sustainability to Global Economic Growth, Madrid, Spain, pp. 1044-1053
8. Gera, P., Wollan, R., Caminiti, F., 2015. Banking Customer 2020: Rising Expectations Point to the Everyday Bank, [online], Accenture, Available at: <https://www.accenture.com/t20150710T130243__w_/us_en/_acnmedia/Accenture/Conversion-Assets/DotCom/Documents/Global/PDF/Dualpub_17/Accenture-Banking-Consumer-Pulse.pdf>
9. Hobby, J., 1999. Looking after the one who matters. *Accountancy Age* 28, pp. 28–30
10. Kotler, P., Armstrong, G., 2010. Principles of Marketing, 13th edition, Pearson Education, Inc. Upper Saddle River New Jersey USA. ISBN-13:978-0-13-700669-4/10987654321
11. Martin, R., Oliver, S., Jacquelyn, S.T., 2010. Customer Relationship Management and Firm Performance. The Mediating Role of Business Strategy, *Journal of the Academy of Marketing Science* 38, pp. 326-346
12. McKinsey & Comp., Inc., 2012. Digital transformation in 10 building blocks, [online], EFMA and McKinsey & Comp., EFMA Studies & Reports. Available at: <<http://www.efma.com/index.php/resources/studies/index/EN/1/507>> [Accessed 20 August 2016]
13. Parvatiyar, A., Sheth, J., N., 2001. Customer Relationship Management: Emerging Practice, Process, and Discipline, *Journal of Economic and Social Research*, Vol.3, No.2, pp.1-34
14. Board of Governors of the Federal Reserve System, 2016. Consumers and Mobile Financial Services 2014, March 2016. Available at:<www.federalreserve.gov/publications/default.htm>



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