

*Banking Services and
Payment Systems*

SELECTED PROBLEMS OF E-ECONOMY IN BANKING¹

Jacek Binda

Wyższa Szkoła Bankowości i Finansów
ul. Tańskiego 5
43-382 Bielsko-Biała
Poland
tel. +48-33-8297212, fax. +48-33-8297221
e-mail: jbinda@wsbif.edu.pl

***Keywords:** e-economy, financial services, electronic banking, information and communication technologies, artificial intelligence, distribution channels*

1. Introduction

The future of banking sector belongs to companies which can not only offer products and services fallen with needs of an individual client, but can provide them at any time and anywhere as well

Tom Peterson

An increase in social expectations in relation to subjects rendering financial services, dissemination of new technologies, more developing technical culture of society, an increase in importance on information technology in economy, business globalization, consolidation of banks and an increase in competitiveness are only a few reasons which had an influence on a type and quality of services rendered by banks.

An abstract feature of financial products, which undergo dematerialization rather easily, possibility of their connection with information exchange (due to the developing market of new technologies) and an introduction of the electronic signature influenced significantly

¹ Paper is published due to the Czech Grant Agency support (grant GAČR No. 402/05/2758 Integration of the financial sector of the new EU member countries into the EMU).

easiness of reaching wide ranges of targeted groups and increasing the distribution of financial services.

The work deals with new possibilities of the distribution of financial services by banks on basis of selected channels – internet banking and virtual banking, which are especially important problem during integration of the financial sector of the new EU member countries and their way into the EMU.

2. New economy and its dimensions

The new economy, also called e-economy, is the most frequently used term in economic and technical literature, discussions of scientists, businessmen and politicians beside globalization and information technology society. Three planes of understanding of the new economy can be distinguished:

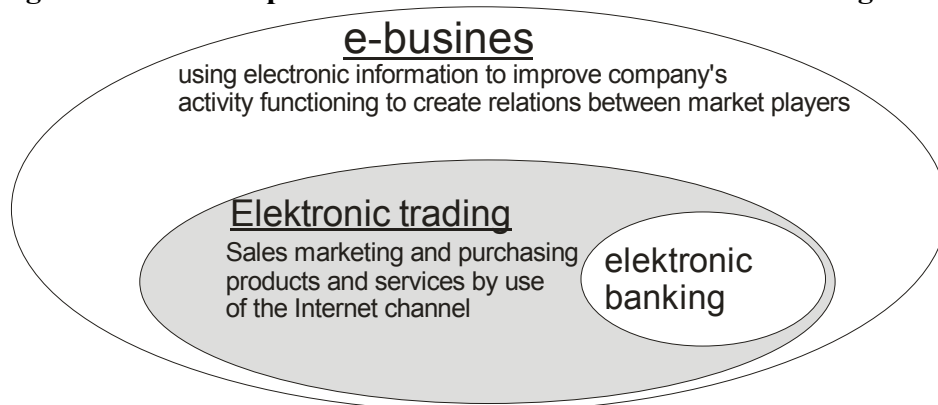
- as a system of new principles explaining how economic subjects function on the market;
- as activities of economic subjects in the strongly changed conditions. Owing to the dynamic development of technical progress, especially in information technology economic subjects change completely strategy of their activities many times. Information and knowledge as main economic categories, which are the basis of the contemporary business, are the foundation of activity. Another term is assigned to this understanding, namely knowledge-based-economy.
- new economy treated as a subject, namely determining activities of an enterprise in the IT sector.

Considering economy as knowledge-based is the most adequate to the contemporary trends in the economic processes. Innovations in the advanced technology and globalization of worlds' markets changed our economy to such extent that we are forced to think and act in a different way in it. It is connected with searching for new sources of quick growth, making structural changes in the development of information technologies, and above all, quick commercialization of the Internet. Owing to new technologies, and particularly the Internet network, the economy is characterized by high degree of transparency, there is a technical possibility to compare economic results, competition results and prices of products with ease. In fact, three channels of influence of those technologies on the economy can be distinguished:

- accelerating an increase in work productivity in sectors manufacturing equipment of new technologies and an increase of their share in the National Gross Product;
- fall in prices and an increase in demand for this type of equipment, what results in an increase in investment level and the National Gross Product;
- changes in a way enterprises function in new market conditions and accelerating work efficiency and capital productivity.

Therefore, *the new economy*, also called *cyber- economy*, constitutes a new paradigm of business. On this virtual market E-business is a new form of an exchange of resources by means of information technology systems and internet technologies, conducted *on-line* through electronic connections and an information exchange by use of electronic multimedia such as Internet, cable and satellite television, telephony, electronic cards, Intra and Extranet at the national and international level. It consists of electronic trading, business intelligence and technological capacities to self-service business processes conducted. For that reason e-business is a new source of speed, innovation initiatives, efficiency and new ways to create values in the organization, Fig.1

Figure1 Relationships between e-business and electronic trading



Source: our own work

It contains three areas of activities:

- *involvement*, namely needs to create cost effective commercial websites and applications, directed at marketing, network advertising and promotion tools;
- *trading*, conducting *on-line* business with safe and measurable execution of orders;

- *analysis*, concerning understanding of attitudes of customers and motives directing purchases and use of this knowledge to improve quality of services rendered.

Transactions on the electronic market are performed in the following relations:

- business-to-business, B2B, it refers to the co-operation between companies (e.g. transactions between companies), distribution of information, goods and services and relations between commercial companies and public administrations institutions (e.g. paying taxes) ;
- business-to-customer, B2C, co-operation between companies and customers in a scope of retail sales of products and services (e.g. banks, internet shops) and between customers and public administration institutions (e.g. making payments to treasury offices, city halls etc.);
- customer-to-customer, C2C, it concerns transactions concluded between private persons (e.g. auctions, electronic “notice boards”);
- customer-to-business, C2B, concerning transactions concluded by customers directly with firms. Prices of products are determined by customers, a firm can accept them, or reject e.g. potential customers offer a price which they are ready to pay for a flight, whereas the airlines can accept it, or turn down the offer. This type of market has not achieved that level of development as B2B, B2C or C2C yet;
- business-to-administration, B2A, it concerns relations between a company and the state administration. Companies via the Internet can participate in public tenders, pay taxes and other dues to the state. Whereas in the opposite direction – subsidies or returning of taxes reach a company;
- customer-to-administration, C2A, instead of business parties there are consumers, who via the Internet settle taxes with the Treasury Office, receive tax refunds, compensations or allowances.

The development of electronic business takes place in phases. In the first phase the Internet is web enabled to conduct activity, whereas in the second one business is web based totally. The fact to which phase countries belong to depends on the internet infrastructure and communication channels they have. Europe comparing to the USA is backward about two years and it is still in the phase of building infrastructure.

3. Electronic banking as an element of e-business

Electronic business is a complex and dynamically developing sector. It is not only limited to access to World Wide Web and information exchange. In order to achieve success in it, different requirements must be met, and they are such as: safe information processing concerning transactions, winning customer's trust, skillful management of intangible products. Electronic business is of particular importance in the finance sector. It comprises both a scope of customer service and a transfer of funds and mutual co-operation of institutions. Necessity to introduce comprehensive electronic business results from, among others, a level and scope of competition present on world financial markets nowadays. Banks wanting to maintain an appropriate position on the market face challenges which force them to use solutions increasing effectiveness of their activities. In this system of market forces even commercial networks offering their own credit cards and financial institutions not having a status of a bank, but offering less expensive services of the same kind constitute a threat and competition for banks.

Financial sector activity, including banks, is not connected with manufacturing physical products, but it is business based on information using telecommunication and information technology achievements on a wide scale. Management of finances becomes more and more management of information about creditability, purchasing power and financial position of persons and institutions [9]. New technologies are directed to manage relations with customers, to improve internal integration of systems and internal operations of banks, but not as in the previous period to increase inner efficiency and development of distribution channels. Those factors cause that the bank sector is prepared best to function in the electronic environment and develop electronic economy. Information and communication technologies (ICT) can be used in any type of bank activity and they are the main factor of changes in the whole sector of financial services. In that economic situation only those banks, which will use different distribution channels and variety of services and modern technological solutions will be basis of their long-term strategy, will achieve success. Problems of electronic economy became a key element of initiatives undertaken by European Union within the framework of the Lisbon Strategy. The main aim of the Lisbon Strategy, within the e-Europe initiative accepted in Seville in July 2002, is to transform the European economy to 2010 into the most competitive world's knowledge-based economy. One of the assumptions of the strategy is to make electronic banking development more dynamic – a fundamental factor to create an integrated European market of

financial services. It is possible due to liberalization of the telecommunication services market, what will have an advantageous influence both on development of this sector and development of electronic services rendered by the banking sector. For that reasons the Lisbon Strategy emphasizes the market liberalization, development of the telecommunication sector and it defines clearly a role and place of financial institutions and capital market in UE. The Polish banking sector has been obliged to undertake activities aiming at creating an integrated market of financial services until 2005. Detailed activities are included in the document Financial Service Action Plan (SAP).

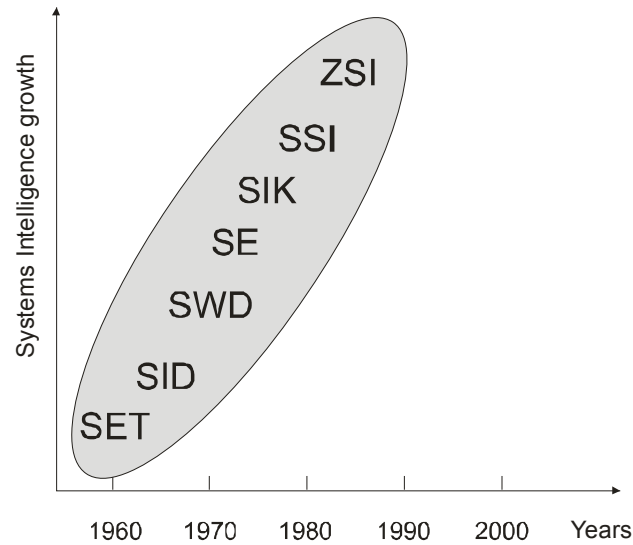
4. Artificial intelligence in e-banking

The growth of the accessibility of the new e-banking solutions, new banking tools (for instance card to buy in the internet, EMV card - Europay-Matercard-Visa) is the result of building bank position on the market and competitive superiority. This can be seen in the methods of the access to the financial means on the account proposed by the bank, the way of using bank tools as well as their new functions, using mobile solutions (for instance *m-banking*) and lowering bank commission for its service. These actions may encourage new clients to use the service of the certain bank and gained clients to stay with their choice, on the other hand it should enlarge competitive position of the bank. To achieve the planned goals by the banks may be possible by making the society aware of benefits related to new bank solutions, constant growing of technical culture of the society as well as the most favorable decision making on the highest managing level.

The main influence on the achievement of competitive advantage by the banks have advanced information systems which rise the bank services for the corporate and individual clients. It is necessary to mention that the usage of new technologies in not a must related to the current trends but it is important tool in bank strategy, which cause its rising position. If the bank lacks the vision of supplies for new services then the most advanced investments in new technology will be only the serious cost not the profits for the bank. It is important to use the golden rule of the new economy, market position and competitive advantages, which says that commonness of the solution does not cause long-term and stable position of the enterprise on the market. That is why the usage of the new information technologies in the bank in the essential component of banking e-business. The matter of this issue is of great importance because in the age of necessity of processing

large information data and making decision based on them, current banking systems are not enough, Fig.2.

Figure 2. The changes of the intelligence level of information managing systems²



It is the most important in the field of supporting the essential decisions which are at the same time the most difficult, strategic related to banking *Top Management*. Traditional information systems which support the process of managing are related to gaining from the computer concrete answers to the given questions and nowadays they become less effective. The difficulty is in the proper explicitness of the question on the basis of large amount of possessed information, often uncertain and unclear. We do not know which features will cause success or failure of the concrete business strategies. The mentioned features cause that the typical tools of information support of process support decisions are less effective. That is why it is necessary to use different techniques and tools of artificial intelligence such as expert, neuronal systems of processing natural language.

In the literature of this subject there are different terms of this issue such as AI is the part of information technology related to designing intelligent computer systems [E. Faigenbaum], AI is the system which

² SET – List- & Transactional Systems; SID – Informative and Decision Systems; SWD – Decision Support Systems; SE – Evaluation Systems (macro- & micro- economical models); SIK – Executive Information Systems; SSI – Computer Network Systems, ZSI – Computer Integrated Systems

demonstrates the abilities of understanding similar to those of a human in order to improve life conditions and economy competitiveness [Japan AI Centre]³. Other definition of this issue points out on the problem solving related to natural action and cognitive processes of human beings by means of computer programmes which stimulate them [Encyclopaedia PWN]. There are two different approaches to AI in the literature of the subject:

- Symbolic one where the systems are based on logic(PROLOG) as well as the systems with the base of knowledge (expertise);
- Computational one where neuron net, evolution system, systems with unclear logic as well as intelligence without presentation are used (Project COG).

5. Distribution channels of the products and e- services in e-banking

In new economy conditions managing financial institutions is connected with the change of the ways of services selling, providing information to clients as well as with the change of their function and noticing the key competence. The standard of work in banking area has been related to the usage of solutions based on information, knowledge and new technologies which give the clients access to financial means collected on the bank accounts and the possibility to make different transaction there. It has led to distinguishing great variety of e-banking channels such as:

- Cash dispensers,
- Phone banking;
- Banking based on separate network - home banking (Corporate banking),
- Call Centre,
- Voice-IVR,
- Internet banking (with the type, limited to virtual sphere, virtual banking),
- Mobile banking (SMS banking – make possible to manage the bank account by means of textual news SMS as well as WAP banking – allowing for interactive contact of the client with the bank by means of mobile phone using protocol WAP⁴),

³ VIII Forum bankowości elektronicznej, Warszawa 2004

⁴ WAP (ang. Wireless Application protocol).

- TV-banking – allowing access to the bank account by means of TV set and telephone
- Multimedia kiosk.

The usage of these channels in the banking sector vary and depend on the level of entanglement of the services offered by them, offer of banking financial tools as well as strategies used by the banks. Cash dispensers are the most popular channels. It results from the easiest way of operating and the possibility of doing different services by these machines. In Poland the network of ATM is constantly developing. In 2004 7850 items have been installed (Fig.3), 107 million transactions have been made (Fig. 4) and their value has been on 32 milliard zloty, Fig. 5.

Figure 3 Changes of the number of ATM in Poland in 1998-2004

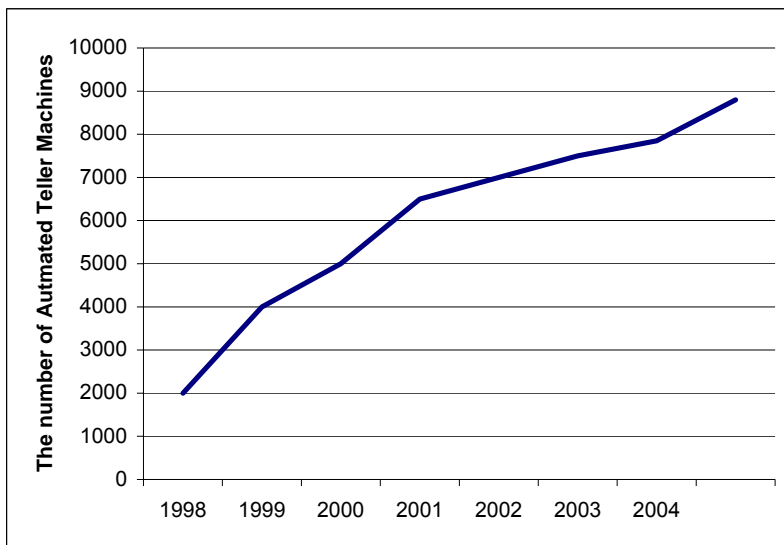


Figure 4 Changes in the number of transaction in cash dispensers in million items

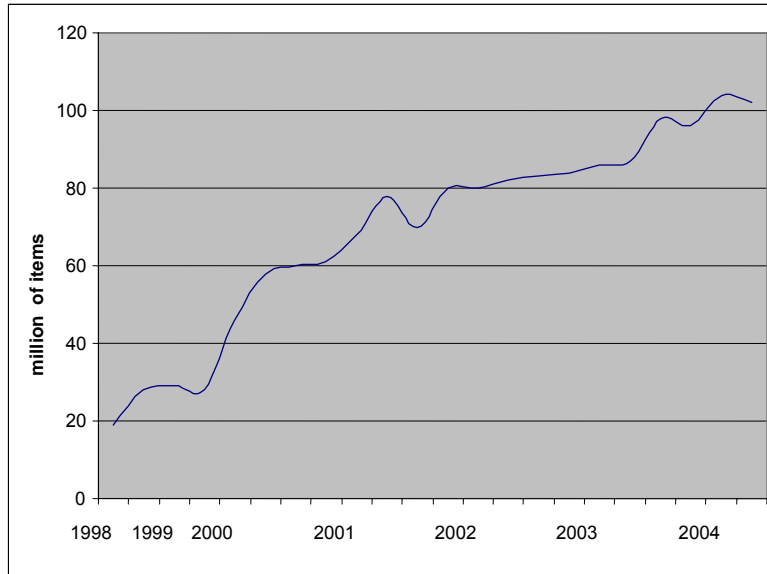
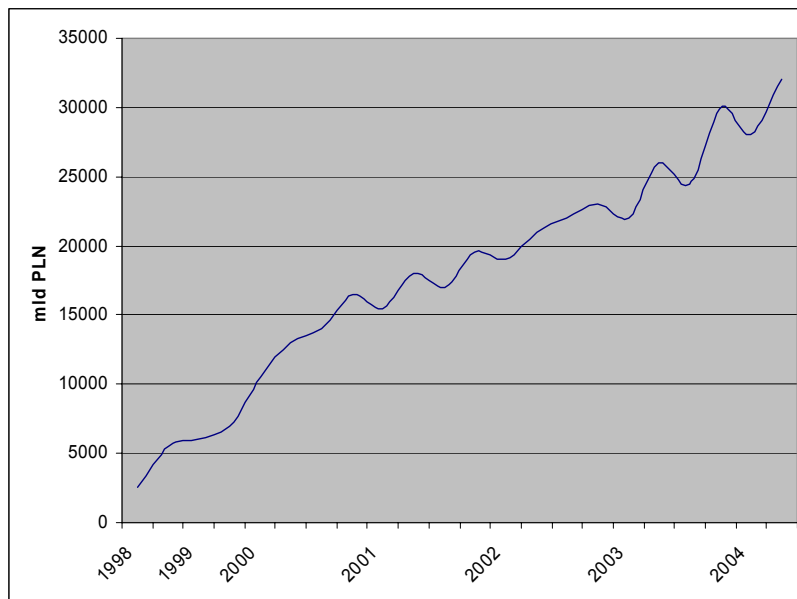


Figure 5 Changes of value of transactions in cash dispensers in milliard zł



Nowadays many of the cash dispensers functioning on the Polish market are the multi functioning machines and the owners of the cards can use them 24 hours. In spite of the fact that year by year there is a growth of

cash dispensers their location is not steady. Further growth of the popularity of this banking channel will be possible when the financial tool such as chip cards EMV will become more common. The internet becomes the e-channel which is developing very fast these days. Its advantages as the channel for distributing the products and services in e-banking were used in 1995 by SFNB bank (*Security First Network Bank*)⁵. Despite the e-banking leads to segmentation of the market, products and services (this may derive from the level of service complication, its value and the security of transactions), it allows to enlarge the receivers. It is caused by:

- Conducting simultaneous and fast bank service for large number of clients,
- Individualisation of bank offers, creating of individual client wallet on the basis of information gained about him for instance preferences.
- Conducting service of client by the bank 7 days a week as well as 24 hours (without time limit),
- Enlarging geographical reach – bank without borders (borderless bank), which allows to realise the order from different place (without space limit),
- Enlarging market research,
- Realisation of the orders on-line,
- Quick support of bank workers in case of emergency,
- Lowering the cost of single transactions and commission for the services,
- Enlarging client satisfaction this can lead to the growth of his loyalty towards the bank.
- Enlarging the competitiveness of the bank on the market of bank services.

The growth of the interests in services offered by this channel was the reason of creating by the banks, in terms of their structures, internet branches which are mainly responsible for the development of e-services, Table 1. The success of the internet branches have been gained by traditional banks with strong and stable position on the financial market and with wide consumers base. It resulted from the compromise between the habits of clients to traditional form of transaction realisation in the bank and the solutions of 21st century standards (internet channels).

⁵In the process of communication between the client and the bank the protocol http lub https was used.

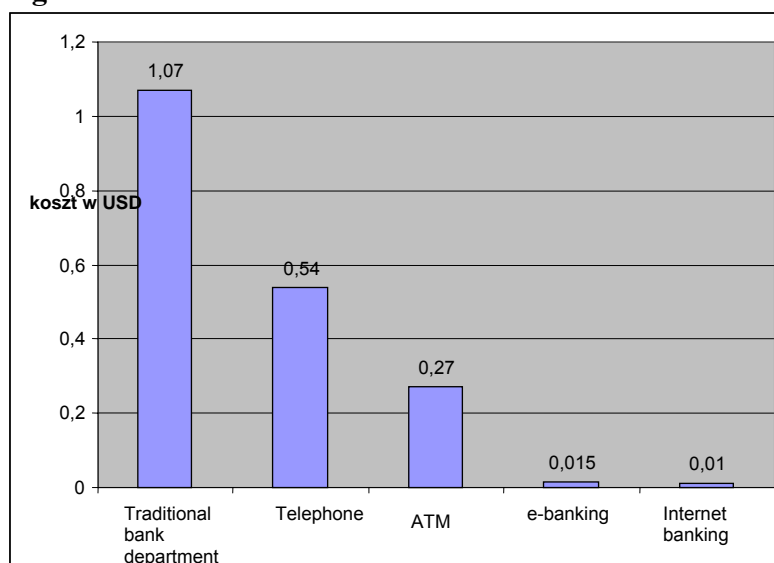
Table 1 Internet branches of the biggest financial institution in Europe

Founder's bank	Name of the internet brunches	Number of on-line clients (million)	Type of the service
Nordea	Solo	2.3	Bank services, insurance, leasing, broker's services
Deutsche Bank	Deutsche Bank 24	1.1	Bank services
HVB	Webpower	1.0	Bank services, insurance
Midland Bank	First Direct	0.8	Bank services
Skandinaviska Enskilda Banken	SEB	0.7	Bank services, assets managing
Commerrzbank	Comdirect	0.5	Bank and broker's services
HSBC – Merlin Lynch	-	b.d.	Bank and broker's services

Source : J. Pietrzak, „Wpływ modelu dystrybucji na konkurencyjność banku”, *Bank i Kredyt*, nr 3, str. 35-43, marzec, 2002

In the new economy conditions banks intensifier the actions towards lowering the costs of running a business (the transaction make in the internet is 100 hundred times cheaper than the same transaction made in the bank), or commission for the bank service⁶, Fig. 6.

Figure 6 The cost of distribution of bank services



Source : Booz Allen Hamilton Inc.

⁶ Rport firmy doradczej Booz, Allen & Hamilton

The savings gained from the clients' service by e-banking are restricted at great financial cost for the promotion campaign connected with gaining new and maintaining present bank's clients. The survey of the e-banking shows that the expected savings from the clients' service are reached by gaining the proper number of clients-called the critical market mass. The amount constitutes 600 thousands clients. However, 6th E-Banking Forum – CPI states that the earning capacity of the account led by Internet is gained by 1600 zł of the monthly payments. In comparison to the traditional bank, the earning capacity is about 1298 zł.

Resulting from easily gained benefits, as far as on-line banking is concerned, typical, virtual subjects originated, rendering services to people by internet. Such kind of activity which is the simplification of the multi-channel distribution (*bricks and clicks*) fits in the model– *clicks only- virtual banking*, Table 2.

Table 2 The costs of those subjects which offer virtual service

The name of the subject	Costs in Euro(mln)
Egg	310
First-e	58
IKANOBanken	25
OnBanca	20
Sainsbury's Bank	47
VZ Bank	30
VirginOne Bank	30

Source: *The Banker*, March 2000 p. 11

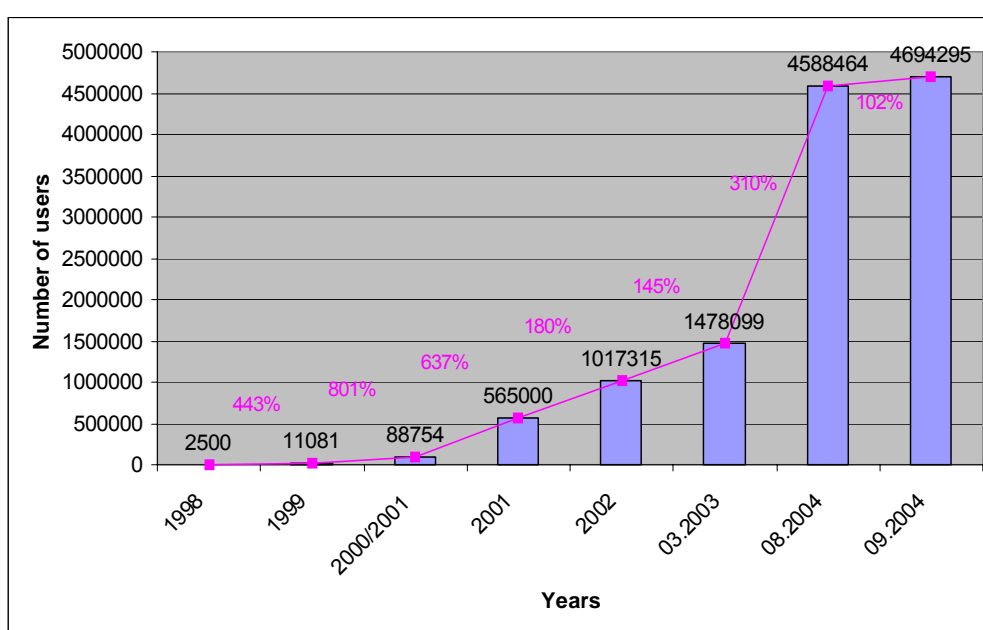
The fight for incomes among virtual banks, maintaining the stable competitive overbalance leads to the double functioning –financial service deliverer, as well as, broker-the service distributor of financial institutions: banking, insurance or brokers. On the way of their activities, one can notice the principle that – ‘*Clients don't care where the products are from. They are to meet their needs.*’ [⁷]. The example of such strategy is bank *Egg.com* – on-line company which belongs to British financial Prudential Assurance Co. which assembles about 3 mln clients in the 4th areas: banking, insurance, capital market, and on-line shopping. The other example is *First-e* which is the broker, the distributor of products and other institutional services. It's

⁷ Pietrzak J.: „*Wpływ modelu dystrybucji na konkurencyjność banku*”, *Bank i Kredyt*, nr 3, str. 35-43, marzec, 2002

functioning as portal, directing clients to the best products, transactions, mortgage credits, credit cards and stocks and shares.

The success of internet banking in the world was the stimulator of banking development in Poland. The growing commonness of internet thanks to improving Teleinformation, infrastructure, as well as, the changing law regulations. In the last 6 years 1998-2004 the number of clients using the access to bank by internet increased by 1835 times which yearly average amount is 400% Fig. 7. The biggest pace of the increase of the e- banking clients was between 1999 and 2000/2001 - 801% and 637% between 2000 and 2001. At present, in Poland there are 18 banks rendering internet banking services with 4694295 clients⁸.

Figure 7 The number of e-banking clients in the years 1998-2004



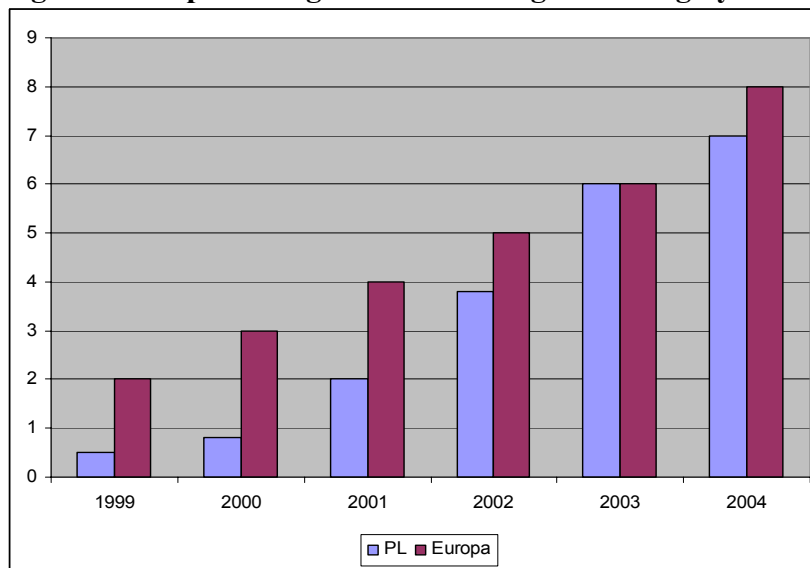
Source: Own elaboration on the basis of E-Banking Committee

The measurable benefits of using on-line banking caused the situation in 2002 that every invested zł was the result of internet being used and according to K. Pietraszkiewicz until 2005 the number is supposed to double. In spite of the great interest of internet service, Poland is still on the further position against the background of Europe. Fig. 8. One should indicate that

⁸ VIII Forum bankowości elektronicznej, pp. 34, Warszawa 2004

the pace of the changes is one of the biggest among new admitted European Union countries.

Figure 8 The percentage of clients using e-banking by internet / mobile

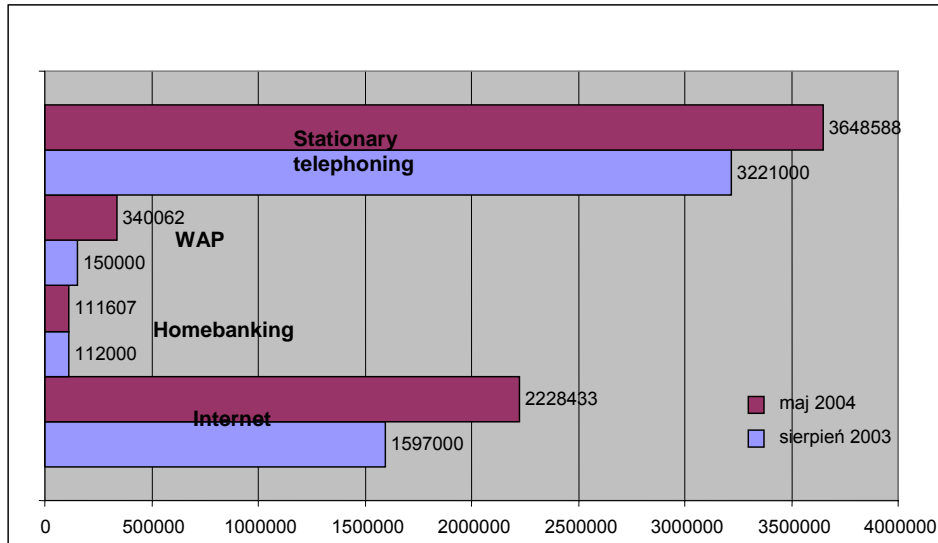


Source: Own elaboration on the basis of⁹

Such great growth in internet banking sector results from the comfort of using banking services on-line, as well as, the growing clients' consciousness, the growth of security, beneficial financial conditions and the improving technical conditions. Along with internet banking development, the other accessible channel is spreading out, Fig.9

⁹ Stryczyński Jacek, Zarzyki Tomasz, *Raportu EDS „Bank ery gospodarki elektronicznej”*, Bank 09/2000, pp 57

Figure 9 The changes of the clients number using e-banking



Source: Own elaboration on the basis of ZBP data

It takes place due to economical regards e.g. the decrease of expenses in traditionally managed banks, as well as, the increasing number beyond banking field. Teleinformation users e.g. mobile telephoning or WAP. At present about 80% of the net clients are using mobile telephones¹⁰. In Poland, from August 2003 until May 2004 mobile telephoning WAP indicated the biggest growth. (the increase of clients 'number using internet banking amounts 126,71%, the increase of zł transactions amounts 112, 55%, and the average amount of transfer is 58,37%). However, mobile banking didn't succeed so much in spite of optimistic surveys and banks' efforts in offering their service. According to Forrester Research in 2002 in Great Britain only 100 thousands out of 300 mln WAP users used mobile banking.. Such phenomenon one can observe in Scandinavia, with the biggest mobile telephones market in the world. However, in the USA there are 800 thousands cordless banking users. PDA and PalmTop –other mobile devices are included in this number.

The phenomenon of low interest, as far as mobile banking is concerned, caused the resignation from using WAP by internet banks and revival to traditional, popular forms of contact such as: SMS. The main cause of not using functional WAP and UMTS technologies results from inappropriate level of mobile telephoning development. It is estimated that there is 2-years -lateness in case of Europe in relation to Japan and South

¹⁰ Górski P.: „E-banking dla Kowalskiego”, e-Fakty – wszystko o gospodarce elektronicznej” nr 4, Instytut Logistyki i magazynowania, str 22, 2004

Korea, where 3G telephoning is successful and mobile banking is massive. In the western Europe the short-term reduction of investment is planned in such places where there is lack of rapid investment development. There is a reduction tendency, as far as the number of clients is concerned, in case of Homebanking – 0,35%. It may result from technological restrictions and increasing costs (in a bank), Table 3.

Table 3 Changes of particular accessible channels.

Accessible channel	August2003	May2004	Growth
HOME BANKING			
The number of clients using e-banking	112.000	111.607	-0,35%
The number of monthly transactions	9.370.000	9.637.289	+ 2,85%
The amount of transactions in zł	64.484.656.000	84.250.295.251	+ 30,65%
Average amount of payments in zł	6.882	8.742	+ 27,03%
INTERNET			
The number of clients using e-banking	1.597.000	2.228.433	+ 39,54%
The number of monthly transactions	2.579.000	5.696.185	+ 120,87%
The amount of transactions in zł	6.327.100.000	10.018.233.859	+ 58,34%
Average amount of payments in zł	2.453	1.758	-28,33%
STATIONARY TELEPHONING			
The number of clients using e-banking	3.221.000	3.648.588	+ 13,28%
MOBILE TELEPHONING– WAP			
The number of clients using e-banking	150.000	340.062	+ 126,71%
The number of monthly transactions	2.327	2.685	+ 15,38%
The amount of transactions in zł	2.043.000	4.342.355	+ 112,55%
Average amount of payments in zł	1.021	1.617	+ 58,37%

Source: Own elaboration on the basis of ZBP

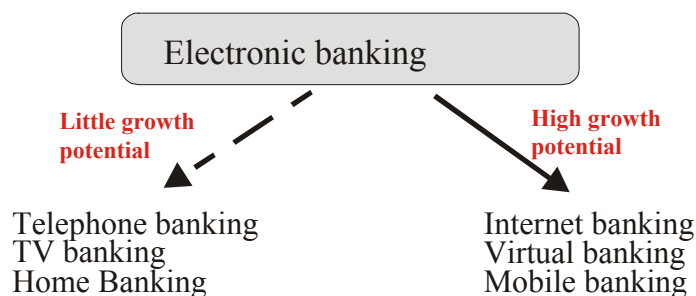
One of the newest solutions in the field of communication between client and bank is TV banking, with the usage of satellite TV, cable TV, telenewspaper and telephoning. The client may check his account in the telenewspaper. However, it should be proceeded by telephone contact with bank. After giving the account password, the client receives the number of page in the telenewspaper or by sending coded data by digital TV (decoder is necessary in this case. Those who already possess such device are able to contact with bank in this new way (satellite TV and telephone). However, it will depend on the percentage of the amount in the account. The commonness of this channel depends on whether the client possesses interactive digital TV, the device which is still quite limited. According to Forrester Research, the growth of digital TV in European Union is expected up to 44 % in 2007 in comparison to 2002 when it was only 11%. The example of the country in which TV banking is popular is Great Britain,

where more than 770000 digital TV users take advantage of bank service. The most popular bank is *Egg bank* and *Sky TV*. Because of technological and economical barriers such communication is still not popular in Poland. The only Polish bank which offers TV banking is InvestBank within *Invest-Account channel*. The client may receive information about his balance, operations within basic service whereas within interactive service one can do transfers or become the user of lawful regulations. Technological barriers and little clients' interest stop the development of such services in EU countries and in Poland as well. TV banking is rather only treated as technological piece of information and banks investments should be limited until digital TV becomes a giant.

TV transmission with the bank's consultant and real-time services e.g. chat banking belong to new communication solutions. (Chat is a real-time conversation with the bank's worker on a special channel proceeded with login of the client). Such solution is mostly used by bank in order to give a piece of advice.

The participation in e-banking differs and depends on the access to technology, the infrastructure development, lawful-administrative regulations, banking culture, e-banking culture and the costs of exploitation. Such factors influence distributive channel groups with a different growth potential. Little growth potential: little functioning, (telephone banking) or high cost of exploitation (TV banking and Home-banking), as well as, high growth potential: (internet banking, virtual banking, mobile banking) with low exploitation costs. Fig.10.

Figure 10 E-banking access channels and their growth potential



Source: own elaboration

New technological solutions qualified the characteristics of clients' behaviour. Getting to know clients' needs made it possible to adjust the kind

of offered service in case of communication. In the result, the bank organisation changed from interactive, where the contact with the client was limited into proactive, thanks to which the client is supported¹¹.

6. E-banking services

Thanks to multiplicity of channels, banks use multichanneled strategy which offers many distributive channels to clients along with financial service which seems to be attractive. The level of complicated service changed from simple marketing service into complicated interactive service thanks to new information technologies and information techniques. It also influenced bank functioning from interactive into proactive, supporting the client (the concept of partnership e-banking). The changes of e-banking led to creation of new e-services dependent on used accessible channel such as:

- Bills payments,
- Funds transfer among accounts ,
- Orders instructions,
- stocks and shares trade,
- credits acceptance,
- accepting credit cards applications,
- reviewing the calendar of dates and deadlines,
- reviewing the history of carried out operations,
- tax accounts,
- sending orders and messages by means of text message system,
- aggregation of financial services

as well as associated financial services i.e. insurance, leasing, investment or retirement services. Table 4.

¹¹ Ozimek W., „Jaki powinien być bank partnerski?”, Gazeta Wyborcza

Table 4 Classification of chosen e-banking services on on-line offer

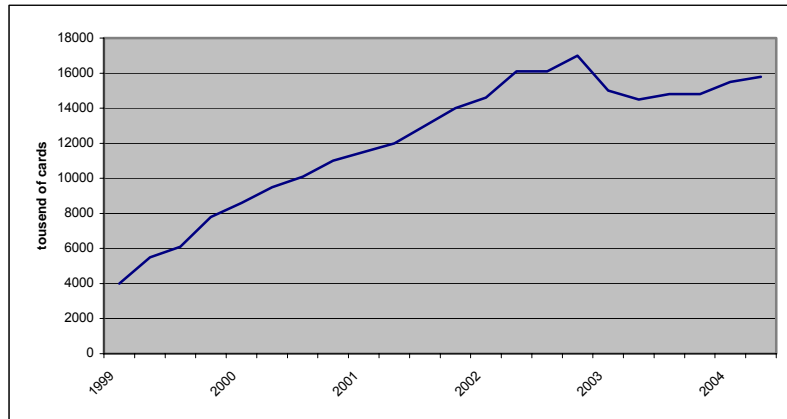
Products improving comfort	<ul style="list-style-type: none">– Mobile banking– Mobile payments– SMS alerts
Services for third parties	<ul style="list-style-type: none">– Internet payments– Payments of taxes <i>on-line</i>– Payments of bills
Other financial products	<ul style="list-style-type: none">– Life insurances– Vehicle insurances
Investment products	<ul style="list-style-type: none">– Opening and managing deposit accounts– Purchase/sales of investment funds securities– Purchase/sales of bonds and other investment instruments
Bank loan products	<ul style="list-style-type: none">– Bank loans applications– Credit cards applications
Simple banking products	<ul style="list-style-type: none">– Opening/closing/managing an account– Domestic and international money transfers– Standing orders– Direct debits– Debit cards applications

Source: Centeno, C. Adoption of Internet Services in the Enlarged European Union from the Internet ranking case. June 2003.

With the development of e-economy new payment instruments were introduced on the market. These new instruments made it possible to conduct transactions on the Internet and in the mobile environment. In Poland the market of pay cards was created only in the 90ties of the last century following the reforms initiated after the change of political system in 1989. These reforms radically transformed Polish banking sector. In this initial period demand for modern payment instruments was moderate. There was no sufficient technical infrastructure which would accept electronic payments. The year 1994, however, saw considerable increase in demand which was a result of rapid changes on Polish financial market and was determined by potential customers' needs.

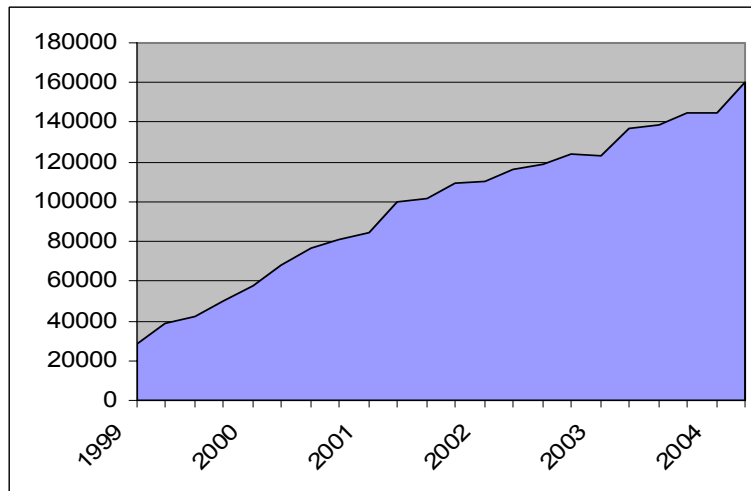
In the second quarter of 2004 the number of issued cards amounted to 159400 and there was 16044930 transactions made with them. All these transactions were worth 38480800 PLN. 80% of them were withdrawals from cash machines. The number of cards issued between 1999 – 2004 together with the number and value of transactions made with them is shown in Figs. 11, 12 and in Fig. 13.

Figure 11 Number of cards issued between 1999-2004



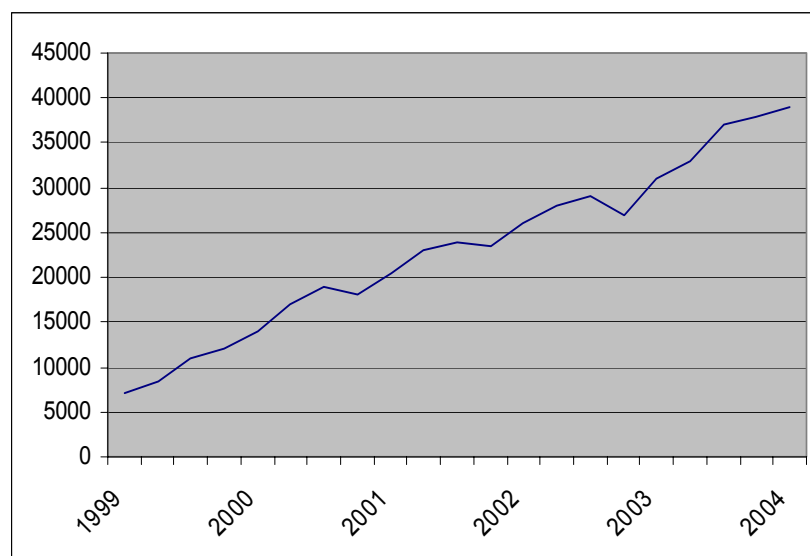
Source: VIII Forum bankowości elektronicznej, Warszawa 2004 (8th E-Banking Forum, Warsaw 2004)

Figure 12 Number of transactions 1994-2004



Source: VIII Forum bankowości elektronicznej, Warszawa 2004 (8th E-Banking Forum, Warsaw 2004)

Figure 13 Value of transactions made in 1999-2004



Source: VIII Forum bankowości elektronicznej, Warszawa 2004

The future of banking and financial services is associated with EMV microchip card. Currently in the EU there are 25 different kinds of electronic money based on microchip cards. In Poland there are no such systems but there are attempts at creating a system based on a central institution of electronic money. The big asset of microchip cards is greater level of transaction security when compared with cards with magnetic strip (better protection against “Fraud” and functions giving access to banking and non-financial services). Such cards can be used in health care, transport or e-Government. Another important factor is the microchip potential to process information and store a few thousand times more information than a magnetic strip. Having recognised these new areas of EMV cards application the EU is currently promoting activities aimed at popularising microchip card solutions making it a priority of Europe programme.

A solution gaining big popularity in Europe (especially in Belgium and Luxembourg) is the so called electronic purse. It is an intelligent chip card used *off-line*, by means of which it is possible to settle small payments for services worth less than 10 USD in cashless way (in Poland from 1 grosz to 100 PLN).

The European Committee claimed e-purse proves to be essential in creating the Economy and Currency Union. It was also pointed out that thanks to low costs electronic payments can replace cash in member states

where the local currency is weak. E-purse standard is being created in co-operation with CEPS (*Common Electronic Purse Specification*), VISA, Proton and a number of European financial institutions. This project is partly stimulated by introduction of the European currency Euro. It is expected that all national enterprises connected with e-money wanting to go internationally will join CEPS. Combination Euro-CEPS can be the greatest driving force towards adoption of e-money.

Another solution based on e-money concept is a credit card:

- a) *post-paid-cards*: the issuer covers the costs incurred by the card holder for purchasing goods or services. The card holder can purchase goods or services by means of his credit card and its authorisation in *Authorisation Centre* before he actually pays for them. If the payment is settled through the Internet, the card holder must provide his card number as a part of the crypto-graphic procedure.
- b) *prepaid cards* with determined credit value reflected only on central server. Payments are settled anonymously (registration is not required).

Popularisation of the Internet Channel in business activity created a demand for payment instruments adjusted to network environment – network money and software money. There are two kinds of network money:

- c) money on a microchip card whose reading is carried out on a PC of its holder. The PC, however, must be equipped with a special programmed reader (i.e. pre-paid card- e-purse).
- d) Money on a computer disc: E-Cash, DigiCash¹², stored on the hard disc and used in networks (e-cash is of single-use type which means that once a banknote with a given number has been used it is invalidated by a bank).

These systems are similar to the solutions used a cash card or money transfer. Their special feature is innovative opportunity to send money by SMS, e-mail or Internet websites. Taking as a criterion the addressee of the payment the systems can be divided into two groups:

- systems which allow to make a payment only to a business person (person to merchant);
- open systems allowing for transferring payments between market users (person to person). To these open systems belong banking institutions and other non-banking subjects.

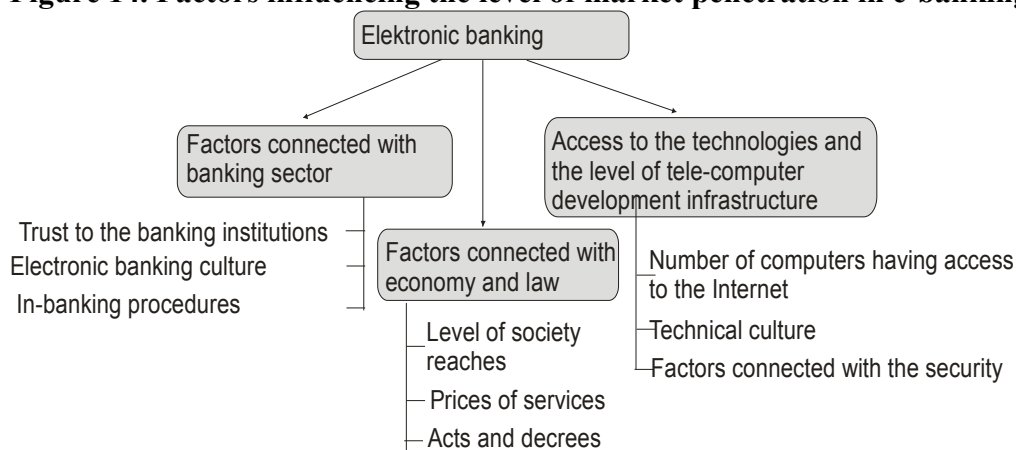
¹² DigiCash was the first company which offered e-cash Internet technology.

These opportunities are used by PayPal – the Internet payment system. There are not many similar solutions on the European market. It is used by a Dutch bank ING – product Way2Pay, Robobank – system Minitix. In Poland system PayU is getting more and more popular. There are however some barriers of legal nature. Polish legal system does not recognize systems based on central server as e-cash systems. Consequently it creates a situation in which this payment instrument is treated as a instrument different from e-cash instrument.

7. Factors influencing absorbing of e-banking services in the world and in Poland

E-banking is not developing evenly. The pace is different in different countries of the world. It does not entirely depend on the economic development of a country, it is rather an outcome of many factors influencing absorbing of these services but also of many barriers which arise in the context of new electronic technologies and related risks and illegal activities such as dirty money washing, selling non-existing bonds and hacker activities. Hence, this issue being a very complex one should be analysed from three points of view (Fig. 14), taking into consideration such factors as the total number of users of e-banking, level of market penetration as a percentage of all clients of a bank, level of market penetration as a percentage of the population and finally level of market penetration as a percentage of the Internet users.

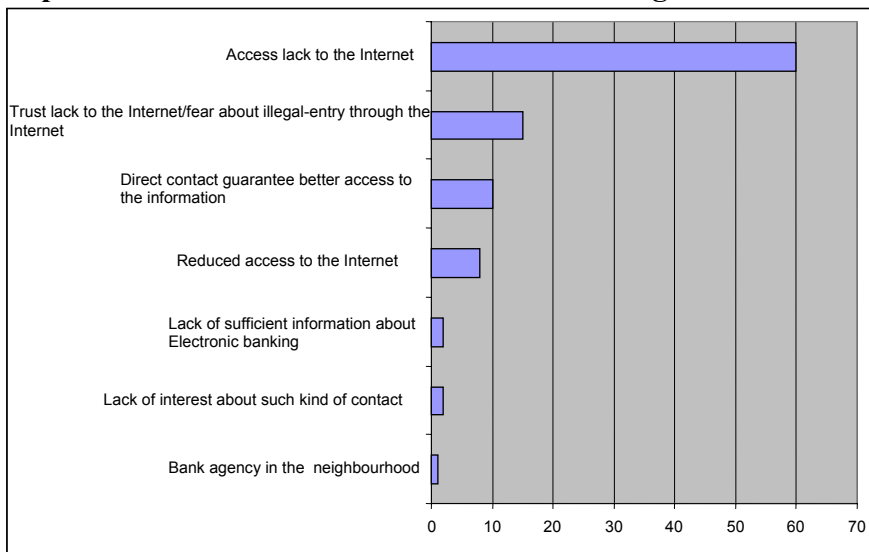
Figure 14. Factors influencing the level of market penetration in e-banking



Source: own work based on

The basic factor influencing absorbing the services is the access to technologies and the level of development of tele-computer infrastructure. This development is closely connected with the wide availability of Personal Computers and the Internet Channels which, in turn, has an impact on technical culture of information society. This was confirmed by Mentor-Telebus research which showed that the lack of access to the Internet creates a barrier and the reason to reject e-banking methods for nearly 60% of respondents, Fig.15.

Figure15. Reasons for lack of interest in e-banking among Polish respondents who do not use the Internet banking



Source: Mentor-Telebus, April 2003¹³

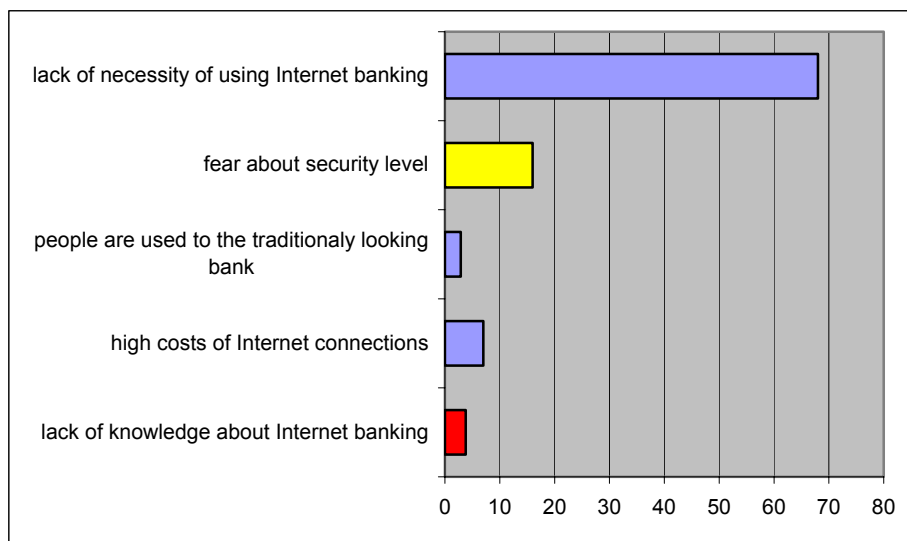
The indirect factor of e-banking services absorption are costs related to creating the access to new developments in technology, mainly using the telephone line and wide-wavelength access to the Net. Another salient issue is the so called level of saturation of the access to the internet. The critical point is 30% saturation of Internet services, after which a considerable rise in interest in Internet banking can be observed. We cannot speak, however, of free Internet access to use e-banking services without liberalisation of telecommunication market. In new EU member states it creates the greatest barrier for e-banking development together with low availability of the Internet. The liberalisation process helps create new measures in telecommunication sector such as: competition, implementation of new techniques and convergences, increase in demand for services and

¹³ Szyszka G, Śliwczyński B at al., *Elektroniczna gospodarka w Polsce*, Poznań 2004

globalisation processes. The acceleration in development of telecommunication sector and economy in general through breaking up the monopoly and the presence of new operators caused many positive phenomena such as: price reduction for telecommunication services, increase in the number of services delivered, higher quality of services, their flattening and postalisation of tariffs. The above mentioned phenomena has a considerable influence on e-banking development.

Another important issue is the trust customers have in e-banking services. According to Forrester Research the fear of using the Internet banking is diminished with the time of usage of the Internet channel. The number of e-banking users who were previously Internet users consists of 50 % after 5 years of experience with the Internet channel and only 19 % after 2 years. It may be the outcome of growing awareness of depositing financial resources in the so called “invisible bank”¹⁴, growing technical culture of customers and lack of information on the scale of losses banks have as a result of Internet crime. This statement can be confirmed by research in which 15% of respondents share this opinion¹⁵, Fig. 16.

Figure 16 Reasons limiting e-banking development among the Internet users.



Source: own work based on I-Metria, lipiec 2003.

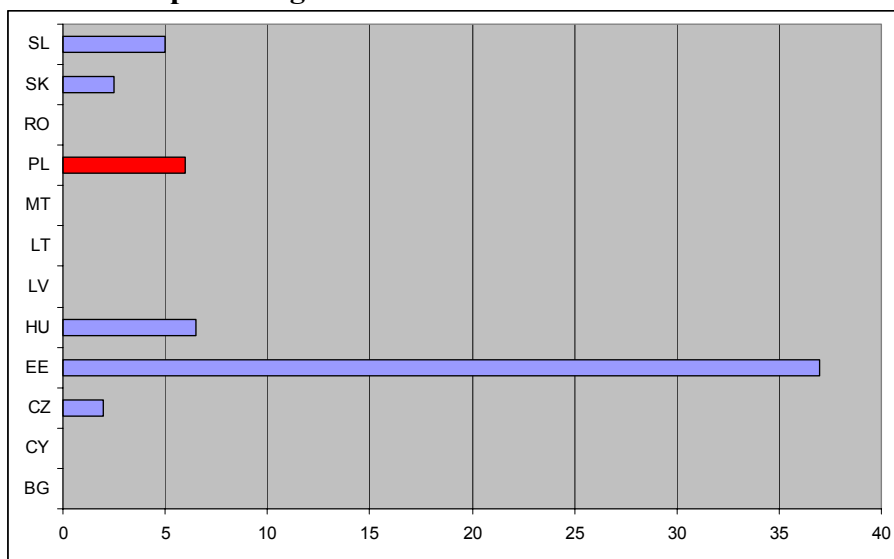
¹⁴ J. Stryczyński, T. Zarzycki, „Bank ery gospodarki elektronicznej”, Bank, nr 9(96), 09.2000

¹⁵ Mentor-Telebus, 04.2003

Another group of factors connected with penetration of Internet banking services are: confidence to financial institutions, electronic banking culture and internal procedures of banks' operations. However, Internet banking is frequently used in those countries where bank transfers are more popular.

Various researches show that confidence to banks and culture of electronic banking vary a lot. In Poland, due to significant technological backwardness, technical culture of Polish clients is not high. As compared to other EU countries, the ratio between a number of Internet banking users and a total number of bank account owners places Poland on the third position, after Estonia and Hungary, Fig. 17.

Figure 17 Penetration of electronic banking in new-accessed EU countries in percentage relation to a total number of bank clients



Source: ECB 2002b, 2001 data for CY, MT, RO, SK, SL, Albassera, Sep 2002 for CZ, HU, PL Bank Association, 2002 for PL, HansaBank, 2002 for LV, LT, UNCTAD, 2002 for EE; Population 2000; Eurostat.

The third group includes the following economy factors: service prices, level of clients' affluence, scale and pace of society education. However, using systems and ICI tools in operations of financial institutions, including banks, are regulated by according law acts and rules, for instance:

- act of 18 July 2002 about performing services by electronic means (operative since 10 March 2003), which institutes the European

Parliament and Council of European Union directive, number 2000/31 of 8 June 2003 (directive concerning electronic trade)

- act of 12 October 2003 about electronic paying tools. The act meets the European Union standards in respect to consumers' protection regarding bank services and limits clients' responsibility in case of a theft or loss of a card. The main part of the act is connected with using paying cards. It also touches electronic banking regulations and puts an obligation on banks to provide proper security and confidentiality when conducting operations.
- act of 18 September 2001 (operative since 08.2002) about electronic signature.

Apart from exemplary law acts many ordinances have been decreed, for instance:

- Ordinance of the Cabinet of 25 February 2003 concerning the rules of making, recording, storing and securing bank documents made on electronic means of information.
- Ordinance of Finance Minister of 24 September 2003 concerning the way, scope and time-limits of storing electronic money by institutions and banks as well as data on issuing electronic money. This ordinance is an addendum to the law act of 12 September 2002 about electronic paying tools and the way, scope and time-limits of transferring data to the National Bank of Poland.
- Ordinance of Finance Minister of 24 September 2003 concerning the way, scope and time-limits of transferring data on paying cards issued by competent institutions.
- Ordinance of Finance Minister of 24 September 2003 defining security procedures, permissible risk of operations of Electronic Money Institutions and area of its use. It also defines types of financial tools and regulations with respect to investing funds coming from obligations assumed while issuing electronic money, as well as other rules applicable while reducing risk.

It must be pointed out, however, that the above mentioned factors can also hinder development of electronic banking services. In many cases law acts do not follow the pace of electronic economy development and are not precise enough. In Poland two ordinances of Ministry of Finance can serve as the examples:

- Ordinance of 5 December 2000 concerning the way of collecting payments and returning tax payments as well as the way of conducting tax payment registration which do not allow making these payments by electronic means. This ordinance is in contradiction to:

Administration Procedure Code, Section II, Chapter I, Article 63, Clause 1, and Electronic Signature Law Act that aims at introducing electronic document in administration and economy.

- Ordinance of 15 September 2001 concerning definition of “cash payment form specimen and tax office money transfer form”. While introducing a new payment/transfer form, the legislative board overlooked the fact that almost all small, medium and large businesses make their payments via electronic transfer.

Another normative act that includes wrong regulations, contradicts the Polish Constitution, and the European Union Law, and hinders introducing necessary ordinances is the act of electronic signature of 16 August 2002. According to the PIIT opinion, wrong regulation says that the certificate document can be issued exclusively by institutions co-owned by the National Bank of Poland, which leads to the monopolization of the market (in June 2002 these condition were fulfilled solely by Contrast). PIIT representatives also believe that banks aim at gaining areas that are not strictly connected with their activity. It concerns, for example, limiting electronic money clearings (changing money to electronic impulses collected on cards) only to bank authorities, and hinders such operations from other companies. Banks conditioned exclusivity to clearing operations for the period of a year from the moment of issuing the regulations about electronic payment tools.

In practice it means complete lack of possibilities of issuing parking cards or public transport tickets by other companies but banks. Also, some other proposed changes in telecommunication regulations dealing with service prices at “a moderate price”, yet based on real costs, arouse concern among PIIT representatives.

The second group of factors that have a restraining effect on development of electronic banking consist of internal banks’ procedures that are not tailored to substantial, organizational and time aspects.

Development of modern bank services is also hindered by lack of unified security standards used by bank institutions. Each bank has its own systems, which is costly and time consuming. The solution to the problem might be the use of electronic signature that according to the law act guarantees:

- confidentiality of documents through their ciphering and at the same time their inaccessibility by third parties,
- integrity of documents so that their contents cannot be changed or counterfeited,

- authorization of a sender through exclusivity for his signature
- affixed electronic signature put down on a document becomes unquestionable fact.
- civil law aspect – the rule of equipoise of legal consequences as regards electronic signatures based on qualified certificates with manual signature is in power (except for some legal actions requiring particular form such as notary acts)

According to bankers and researches conducted by OBOP, development of services is also hindered by lack of Internet access and customers' habit of using traditional channels of bank services distribution.

8. Conclusions

The end of the 20th century is the period of impetuous changes ongoing in the way of functioning in Europe and in the world. This is a period of continuous challenges, economic co-operation and implementation new ways of management. The changes include reducing time of carrying out business processes, their wider scope, more flexibility and reliability of operations, and increasing level of client service. In the near future, e-economy will revolutionize business activities in almost all sectors of economy. It has already marked its presence in financial services sector, including banks and, therefore, proves that further, comprehensive development of electronic bank services is inevitable. It leads to a necessity of bank strategies modification imposed by costs reduction, change of clients' consumption patterns, dynamic development of new technologies, and polarization of clients because of their ability to use the Internet and positive attitude towards electronic media. As a result, clients will gradually change their perception of bank sector institutions. A new quality of bank services is being provided, where a client becomes a subject and not an object as it used to be in traditional banking.

Modern e-banks take a particular place in e-economy. Their importance for development of new economy has been emphasised in the e-Europe programme, that is one of the Lisbon Strategy principles. E-banking makes it possible to perform such services as: electronic tax clearings, unemployment benefit or scholarship payments.

According to many Polish bankers, there is a strong belief that multi-channel activities and modern technological solutions will contribute significantly to the improvement of profits coming from banking operations. It means that the importance of both Internet and virtual banking on financial markets will be gradually increasing. The researches led by IPSOS show that

about 84% of the banks plan to introduce new solutions to bank-client relationship management. Other key enterprises of banking sector include: popularisation of mobile banking technology based on GSM technology with main access channel via Short Message Service –SMS (on a smaller scale, via WAP) and introducing Straight Through Processing Systems (STP).

References

- [1] BORYS, STOLARSKI, *Gospodarka w sieci*, WWW.infovide.pl
- [2] CASTELLS M.: *The Rise of the Network Society*, Oxford, Blackwell, 1996
- [3] CENTENO Clara, *Adoption of Internet Services in the Enlarged European Union from the Internet ranking case*, June 2003
- [4] Rzeczpospolita, *Dynamiczny przyrost kont internetowych*, nr 244, 18.10.2002
- [5] The Economist, „Older, wiser, webbie”, 30.06.2001
- [6] ECHIKSON: Inwazja e-bankowości
- [7] ECB 2002b, 2001 data for CY, MT, RO, SK, SL, Albassera, Sep 2002 for CZ, HU, PL Bank Association, 2002 for PL, HansaBank, 2002 for LV, LT, UNCTAD, 2002 for EE; Population 2000; Eurostat
- [8] VIII Forum bankowości elektronicznej, Warszawa 2004
- [9] GÓRSKI P.: „E-banking dla Kowalskiego”, e-Fakty – wszystko o gospodarce elektronicznej” nr 4, Instytut Logistyki i magazynowania, str 22, 2004
- [10] HARTMANN, A., SIFONIS, J., KADOR, J.: *E-Biznes – Strategie sukcesu w gospodarce internetowej*, K.E. Liber s.c., Warszawa, 2001
- [11] KISIELNICKI J.: *Infrastruktura zarządzania – Polska w Europie*, „Mater of Business Administration”, nr 1, 2002
- [12] MACKINTOSH J., *Online banks increasingly move from clicks back to bricks*, Financial times, 9.10.2000
- [13] NORRIS M., WEST S., *E-biznes*, Wydawnictwo Komunikacji i Łączności, Warszawa, 2001.
- [14] OZIMEK W., „Jaki powinien być bank partnerski?”, *Gazeta Bankowa*
- [15] PIETRZAK J., „Wpływ modelu dystrybucji na konkurencyjność banku”, *Bank i Kredyt*, nr 3, str. 35-43, 2002.
- [16] Raport *I-Metria*, lipiec 2003
- [17] Raport *Mentor-Telebus*, 04.2003
- [18] Raport OECD, 06.2000 r
- [19] Raport firmy doradczej Booz, Allen & Hamilton

- [20] STRYCYŃSKI J., ZARZYKI T., *Raportu EDS „Bank ery gospodarki elektronicznej”*, *Bank* 09/2000, pp 57
- [21] STRYCYŃSKI J., ZARZYCKI T., „*Bank ery gospodarki elektronicznej*”, *Bank*, nr 9(96), 09.2000
- [22] SZNAJDER A.: *Marketing wirtualny*, Dom Wydawniczy ABC, s. 29-34, 71-74, Kraków, 2000
- [23] SZYSZKA G, ŚLIWCZYŃSKI B at al., *Elektroniczna gospodarka w Polsce*, Poznań 2004
- [24] WIĘCŁAW E., *Wirtualne konta PKO BP*, Rzeczpospolita, 3.09.2002
- [25] <http://www.pilot-f.pl/products/artykuly/art.asp?id=67>, wywiad Chimko P. Kowalski M. ze Sławomirem Lachowskim, Członkiem Zarządu BRE Banku S.A. zamieszczony w portalu Pilot Finansowy

CHANGES IN USING OF PAYMENT INSTRUMENTS IN THE EUROPEAN UNION

Ilja Skaunic

Czech National Bank

Ostrava Branch

Nádražní 4

702 00 Ostrava

Czech republic

e-mail: ilja.skaunic@cnb.cz

telephone: +420 596 151 300

Abstract

In view of the European Union accession, a large number of reforms are taking place in the member countries, especially in the “new” members. It is one from the priorities to develop modern, robust and efficient payment systems. Bodies, which are interesting in this goal are among others the central banks of the members countries, including the European Central Bank. The process of building of the new methods, used in the payment systems is influenced by changes in using of payment instruments. These changes are evoked not only as a result of changes in the legal, regulatory and institutional environment, but as a result of the national traditions and of the historical reasons, too. More than ten years, which has flowed from the beginning of the negotiations about the accession of the European Union, has influenced the development in the accession countries. There are not differences between payment systems and payment tools used today in the “old” and “new” members; there are differences in level of using of common instruments and tools. The development in the both parts of the European Union is today very similar.

Keywords: *payments, cheques, credit transfer, payment card, direct debit*

1. Introduction

This speech focus on the use of various payment instruments in the European Union. The main source of it is possible to find in the ECB statistics, especially in publications, which are named „Payment and securities systems in the European Union“ and „Payment and securities systems in accession countries“. Short name, used for these two publications and its addendum incorporating the last figures is „Blue Books“. In these publications is possible to find many informations about payment systems in all Member States and in countries, which were preparing for membership in the EU, ten of which have since become Member States of the European Union .

What is the aim of this speech? To compare data about using payment cards, cheques, credit transfers and direct debits in part of members of the European Union and to describe differencies and/or resemblances between old and new members of the Euroiepan Union in the field of payments.

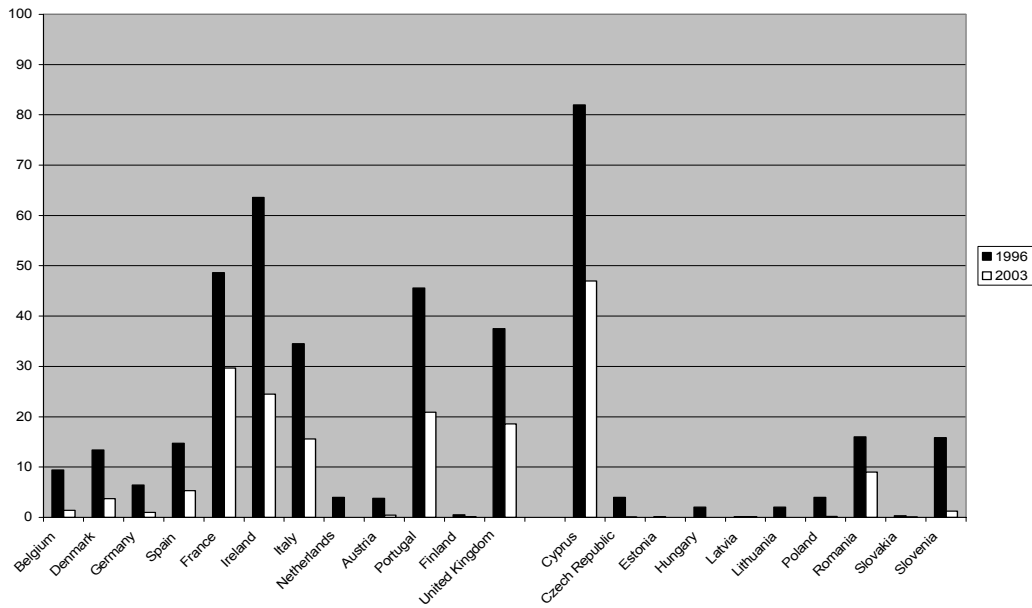
There are two reasons, why figures are not done for all Member States – data are not available for all countries in all categories and all years and the methodology is changing in some countries during time.

2. Cheques – traditional payment instrument

In next two bar charts the data about using cheques are shown. The term “cheque” includes traveller’s cheques, eurocheques and bankers’ drafts. Commercial bills are included only if funds transfers can be made on the basis of these, without using another medium. The first of picture show us figures, which give us information about volume of used cheques in comparison with other payment instruments, the second one give us information about value of used cheques in comparison with other types of payment instruments.

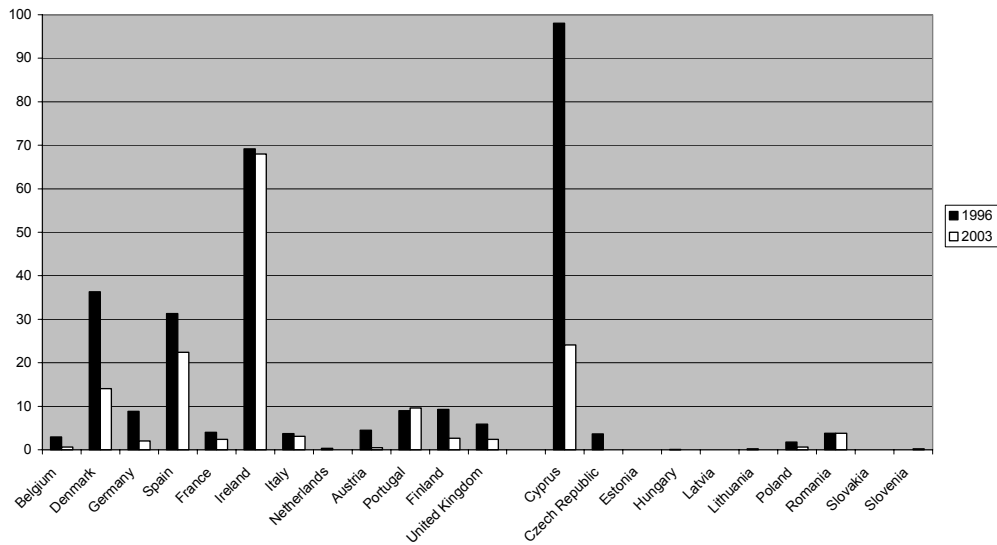
Cheques were traditional payment instrument in many countries. Cheque as payment instument has many advantages – it reduce using of cash, necessary for bussiness making. Customers consider them easy to use, either for remote payments or face-to-face transactions, and they are free of charge for the drawer. The cheque is still the most widely used payment instrument in some countries, as for example in France, Ireland or Portugal. Facing it – in other countries, as for example in Germany, Austria or Finland cheques has never become as important as in many other countries of the western world. In new member countries using of cheques had never tradition and nowadays this instrument is not using in any new members, excluding Romania (which are going to be a member of the EU very soon).

**Figure 1 Relative importance of cashless payment instruments - cheques
(% of total volume)**



Source: Author's calculation according to Blue Books

**Figure 2 Relative importance of cashless payment instruments - cheques
(% of total value)**



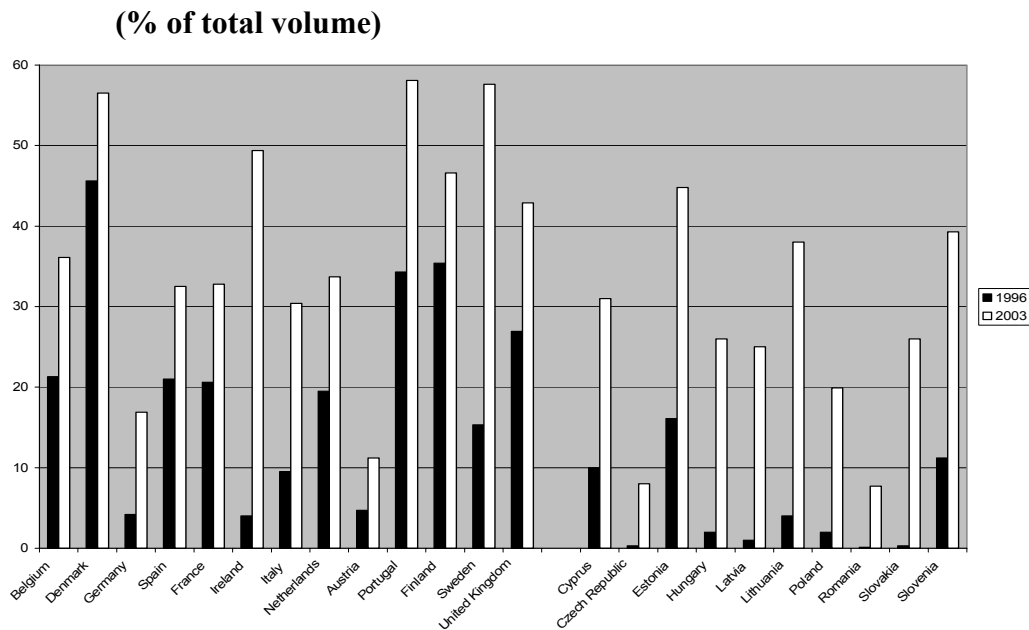
Source: Author's calculation according to Blue Books

One interesting moment is possible to explore in previous graphs – if number of using cheques makes from this instrument in some countries relatively important part of portfolio of payments instruments, the value of payments executed by cheques is higher only in four evaluated countries and only in Ireland the importance of cheques should be higher in future. In this four countries using of cheques has long tradition. In other countries, with the automation of cashless payment transactions, the fact that a cheque is a payment instrument which is payable at sight has proved to be one of its key disadvantages – above all the fact, that cheque must always be collected and presented in paper-based form.

3. Credit cards – a new dimension of payments

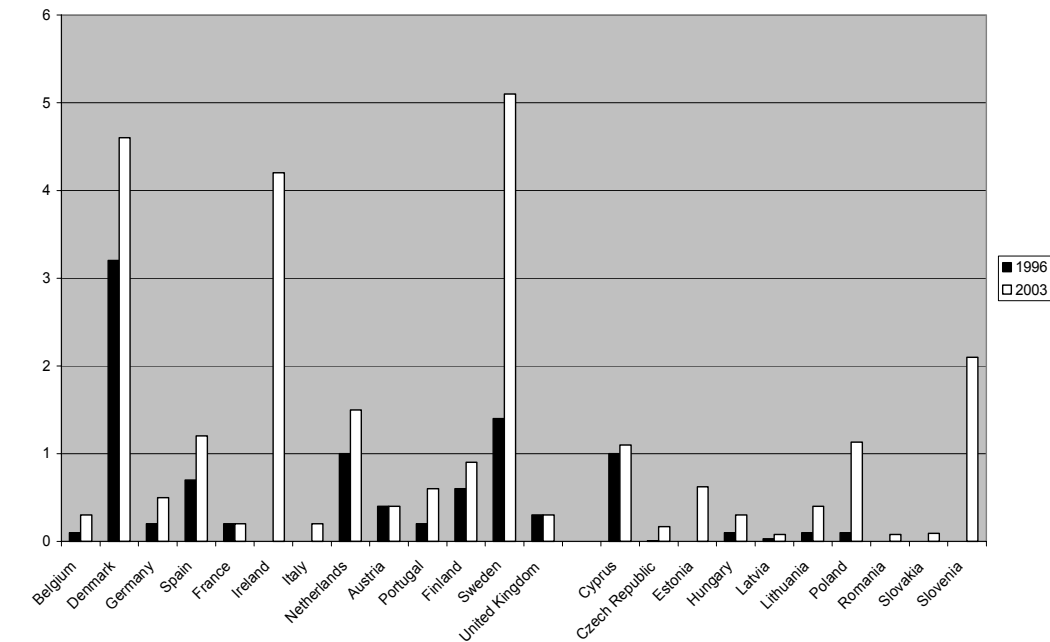
Payment cards in any possibilities (credit cards, debit cards, charge cards, elektronik purses and so on) plays more and more important role in payments in all countries. Relative small percentage of used credit cards in some countries can be influenced by specific factors – for example, in the Czech Republic play (see figures 7 and 8) big role direct debits. In absolute figures the number of payment operations with cards is the same as in other new member states, in relative figures it seems to be less.

Figure 3 Relative importance of cashless payment instruments - payment cards



Source: Author's calculation according to Blue Books

Figure 4 Relative importance of cashless payment instruments - payment cards
 (% of total value)



Source: Author's calculation according to Blue Books

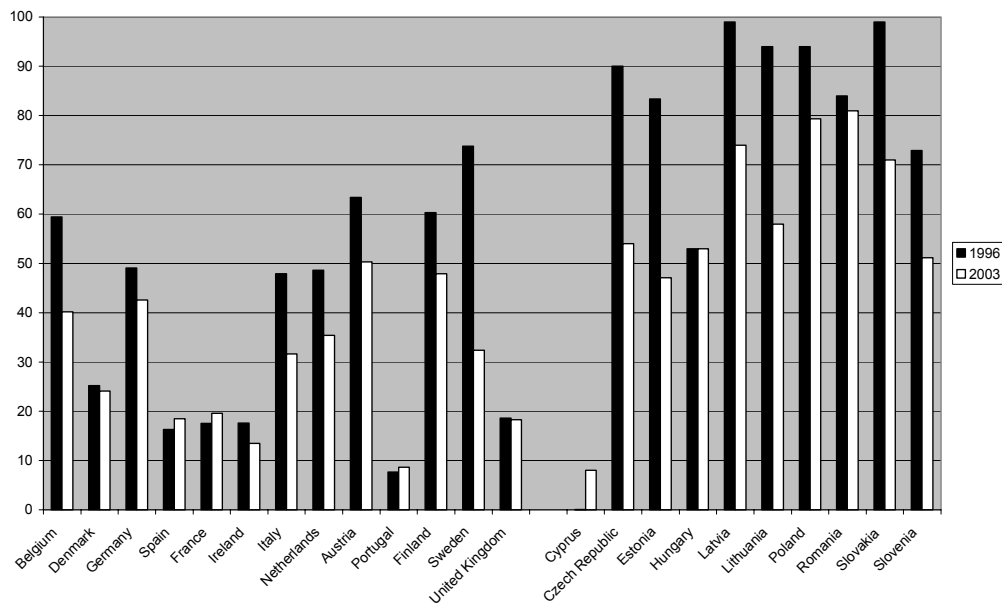
Figure 3 has shown us information about volume of cards in comparison with other payment instruments, the second one has given us information about value of used cards in comparison with other types of payment instruments.

Payment cards played bigger role ten year ago in old part of the European Union. In the eastern part of Europe using of small pieces of plastic, called payment cards, was in beginning. But after seven years the situation has rapidly changed. The figures, which inform us about volume and value of using cards in new Member States are similar to figures in old part of the EU. One notice is possible to say now. If cheques are used in bigger volumes in a few countries, cards are typical retail instrument, used by small clients for personal payments. Maximum level of percentage of using cards (if we compare value of operations with cards) is between four and five percent in three countries. In the other countries cards are used only in one percent of value of payments. One from the reasons of this fact should be found for example in small limits, which are given for majority of cards for its day or weeks using.

4. Credit transfers – tradition with long future perspectives

Credit transfer is a payment order or possibly a sequence of payment orders made for purpose of placing funds at the disposal of the beneficiary. It is really traditional payment tool. Credit transfers have traditionally been the predominant form of payment transaction. However, their share of the total volume of payment transactions has decreased in recent years because more suitable payment instruments are used for certain purposes.

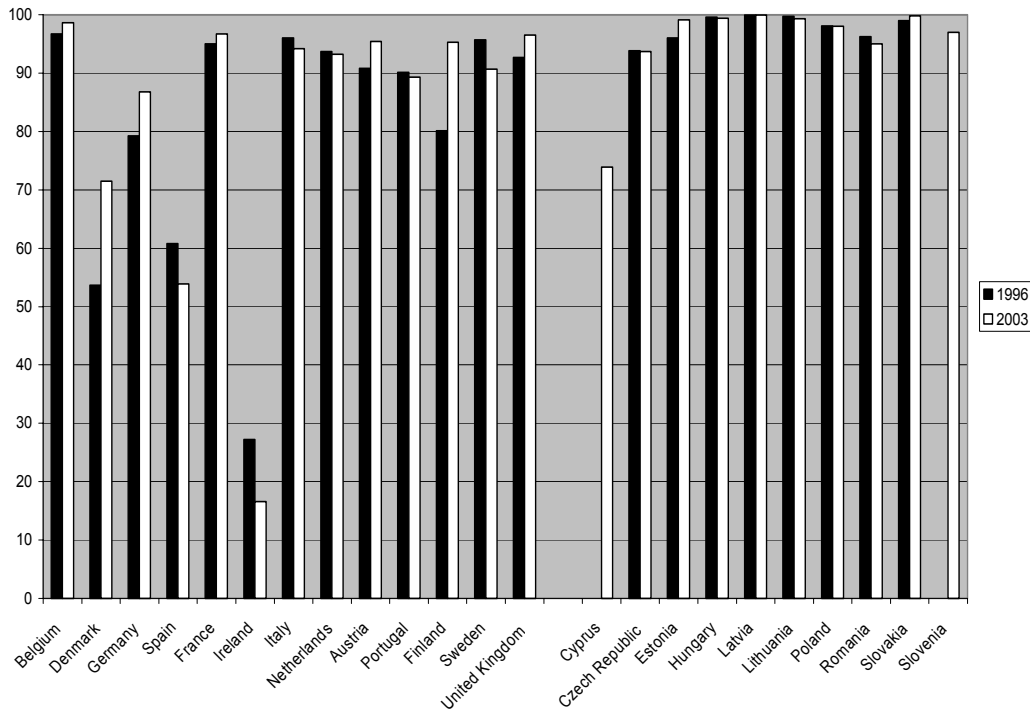
Figure 5 Relative importance of cashless payment instruments - credit transfers (% of total volume)



Source: Author's calculation according to Blue Books

In last decade has grown the role of one new product, which support the using of credit transfers – e-banking. A significant development can be seen in the growing popularity of electronic forms of payment orders made by customers in parallel with the growing popularity of self-service banking and home banking products. More and more clients, including big firms, are communicating their payment orders via magnetic media or telecommunications. It should be the reason for big percentage of value of payments, done by credit transfers.

Figure 6 Relative importance of cashless payment instruments - credit transfers (% of total value)



Source: Author's calculation according to Blue Books

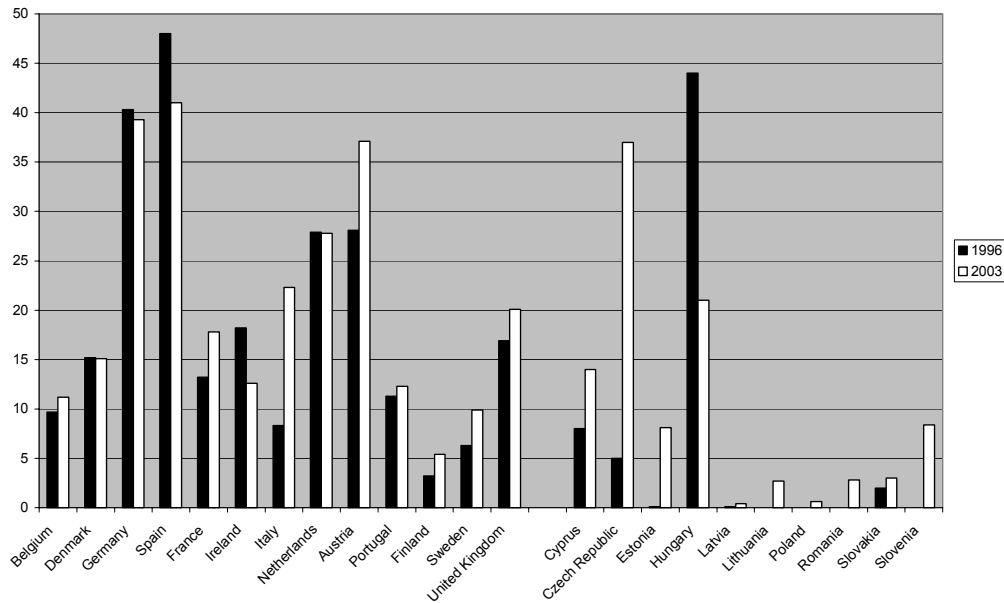
5. Direct debits – last but not least

The term „direct debit“ means a pre-authorised debit on the payer’s bank account initiated by the payee. Initiators of direct debits must be approved by a bank. They must also obtain signed authorisation from the payer, which is then moved to the payer’s bank.

Direct debits are used generally for recurrent payments such as electricity, gas, telephone and water bill payments, and for monthly income tax payments, mainly in the larger urban centres. Direct debits offer advantages to bank (processing costs are relatively low thanks to automation), as well as to the utility companies (by simplifying their accounting administration) and to individuals (by simplifying the payment). Legislation in some countries make possible „legal“ direct debits – i.e. direct debits on the basis of legally valid and enforceable decisions of courts, court executors and administrative bodies of the state budget – as well as direct

debits for the payment of interest or charges for banking services. The use of direct debits is in average increasing.

Figure 7 Relative importance of cashless payment instruments - direct debits (% of total volume)



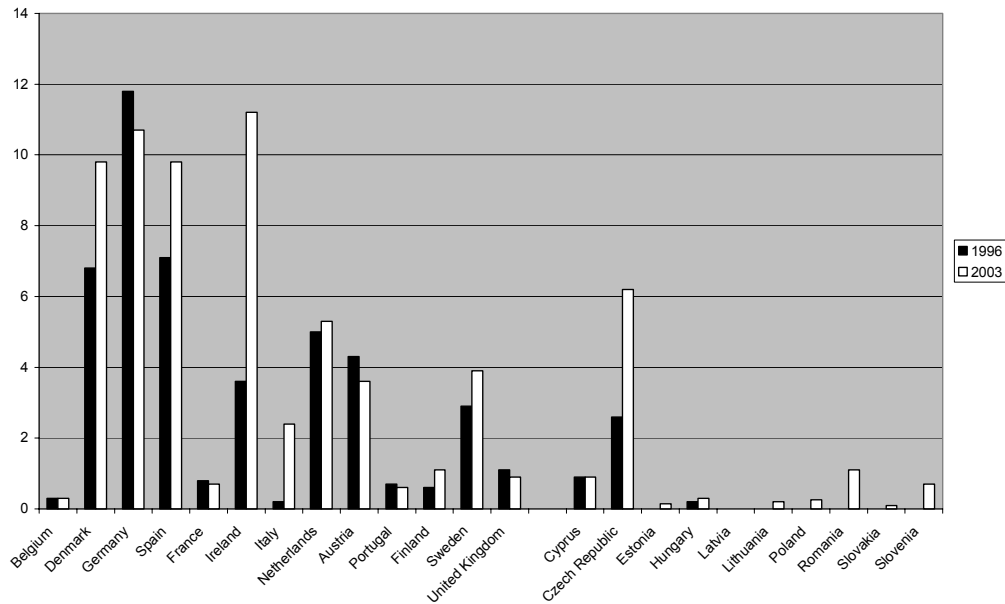
Source: *Author's* calculation according to Blue Books

Two partial conclusions is possible to do, if the statistical data from individual countries are compared.

At first – direct debits are very often used in most of old mebers of the European Union. In a new part of the EU this type of transactions is not so popular and so frequently used (with one exception in the Czech Republic). The reasons can be different. For example, in Poland direct debits were introduced by the National Bank of Poland in October1997 and the first transactions were effected I July 1998, its use is increasing, but this instrument still plays a marginal role in retail payments. The similar situation is in Romania, Latvia or Lithuania.

At second – direct debits are used for big volume of payments, but average value of these payments is very small. It's a reason, why – for example – 45 % of volume of payments in the Czech Republic reperesents only 6 % of total value of payments in 2003. The value of regular direct debits is influenced by its purpose and probably will not change in a future.

Figure 8 Relative importance of cashless payment instruments - direct debits (% of total value)



Source: Author's calculation according to Blue Books

6. Conclusion

Two big groups of countries existed a few month before the best change in history of the European Union. One of them was group of 15 „old“ members from which 12 countries have created Eurozone with one currency. Second group was created by twelve accession countries, ten of which have since become Member States of the European Union .

It is possible to say, that it was a symbolic situation. Fifteen years ago majority of this groups were enemies. First changes started as a result of political changes. West and East Europe have started to cooperate. But differences between these two groups of countries were so deep, that ten years were not enough for their covering. Aproximately ten years ago the negotiations about accession to the European Union have started. Influence of that fact is probably the main factor, which caused, that now accession countries use the same instruments and methods as are common in the EU. Differences of course still exist. But what is important, that there are differences in level of using of common instruments and tools in common systems and that these differencies are going to be lower and lower during

the years. There are not differences in using systems and it is reason for optimistic view to common Europe future.

References

- [1] Payment systems in accession countries. European Central Bank, Frankfurt am Main, 2002. ISBN 92-9181-312-5
- [2] Payment and securities settlement systems in accession countries. Addendum incorporating 2003 figures. European Central Bank, Frankfurt am Main, 2005, ISSN 1725-7964
- [3] Payment and securities settlement systems in the European Union – Addendum incorporating 2000 figures, European Central Bank, Frankfurt am Main, 2002, ISBN 92-9181-311-7
- [4] Payment and securities settlement systems in the European Union – Addendum incorporating 2003 figures, European Central Bank, Frankfurt am Main, 2005, ISSN 1725-7948
- [5] SKAUNIC, I. Influence of European integration to development of payment and settlement systems in accession countries. *Workshop „European Integration and Banking Efficiency“*. CIEF – Research Centre on Financial Economics, Technical University of Lisbon, Portugal, 2003.

SYSTEM OF PAYMENT AFTER THE ENTRY OF THE CZECH REPUBLIC TO THE EUROPEAN UNION¹

Pavel Jiříček

Silesian University in Opava
School of Business Administration in Karviná
Department of Finance
Univerzitní nám. 1934/3
733 40 Karviná
Czech Republic
e-mail: jiricek@opf.slu.cz
tel.: +420 596 398 215

Abstract

Implementation of the European legislature into the Czech system of law in connection with preparation of the Czech Republic into the European Union and its own entry on May 1, 2004 participated on changes in the legal frame of the system of payments. This contribution is focused on considering benefits of related changes for clients – a consumer of the system of payment services (domestic and foreign) and a holder of electronic means of payment. Except the indisputable importance, which harmonizing legal regulations have for improving the legal position of a client, possible financial benefits resulting from this process not only for a small client, but also for small and middle firms are reviewed. Concretely it concerns the amount of charges for cross-frontier payments and reduction of the responsibility of a credit card holder for financial losses arising in connection with its loss or theft.

Key words: *implementation; law on the system of payment; cross-frontier transfers; financial arbitrator; electronic means of payment;*

¹ The paper is published due to the Czech Grant Agency support (grant GAČR No. 402/05/2758 „Integration of the financial sector of the new EU member countries into the EMU“).

1. Introduction

Cross-frontier system of payment specification in terms of the European Union is modified mainly by the Directive of the European Parliament and the Council no. 97/5/ES on cross-frontier transfers of assets and the Directive 98/26/ES on irrevocability of settlement in the systems of payment and in the systems of settlement of securities dealings. Orders of the European Parliament and the Council (ES) no. 2560/2001 on cross-frontier payments in EURO, which by May 1, 2004 has become the part of the system of law of the Czech Republic without the necessity of its transposition modifies rules for cross-frontier transfers, which are denominated in EURO and Swedish crowns.

Regularization of issuing and using electronic means of payment comes out of the Directive 97/7/ES on protection of the user in case of a contract concluded at a distance, the Recommendation 97/489/ES on transactions carried out by electronic means of payment and the Directive 2000/46/ES on approach to the activity of institutions of electronic money.

Mentioned European legal rules emphasize the protection of the user and of system of payment regulation. Their importance consists in the fact that transfers are the most used service in the domestic and foreign system of payment. Electronic means of payment as well, namely credit cards, admitted also considerate expansion.

2. Law on the system of payment

By January 1, 2003 the Law no. 124/2002 Coll. on transfers of finances, electronic means of payment and systems of payment (the law on the system of payment) as amended by changes under the Law no. 257/2004 Coll. came into force. By May 1, 2004 those provisions of the Law, which were as for the time bound with the entry of the Czech Republic to the European Union, came into force.

2.1 The subject of adjustment

The Law adjusts

- a) carrying out transfers of finances on the territory of the Czech Republic in the Czech currency (domestic transfers in crowns) and carrying out cross-frontier transfers, regardless the currency in which accounts of an ordering customer and a beneficiary are conducted,
- b) issuing and using electronic means of payment,

- c) origin and carrying out systems of payment .

2.2 Domestic and cross-frontier transfers

The second part of the Law implements the Directive 97/5/ES on cross-frontier transfers. The aim of the Directive and even the Law as well is the protection of a small user. The cross-frontier transfer means the transfer of finances from one member state of the European Union or from the state making the European economic space to another member state of the European Union or the state making the European economic space in the domestic currency of any member state of the European Union or the state making the European economic space up to the equivalent amount of 50 000 EURO. Restriction of the sum of the transfer to the amount of the equivalent of 50 000 EURO was taken from the directive only for the cross-frontier transfers. The directive does not apply on domestic crown transfers, and therefore the Law insures the same terms of transfers and further obligations regardless of the amount of the sum of the transfer.

The Law regulates only settlement form of payment and it does not imply to the collection form of payments. Rules for providing collection forms of payments are set by the Regulations of the Czech National Bank no. 62/2004 Coll., by which the way of providing the system of payment between banks is set, accounting on accounts at banks and technical, procedures of banks at corrective clearing.

2.2.1 Informative duties

To insure transparency of conditions of providing transfers and improving informedness of a potential client the Law sets the transferring institution the duty to publicize introductory information on basic conditions on which transfers are provided. The Law also sets the transferring institution the duty to announce the following information after realization of the transfer unless a client renounces a claim on this information.

The transferring institution informs the public clearly and comprehensibly in a written way in its premises whereas information must always include:

- a) the term necessary for putting a sum to the credit of the account of the beneficiary's transferring institution,
- b) the term necessary for the sum of this transfers to be credited for the benefit of the beneficiary's account,
- c) the amount or the way of setting the amount of the price, which the client will settle for providing transfers,

- d) procedures for settling complaints including all information on procedures for solving conflicts.

The bank has a duty to give the client introductory information on the price of the transfer or the way of setting its price. At the domestic transfer such information is available. By the entry of the intermediary institution at the cross-frontier transfer the amount of charges becomes uncertain. According to the explanation of the Czech National Bank transferring institutions will fulfil informative duty sufficiently, provided it is stated in conditions that the price composes of the price, which is counted by the institution and further from prices of all intermediary institutions, which are not known, and a client will be charged at the concrete transfer. This way is valid for the way of payment so called OUR, when the ordering customer covers the price of all transfer and the sum must be credit in full amount to the beneficiary.

2.2.2 Terms of providing transfers

Provided the transferring institution of the ordering customer carries out the transfer on the territory of the Czech Republic in the Czech currency:

- a) among different transferring institutions, it is obliged to ensure putting the sum of the transfer to credit for the benefit of the beneficiary's transferring institution account at the latest the following bank working day after the day of force of the transfer order, unless a shorted term has been agreed on,
- b) within the same transferring institution it is obliged to provide the sum of transfer to the beneficiary on the day when the force of the transfer order took effect or the following bank working day,
- c) provided the transferring institution of the ordering customer carries out the cross-frontier transfer, it is obliged to ensure putting the sum of the transfer to the credit for the benefit of the beneficiary's transferring institution account in the term agreed on by the ordering customer and provided such term is not agreed on, within 5 bank working days from the day of force of the transfer order.

The beneficiary's transferring institution will put a sum of the transfer to the credit for the benefit of the beneficiary's account at the latest the following bank working day after the day when the sum of the transfers was put to the credit of its account. This term is cogent and relates to both domestic and cross-frontier transfers.

Mentioned terms are obligatory even in cases when a transferring institution provides conversion between the currency of the transfer and the currency of the ordering customer's account or the beneficiary's account. Terms

set by the law for domestic crown transfers are cogent and cannot be prolonged by the contract.

Terms of cross-frontier transfers are dispositive, the agreement of contracting parties has the preference. Provided only the term is not agreed on, the law sets the five-days term of the cross-frontier transfer.

2.2.3 Ban on transacting deductions from transfers

It concerns only transfers, at which the price of transfers is covered by the ordering customer of his transferring institution, that is so called payments OUR. Provided the ordering customer does not set the price for the transfer or its part is covered by the beneficiary (so called. payments BEN, SHA), the transferring institution is obliged to use the way of charging OUR. The objective is to prevent double charging.

2.2.4 Obligation in case of unsuccessful transfer

Provided the transfer is not realized in the set term after the force of the transfer order, not even the sum of the transfer was returned, and the ordering customer asks for that, the transferring institution will provide him the sum of the transfers and further the punitive interest and from the price for transacting the transfer which the ordering customer has already paid. The institution will satisfy the obligation within fourteen bank days from the day of delivering the request of the ordering customer.

Another procedure is valid for the cross-frontier transfer. In case of the cross-frontier transfer the mediatory transferring institution is obliged to return the transferring institution, which gave it an instruction to carry out the transfer, the sum only to the equivalent of 12 500 EURO and further the punitive interest and the price for providing the transfer, which it received. Settlement of the remaining sum over 12 500 EURO is solved according to the Czech system of law.

2.2.5 Solving conflicts

The provision comes out from the article 10 of the Directive97/5/ES, which placed the member states a duty to ensure appropriate and effective procedures of handling complaints and redressing conflicts between clients and transferring institutions. With conflicts arising between transferring institutions and their clients at carrying out transfers of finances according to the law clients can appeal to institutions for solving conflicts effecting under the special legal regulations. In the Czech Republic it is a financial arbitrator. The right of the client to appeal to the court is not violated.

3. Prices of cross-frontier transfers

Cross-frontier transfers, however, only those which are denominated in EURO and Swedish crowns, except the law on the system of payment are modified also by the Enactment no. 2560/2001/ES, which is the part of the Czech system of law.

The Article 3 of this enactment establishes the principles of equality of prices for domestic and cross-frontier payment operations:

- 1) With force from July 1, 2002 prices charged by institutions for cross-frontier electronic payment operations provided in EURO up to the amount of 12 500 EURO are the same as prices charged by the same institution for corresponding payments in EURO carried out in the member state in which the institution carrying out the cross-frontier electronic payment operation is settled.
- 2) With force from July 1, 2003 this enactment is valid for all cross-frontier transfers, regardless to the form of giving the transfer order.
- 3) With force from January 1, 2006 the amount of 12 500 EURO increases to 50 000 EURO.

For the practical transaction of the cross-frontier system of payment it is important the provision of Article 5 par. 2 of the Enactment, which sets that the bank can charge additional prices provided the client does not use IBAN (International Bank Account Number) of the beneficiary and BIC (Bank Identification Code – swift code) of the beneficiary's bank. IBAN is an international standardized format of the account number and its implementation supports making the foreign system of payment and its automation more efficient. The Code BIC serves for the correct routing of payments in the international system of payment.

3.1 Price of cross-frontier transfers in the CR

Prices for cross-frontier payments in EURO are not in any way related to prices for domestic payments in Czech crowns. However, it is the reality that approximately 70% of accepted and transmitted foreign payments is denominated in EURO and a decrease of related charges has importance for clients and mainly for small and middle enterprises trade intensively with foreign partners. The condition is not to exceed the sum of 12 500 EURO in one payment and correct setting of codes IBAN and BIC.

Československá obchodní banka decided as the first to accede to advantaging this category of payments, Komerční banka and Česká spořitelna

followed. In the course of the year 2005 other banks joined gradually. From the chart 1 it is obvious that not all the banks did so and the difference in charges charged in single banks is so distinctive.

Some banks, namely Česká spořitelna, ČSOB, GE Money Bank, Komerční banka and Raiffeisenbank, define types of transfers, to which price advantaging applies, by the comment in the price list.

Table 1 Prices of cross-frontier transfers of chosen banks

<i>Bank</i>	<i>Position of a client</i>	<i>Charge [CZK]</i>	<i>Price of the transfers of the sum 12 500 EURO</i>	
			<i>[CZK]</i>	<i>[EURO]</i>
<i>Citibank</i>	ordering customer	1% (min. 300,- max. 2 000,-)	2 000,-	66,70
	beneficiary	free of charge	free of charge	free of charge
<i>Česká spořitelna</i>	ordering customer	220,-	220,-	7,30
	beneficiary	100,-	100,-	3,30
<i>Československá obchodní banka</i>	beneficiary	250,-	250,-	8,30
	beneficiary	150,-	150,-	5,00
<i>eBanka</i>	ordering customer	1% (min. 200,- max. 1 500,-)	1 500,-	50,00
	beneficiary	1% (min. 100,- max. 1 000,-)	1 000,-	33,30
<i>GE Money Bank</i>	ordering customer	220,-	220,-	7,30
	beneficiary	220,-	220,-	7,30
<i>HVB Bank Czech Republic</i>	beneficiary	250,-	250,-	8,30
	beneficiary	200,-	200,-	6,70
<i>Komerční banka</i>	ordering customer	225,-	225,-	7,50
	beneficiary	225,-	225,-	7,50
<i>PPF banka</i>	ordering customer	1% (min. 200,- max. 1 200,-)	1 200,-	40,00
	beneficiary	1% (min. 100,- max. 1 000,-)	1 000,-	33,30
<i>Volksbank CZ</i>	ordering customer	1% (min. 300,- max. 1 700,-)	1 700,-	56,70
	beneficiary	0,5% (min. 100,- max. 750,-)	750,-	25,00

<i>Raiffeisenbank</i>	ordering customer	220,-	220,-	7,30
	beneficiary	220,-	220,-	7,30
<i>Živnostenská banka</i>	ordering customer	0,8% (min. 200,- max. 1 500,-)	1 500,-	50,00
	beneficiary	1% (min. 200,- max. 1 500,-)	1 500,-	50,00

Source: Tariffs of mentioned banks.

Commentary to the Table:

- 1) *For the calculation it is used approximate conversion 1 EUR= 30 CZK (even on ten cents).*
- 2) *Data are taken from the price list of in October 2005. There are charges for transfers ordered by the bank offered forms of direct banking.*
- 3) *In case of different rates in dependence on the size of the client and dividing expenses between the ordering customer and the beneficiary the chart shows charges for natural persons, respectively small and medium firms with the variation SHARE.*

4. Issuing and using electronic means of payment

The third part of the Law implements in the introductory stated European legal regulations. Principles and rules included in the Recommendation 97/489/ES are included in the Exemplary business conditions of the Czech National Bank (Česká národní banka), which contain the adjustment of mutual rights and obligations of issuers and holders at issuing and using electronic means of payment. Exemplary business conditions do not have the character of legal regulations, but recommendations of the central bank issued by it with the aim of increasing the protection electronic means of payment holders. In the introductory provisions of its business conditions the insurer is obliged to inform explicitly whether the conditions correspond to exemplary business conditions of the Česká národní banka, and what is the content of possible divergences.

4.1 The holder's responsibility

The article VIII of Exemplary business conditions of the Česká národní banka determines the holder's responsibility for financial losses suffered in consequence of loss or theft of the electronic means of payment. It sets the deductible limit of the holder on the existing financial loss and also the moments of the transfer of responsibility from the holder to the issuer of electronic means of payment. Specifically this problem is solved by the Exemplary business conditions of the ČNB as follows.

- 1) The holder bears the responsibility up to the moment of reporting loss or theft that is in maximum up to the amount of 4.500Kč. In case when the

holder committed gross negligence, he violated contractual obligations or dealt fraudulently bears loss with in full amount.

- 2) The holder does not bear any responsibility after the moment of reporting loss or theft of electronic means of payment, with the exception of cases, when he acted fraudulently.

As it is obvious from the chart, mentioned banks limit in various ways the moment of the transfer of the responsibility from the client to the bank. Some banks prolong the interval of the client's responsibility even after the moment of receiving the report of loss or theft of the card. They all accord in the fact that to the decisive step the client bears the responsibility for loss in full extent. Identically they also insist on the fact that the owner bears all responsibility for transactions carried out by lost, stolen or misused card provided PIN was used at these transactions.

Table 2 The moment of transfer of the responsibility from the client on the bank

<i>Bank</i>	Responsibility transfer
<i>Citibank</i>	To the moment of reporting loss or theft of the card in full amount. In case of an electronic card then even to passing one hour after reporting loss or theft, again in full amount.
<i>Česká spořitelna</i>	Till the moment of reporting the card into the file of bans.
<i>ČSOB</i>	Immediately after the telephone announcement with the exception of transactions at which the transaction time from the receipt or from the authorization systems is not ascertainable. At this type of transactions the responsibility of the account owner expires at 24:00 hours of the day when the event was reported by phone.
<i>eBanka</i>	In case of the credit card Maestro/Elektron in the course of an hour after reporting loss or theft. In case of the credit card Standart/Classic, Business or Gold till 24:00 hours of the day of reporting loss or theft.
<i>GE Money Bank</i>	Till the moment of reporting theft or loss of the card in full amount.
<i>HVB Bank Czech Republic</i>	<i>Till the end of the day in which he bank received the instruction carrying out the blockage of the card fulfilling al specified requirement.</i>
<i>Komerční banka</i>	Immediately after receiving the order for introducing the card oh the stop list of the KB head office, except the transaction at which the transaction time is not ascertainable from the receipt or from the authorization systems. At this type of the transaction the cardholder bears the risks of damage until the following calendar day (that is till the midnight of the day of reporting loss/theft).
<i>PPF banka</i>	Identically with the ČSOB.

<i>Volksbank CZ</i>	After passing the calendar day in which the theft or loss was reported. At credit cards MasterCard the cardholder deductible even for the transaction carried out after reporting loss/theft of the card that is in the amount set by the Scale of charges up to 10.000, -Kč.
<i>Raiffeisenbank</i>	Till the moment when theft or loss or misuse of the card was invincibly reported. .
<i>Živnostenská banka</i>	By the beginning of the calendar day which follows the day in which theft or theft of the card was reported to the bank..

Source: Business conditions of the bank

5. Law on the financial arbitrator

The institution of the financial arbitrator of the Czech Republic is a special body out of court settling conflicts, which can occur between providers of the system of payment services and their clients or between the issuers and users of electronic means of payment. It was established within harmonisation of the law of the Czech Republic with the European Union countries, as the Directive no. 97/5/ES on cross-frontier transfers requires ensuring rapid and effective settlements of clients' conflicts with transferring institutions by extra judicial way. The objective is a higher protection of a client – a user. Member states of the European Union and other states (USA, Canada, Australia) have ombudsmen and other extra judicial bodies and institutions with variously broad competence and responsibility.

The Law no. 229/2002 COLL. on the financial arbitrator was amended by the Law no. 558/2004 Coll. with the legal force from January 2005. In his activity the financial arbitrator is bound by the Law no. 124/2002 Coll., on transfers of finances, electronic means of payment and the system of payment (the Law on system of payment).

The financial arbitrator decides about arguments occurring between institutions and their clients. They are conflicts occurring at implementation of domestic and cross-frontier system of payment and conflicts between holders and issuers of electronic means of payment. Especially it concerns abidance of by the law provided terms and conditions for accounting of single system of payment transactions. The amendment of the Law on the financial arbitrator extended its force on adjust accounting and the collection form of payment on the territory of the Czech Republic which are modified by implementery legal regulations to the Law on the system of payment, namely by the Edict no. 62/2004 Coll., by which the way of providing the system of payment between banks, accounting on the accounts of banks and technical procedures at adjust

accounting is set. From the Law the financial arbitrator is authorized to solve conflicts at cross-frontier transfers up to the equivalent amount of 50 000 EURO. This competence of his began to be valid by the moment of the entry of the Czech Republic to the European Union.

The advantage of the client at making the complaint at the financial arbitrator is quick and simplified hearing. From the Law it implies among others the obligation to provide the submitter with the right to lead the proceedings in the language in which his contract was drawn and which was used in the mutual contact between him and the transferring institutions, namely an insurer of the electronic means of payment. Proceedings between the financial arbitrator is free of charge. Only expenses on interpreting and translating are paid by the aggrieved transferring institution. Other expenses of the proceeding before the financial arbitrator are born by every party separately. On the request of the submitters the financial arbitrator gives them help at drawing, submitting or completing the petition.

5.1 Results of the activity of the financial arbitrator

In the year 2004 the financial arbitrator solved altogether 130 cases compared to 66 cases solved in the year 2003. In the year 2004 the number of justified cases increased to 77 cases compared to the previous year, when there were only 27. In the year 2004 the financial arbitrator issued 42 findings in total from which whole 69%, that is 29 findings, were issued for the benefit of the institution. Remaining 31%, that is 13 findings, were issued for the benefit of the submitter.

Table 3 Justified cases solved by the financial arbitrator

Spheres of conflicts of solved cases	2003	2004
<i>Finances transfer</i>	9	18
<i>Misuse of electronic means of payment total</i>	18	59
<i>from that - using electronic means of payment in ATM</i>	--	28
<i>- using electronic means of payment by businessmen</i>	--	19
<i>- other problems with electronic means of payment</i>	--	12
Total	27	77

Source Annual reports of financial arbitrator years 2003, 2004

6. Conclusion

It is obvious that acceptance of new regulations and amendment of existing ones governing the sphere of system of payment services, brought many beneficial changes, evoked especially by the obligation of the Czech Republic to harmonize the system of law with the law of the European Union. Especially the level of transparency of offered services increased and the legal position of the client when using these services was reinforced. Also certain financial benefits of clients indirectly resulting from this process were recorded. On the contrary the degree of the client's responsibility for financial losses resulting in connection with misusing electronic means of payment remains relatively high.

References

- [1] CITIBANK a.s., List of charges, Business conditions:
<<http://www.citibank.cz/czech/consumer-banking/czech/files/cenikone.pdf>>
<<http://www.citibank.cz/czech/consumer-banking/czech/files/obpodmzcz.pdf>>
- [2] ČESKÁ SPOŘITELNA, a.s., List of charges, Business conditions, :
<<http://www.csas.cz/banka/application?pageid=downloads&slnod=161&tree=banka&navid=nav00034 Podnikatele>>
<http://www.csas.cz/banka/application?namespace=main&origin=display.jsp&event=link.display_binary&tag=href&portal=internet&lang=cs&docid=5300/Soubory_pro_stazeni/OP_DK_151005.pdf>
- [3] ČESKOSLOVENSKÁ OBCH. BANKA, a.s., List of charges, Business conditions:
<http://www.csob.cz/ps/sazebnikP.asp?prmKod=PS7&segment_sme&tblTyp=3002>
<<http://www.csob.cz/ps/clanek.asp?prmKod=PS8.2.10&a=0>>
- [4] eBANKA, a.s., List of charges, Business conditions:
<http://www.ebanka.cz/index_FF_1.htm>
<http://www.ebanka.cz/formularePDF/001040_podminkyProVydaniPK.pdf>
- [5] EVROPSKÁ KOMISE. Finanční instituce – Záležitosti maloobchodního sektoru a platební systémy: Komentář k praktickým aspektům provádění článku 3 Nařízení číslo 2560/2001 a k pojmu „korespondující platby“ u kreditních převodů.
- [6] GE MONEY BANK, a.s., List of charges, Business conditions:
<<http://www.gemoney.cz/ge/cz/002/001/010/001?id=VI>>
<<http://www.gemoney.cz/documents/cz/VOP.bank.pdf>>

- [7] HVB BANK CZECH REPUBLIC a.s., List of charges, Business conditions:
 <<http://www.hvb.cz/sazebnik/podnikatel/3.asp>>
 <http://www.hvb.cz/cz/pages/form_find.asp?produkt=4>
- [8] KOMERČNÍ BANKA, a.s., List of charges, Business conditions:
 <<http://www.kb.cz/cs/inf/sitemap.shtml>>
 <http://www.kb.cz/file/cs/inf/service_agreement/KB-podminky_prime_bankovnictvi.pdf>
- [9] NAŘÍZENÍ EVROPSKÉHO PARLAMENTU A RADY (ES) číslo 2560/2001 o přeshraničních platbách v eurech.
- [10] PPF BANKA a.s., List of charges, Business conditions:
 <<http://www.ppfbanka.cz/index.php4?screen=50#d2>>
 <http://web.ogilvyinteractive.cz/ppfbanka/files/priloha_c_5_obchodni_podminky_platebni_karty.pdf>
- [11] RAIFFEISENBANK a.s., List of charges, Business conditions:
 <<http://www.rb.cz/>>
 <http://www.rb.cz/Files/Dokumenty/Obchodni_podminky_pro_debetni_platebni_karty.pdf>
- [12] SCHLOSSBERGER, O. Banky a platební styk před vstupem do EU. Některá zamyšlení nad hmotnou úpravou platebního styku. Bankovníctví 4/2004, str. 32 – 33.
- [13] SMĚRNICE EVROPSKÉHO PARLAMENTU A RADY č. 97/5/ES o přeshraničních převodech aktiv.
- [14] VĚSTNÍK ČNB, částka 18/2002: Vzorové obchodní podmínky pro vydávání a užívání elektronických platebních prostředků.
- [15] VĚSTNÍK ČNB, částka 10/2004: Výklad k vybraným ustanovením zákona o platebním styku.
- [16] VOLKSBANK CZ, a.s., List of charges, Business conditions:
 <<http://www.volksbank.cz/vb/jnp/cz/home/index.html>>
 <http://www.volksbank.cz/vb/jnp/cz/o_bance/vseobecne_obchodni_podminky/cz-o_bance-vseobecne_obchodni_podminky-vseobecne_obchodni_podminky.html>
- [17] VYHLÁŠKA ČNB č. 62/2004 Sb., kterou se stanoví způsob provádění platebního styku mezi bankami, zúčtování na účtech u bank a technické postupy bank při opravném zúčtování.
- [18] Výroční zprávy finančního arbitra r. 2003, r. 2004.
- [19] ZÁKON č. 124/2002 Sb., o převodech peněžních prostředků, elektronických platebních prostředcích a platebních systémech (zákon o platebním styku). Ve znění změn podle zákona č. 257/2004 Sb.
- [20] ZÁKON č. 229/2002 Sb., o finančním arbitrovi.
- [21] ZÁKON č. 558/2004 Sb., kterým se mění zákon č. 229/2002 Sb., o finančním arbitrovi.

- [22] ŽIVNOSTENSKÁ BANKA, a.s., List of charges, Business conditions:
<http://www.zivnobanka.cz/sazebnik/sazebnik_sb/O3_bezhotovostn_platbni_styk.html#3_2Zahranicni_platbni_styk_v_Kc_a_tuzemske_platby_v_CM>
<http://www1.zivnobanka.cz/retail/download/Podminky_debetni_karty.pdf>
- [23] ŽLEBKOVÁ, M. Přeshraniční platební styk po vstupu do Evropské unie. Bankovníctví 5/2004, str. 26 – 27.

NEW ASPECTS REGARDING THE IT BASED BANKING TECHNIQUES IN ROMANIA

Mariana Vlad

The “Ștefan cel Mare” University of Suceava
Faculty of Economic Sciences and Public Administration
Department of Finance and Accounting
University Street, no. 9
720225 Suceava
Romania
e-mail: marianav@seap.usv.ro
telephone: +40230216147

Abstract

The book keeping is presently IT based, including the correspondence with the clients. The traditional tools are also IT based and new techniques are emerging such as: the ATM and home banking. The beginning of the 3rd millennium is highly influenced by the expansion of the Internet used as tool for communication affecting also the relations between the banks and their clients. The lack of a banking service represents a handicap for the banks intending to gain corporative clients and, in the perspective for those specialized in development of retail services. As banks expand their service channels to include Internet service, call centers, and mobile banking through wireless devices, they can easily be drawn into piecemeal solutions which impose a penalty in quality of service and in cost of deployment. There is a strong competitive advantage in acquiring solutions that integrate the channels used and enable a unified management view of customer interactions for all bank services.

Keywords: *IT Banking, Romania, ATM, home banking, Internet banking*

1. Introduction

Credit institutions through their activities are offering a wide range of banking products and services so that a better mobilization of the temporary available capitals in economy should be achieved followed by their transformation in borrowed capital.

The banking product represents the basic element of the bank's activities and operations, its lack leading to the elimination of the credit institution itself. The credits and the bank deposits are the main banking products, used by the credit institutions to borrow capital.

Banking services are completing the banking products as their components in the operations accomplished by the banks at clients' request such as: accounts receipts and payments, currency operations, etc. or are independent of the capacity of banking product such as financial-economics consulting operations.

The separation between the two banking assets, products and services, imposes from the point of view of the understanding the credit institutions within the economic and financial system as well as from the point of view of the interpretation and assessment of the activities and the functioning of the credit institutions in economic environments. The products of the bank (the banking products) are offered by the banks to their clients and the services are the goods requested by the clients to the credit institutions.

The range of the banking products is very wide, some of these being given as an example in that follows:

- Loaning short, medium or long time secured credits, for the needs of the clients, of the economic agents or the natural persons;
- Formation of the sight, notice or collateral deposits;
- The placement of stocks and shares
- The release of the deposit certificates or savings books
- Performing the carrying over operations with titles of the financial market, etc.

As being banking services some operations are included:

- Operations in current accounts, transfer settlement
- The emission and the acceptance of the payment documents;
- Currency services

- The emission and the acceptance of coverings
- The emission of the banking guarantee letters on different purposes
- Banking and financial consulting
- Credit card issuing

The diversification of the banking products and services is determined mainly by the subjects to who are addressed to: natural persons, legal persons, financial institutions other than banks, other credit institutions and the state. Comparing the credit conditions for natural persons and those for the legal persons, one can say that for the latter there is no standardization. Generally, the time interval for what the credit is loaned, the amount of money and the grace period are depending on the credit time length: short, medium or long time credit.

Specialized credit institutions offered a single product or banking service till now, presently are diversifying continuously their activities, offering new products and banking services to better meet the needs of the clients. Also, there are attempts to penetrate new markets where previously the credit institutions had no access. The credit institutions, similar to any other institutions, are expecting short-time results, the development being imposed by new client segment conquest and the reordering of the items that are implied in profit.

Given these conditions, the signals coming from the clients and the potential business partners of the credit institutions, the intensification of the competition have reoriented the activities towards new products and banking services such as: leasing, factoring, the credit account, monetary cash money transfer, inter-banking compensation, client's reliability assessment services, bank deposits and credits for pupils, the transmission of information using modems, phone and computer banking services, etc.

Despite all affirmed above, the products and banking services very present in the activity of a bank are: the credits, the bank deposits, the incomings and payments in accounts, performance bonds, currency operations, deposit certificates or savings book. The increase of nongovernmental loaning in the products portfolio addressed to the clients by the credit institutions operating on Romanian market meant a diversification of the loaning. The balance sheet for the first 6 months of the year 2003 shows that, for the structure of the credits loaned in the Romanian banking system, the main credits are the consumer credits, loaned to the economic agents for the usual activities followed by those for the industry and service companies. The private sector receives 75% from all credits and 25% goes to

the state companies. The highest growth rate is recorded for the real estate credits. From the dynamics point of view but also as percentage in the structure one can notice that the interest of the credit institutions is to loan the building and trading domains.

The credit institutions cannot elude the problems of the financial equilibrium. The increase of the interest caused by the inflation, obtaining the resources and using the placements are redefining the management techniques and also sectors of the banking strategy.

In competition conditions, the fight is engaged within the banking market mainly on the clients generating high interest and commissions.

The last studies made by National Bank of Romania regarding the internal market of banking services and products have shown that a part from the bank offer is at a basic stage of development as follows: investment credits, agricultural credits, the credits for Public and Local Administration, credits for Small and Medium Sized Enterprises and derivative financial instruments.

2. Factors that are slowing down the development of banking services and products

The credit institutions are facing presently with some factors that are slowing down the development of the services and banking products such as:

The instability of the macro economical environment, impeding the activities of the economic agents and therefore of the credit institutions in assessment the business plans with a low degree of credibility from the point of view of the creditor.

The legal inadequate environment has a negative impact on the financing activity

The behavior of the participants on the market: lack of transparency regarding the real situation of the patrimony of the economic agents, the low level of the background in economy and especially in banking of the effective and potential consumers, the inexistence of professional background of the credit institution's personnel impedes the achievement of a highly efficient communication between the two parts;

The macro economical instability has impeded the long time assessment of the results that will be generated by the investments for what credits are requested, leading to the limitation the possibility to loan credits for investments under high security conditions. The volatility of the economy, the uncertainties related to the correct assessment of the

RON/USD, RON/EUR exchange ratio, high levels of the interest rates represented major obstacles in the augmentation of the credit portfolio for medium and long term. The unfavorable macro economical conditions have an impact on the credit institutions regarding the medium and long term deposits in national currency that generated the decrease of the credit financing sources volume for the investments, credits loaned in national currency and of the mortgage credits. The main factors that contributed to the decrease of the number of credits for the agriculture were, principally, the low efficiency and productivity in agriculture, the delayed reformation of this sector, but also the very poor implying of the state in the unfavorable situations. Also, one can notice a poor representation in the offer of the credit institutions of the long term credits loaned to the SMSE, having as possible causes the macro economical instability (the inflation rate), the high degree of uncertainty regarding the life expectancy of the SMSE and the lack of the long term financing sources.

The presence of an undeveloped legal environment and also of costly and time consuming legal procedures for the recovering of the claims through the execution debt enforcement has a negative impact over the funding activity. The inexistence of a legal protective environment for the credit institutions in the case of the guarantees compulsory sale, the high amount of time and slow procedure to force sale collateral stopped the mortgage credits. The mortgage credit weight in the total amount of the credits loaned by the credit institutions has recorded very low levels due to some limitations imposed by the law, as follows: the computing method of the reference index of the interest for the mortgage credits had to be established by the Government, fact that never materialized, thus the mortgage credits were loaned in national currency only and the minimum term for the population was 10 years. These malfunctions have been solved through a government resolution for the changing of a law referring to the mortgage credit for the real estate investments. The approval of the law package due to that the agricultural producers took benefit of credits with the interest supported by the state had a negative impact over the evolution of the agriculture credits.

It has been observed that among the most important factors that have stoooped the development of the products and banking services is the behavior of the market competitors.

The credit institutions are not willing to face with the risks resulting from the medium and long term credits, preferring to loan short term credits. Usually, short term credit refers to the funding of the current activity of a company and those with medium or long term are reserved for the investment funding. The lack of long term crediting resources determined the apparition in the balance sheets of a miscorrelation among the maturity of the mortgage

credits (generally long and medium term credits) and the funding sources of those credits (mainly short term sources such as banking deposits having the due term within 1 year).

The existence of this miscorrelation implies the bank to assume high risks, especially referring to the interest rate risk and liquidity risk, justifying the prudence of the credit institutions in loaning mortgage credits.

In addition, the investment plans and reliability studies presented to the credit institution are not properly made and aren't taking into account all the investment costs, thus influencing the sizing of the financial resources needed to implement the investment projects. Under this conditions the banks are preferring to train and use their own raters in order to analyze the feasibility of the businesses and to asses the mortgage guarantees of the credit applicants and to offer consultancy services to the clients, that implies supplementary costs (for the investment credits or mortgage credits). The availability and the volume of the credit financing funds depends on the agreements between the Romanian credit institutions and the international financial institutions (BERD, BEI, PHARE), the majority of the credits of the type being sustained through external financing, implying supplementary eligibility conditions for the final beneficiaries (activity sector, the duration of the projects, co-financing percentage) and much rigorous assessments made by the banks. For instance, the crediting programs for the SMSE aren't unreled by all the branches of a credit institution. These limitations of the banking infrastructure are hardening the access of the SMSEs to this financing manner, generating in some geographical areas a lack of competition among offerers with direct implications over the crediting cost supported by the SMSEs. The credit institutions are facing with a crisis of information referring to the business behavior of the clients, situation which is generated especially by the inexistence of the records describing the prior relations with creditors.

On the other hand, the clients of the credit institutions are reticent referring to the credits, due to the following aspects: high interest rates, low level of the banks popularity in Romania, the majority of the business community considering the banks not being potential partners and consultants.

3. Measure to be taken in order to stimulate banking activity

Starting from the causes that are slowing down the development of the services and banking products, the National Bank of Romania identified the possible measures to be taken in order to stimulate the banking activities, such as:

- The acceleration of the reform in the real sector of the economy so that the healthy weight of the economy to increase, the only part that can be credited by the credit institution in safety conditions;
- The modification of the legal environment in order to protect to a greater extent the rights of the loaners
- The increase of the training in economics of the persons that request the loaning of a credit, developing the training centers for entrepreneurs and the programs offering consultancy in order to elaborate business plans to loan credits
- Taking drastic measures in order to penalize banking frauds, taking into consideration the impact of those frauds over the banking system;
- The improvement of the macro economic system, under predictable conditions, so that the degree of thrust of the business plans to increase from the point of view of the funding person as well as from the point of view of the beneficiary and the funding to be carried on under high security conditions.
- The increase of the competition in the banking system and the finalization of the privatization for the banks suited for this process

The attitude of credit institution on the market, under the conditions of high competition among banks must be offensive and not be limited to the passive expecting of the demands of the clients but to promote constantly new products and banking services. Through the extension of a range of such products and services, the credit institution will be able to respond much better to the options of the economic agents, evolving in connection with the market demands.

Breaking of new banking products has on the basis studies, information referring market situation, the conditions under what the credit institution, that offers the product, carries on the activity. A determination of the capability of the credit institution to use at maximum its capacity to make this product and to sell it has to be done. The promotion of new banking products implies a very complex activity including the digitization of the accounting information, products trading, attracting a high number of clients, promoting using advertising of a favorable image. In addition it is necessary to establish the priorities lying at the basis of the activity of the credit institution with new products and banking services. These priorities refer to

the profit, the degree of satisfaction of the clients, the risk, the quality of the products and impose the reorganizing of the functional structure and the increase of the capacity to react to changes.

4. New banking products in Romania

Much and much credit institution are intending to extend their crediting activities by means of new instruments such as the credit cards. This market has a huge potential of development. It till 2002 were only five card types issued by four credit institution, now there are eight types of such instruments, issued by seven credit institutions. The potential of the market is the main reason that determined other credit institutions to include new products in their offer.

The year 2003 affected the overall market cards, the number of the cards in Romania being twice greater than the cards issued in 2002. Despite all these, from the total of 4,2 million cards, only 200.000 are credit cards.

In Romania, there are several payment systems with cards having magnetic stripes or chips, such as:

- The CardAvantaj card (with magnetic stripe) issued by the Finansbank bank (Romania), card with a loyalty program, allowing shopping from the Bucuresti Mall complex store, the credit being covered in monthly rates.
- The chip PetromCard card, issued by the Petrom company, dedicated to the legal persons (company card). With this card you can buy gas only from Petrom oil station.
- The Fill&Go card issued by the Rompetrol company is a credit card with chip and pin code for the legal persons carriers which can buy gas, products and services only from Rompetrol stations, within the framework of much complex service package.

On the other hand, all card operations are financial loss risk generators, frauds and disputes over the transactions.

The financial loss risk appears to all the actors implied in a card transaction: the card owner, the trader, the issuing bank and the bank that accepted the card.

Current frauds are: using a lost or stolen card, the cloning of the card, on purpose denying of the transaction or the denying that the person has received the product. Frauds can be generated also by the personnel of the

bank that has access to confidential data and can use this data in order to clone cards or to obtain a different identity.

In the present days, only 5-10 percent of the card owners from Romania use these payment instruments to buy from the goods. If the cards are not going to be used the card will be an investment not very rewarding.

In order to support the use of the credit card as payment instruments, the government of Romania took a series of decisions, for instance the resolution no. 193/2002 that stipulates that economic agents that are supplying services of public interest, the public institutions that are cashing impositions, taxes, surcharges, interests, penalties and other payment obligations, and also the traders with turnover greater than 1000.000 euros are forced to accept cashing through debit cards and credit cards from the natural persons.

Even if Romania is high in the top of the credit card owners, having a 15% quota, a full development is estimated in the following 3 or 4 years.

In Romania, in the year 2003, the number of Internet users represented 24% of population, the number of PCs was 2,1 millions and the number of Internet services providers is 400. These data indicates the existence of an impressive infrastructure capable to offer the services needed for the development of the e-Commerce in Romania.

The payment instruments used in electronic commerce are the bank cards, electronic drafts, electronic credit letters and electronic transfer orders.

The e-Commerce developed in Romania in the last few years having two main forms:

- Internet products traders with the payment on delivery: impose the existence of a product catalogue with descriptions and prices, each client having a shopping basket. The products are delivered at home and the payment is done at the delivery of the products with cash, draft, banking transfer, using cards, using mobile POS, etc. This is the first form of electronic commerce that was used in Romania.
- Traders accepting real time card payments using 3-D Secure protocol. In order to be able to use this system, the traders must underwrite an Internet trader contract with a bank and the owners of the cards issued by the Romanian banks willing to use shop anywhere in the world using these system, must be registered in the system.

The year 2003 marks the apparition of the remotely accessed payment instruments, such as internet – banking and mobile banking, allowing the clients to use from distance the services of the credit institutions. Presently, 19 banks have 1 year authorizations for the use of remotely accessed payment instruments; other 2 banks have temporary authorizations. The offer is often varied the client being able to choose the most advantageous solution for his needs, taking into account the status of legal or natural person. Through these remotely accessed payment instruments the clients save time and money, performing operations that are usually made on the spot but with commissions 50% smaller.

Internet banking is a service available to every person, allowing to perform banking operations through Internet. The service is made especially for the natural persons and it's offered free of charge by the majority of the credit institutions.

In order to use this service the Internet site must be accessed and the option Internet banking has to be chosen.

The vast majority of the firms prefer the home-banking services, because it allows to many people within the same company to use the service, having different access levels. To benefit from this service the firms must have a direct connection with the credit institution through a regular phone line or through a modem.

Mobil banking is a service that allows the user to obtain financial-banking related information, no matter the day or the hour of the day, using only the mobile phone, the user not being forced to go to the credit institution, to an ATM or forced to use a computer connected to the Internet. For the activation of this service an adaptation of the mobile phone is needed, that implies the replacement of the SIM card a contract with the credit institution that offers the service.

5. Conclusions

The credit institutions offering presently almost the whole range of products that can be commercialized, products adapted to the development stage of the local economy. From the clients point of view the Romanian banking market is limited. There are still a lot of Romanians that are not working with the banks. The explosive development of the loaning especially of the consumer credit is a sign of development of the consumer society.

The diversification of the product and banking services offer in order to cover the whole range of needs of the economic agents, no matter there the size of the enterprises (corporations or small and medium sized enterprises) is a constant preoccupation for the credit institutions. Given, on the one hand, the complexity of the offer for legal persons and on the other hand the increase competition among the credit institutions operating on the market with services for natural persons, the credit institutions focused on the latter.

References

- [1] BERHECI, I. *Contabilitatea societăților bancare*, Sedcom Libris, Iași, 2003.
- [2] BEREĂ, A. O., STOICA E. C. *Creditul banca-coordonat, actualitate și perspective*, Expert Printing House, Bucharest, 2003.
- [3] MANOLESCU, GH. SÂRBEA, A., *Management bancar*, Publishing house Editura Fundației România de Măine, Bucharest, 2001.
- [4] TUDORACHE, D. *Monedă, bănci, credit*, Sylvi Publishing House, Bucharest, 2003
- [5] VASILACHE, D *Plăți electronice-o introducere*, Rosetti Publishing House, Bucharest 2004.
- [6] *** BNR, *Studii 2003*
- [7] ***Capital, January 2002-October 2003

E-BANKING IN SLOVAK COMPANIES

František Sudzina

University of Economics in Bratislava
Faculty of Business Economics in Košice
Department of Management
Tajovského 13
04130 Košice
Slovakia
e-mail: sudzina@euke.sk
telephone: +421 55 6223814 ext. 252

Monika Bačová

University of Economics in Bratislava
Faculty of Business Economics in Košice
Department of Economics
Tajovského 13
04130 Košice
Slovakia
e-mail: bacova@euke.sk
telephone: +421 55 6223814 ext. 265

Abstract

The increasing presence of the Internet in every day's life changes the way business, including banking, is done. This applies also to the business practice in Slovakia. The aim of the article is to present the research results of the e-banking usage in Slovak companies in years 2003 and 2004. It was measured on the sample of 117 companies in 2003 and on the sample of 390 companies in 2004. The research was conducted by means of questionnaires. The usage was studied according to the company size (measured by the number of employees) and in year 2004 also by sectors and legal form of companies. Their impact on the e-banking usage was analyzed by the logistic (multinomial) regression. Both bivariate and multivariate approaches were used. The article offers some possible explanations of the results and ideas for the further research.

Keywords: *e-banking; empirical research*

1. Introduction

The Internet is still more present everywhere including Slovakia. Its increasing presence changes also the way business is done. The banking is no exception. More on payment systems can be found e.g. in (Delina, Vajda, 2005, pp. 100-116). The euphoria witnessed towards the end of last decade surrounding the use of the Internet in service provision was based primarily on the notion of infinite scalability (the ability to serve increasing numbers of customers at low incremental costs). This notion justified high valuations of Internet firms from venture capitalists. E-banking within the information-based environment of financial services made infinite scalability appear even more promising compared to other types of e-commerce.

The often unrealistically optimistic projections regarding Internet use, however, led to the dot.com shakeout that came with the dawn of the new millennium (Mahajan, Srinivasan, ind, 2002). One example for such a dot.com failure is the Irish internet-only bank “first e” that filed for bankruptcy at the end of 2001 with the customers being unable to access their money for days. In the US, at the end of year 2000 only 19 % of the US commercial banks and savings institutions offered e-banking services, a number that shrank even further in 2001.

However, a number of success “survivor” stories make it clear that e-banking is here to stay. What is needed are new business models that suit the new business environment. The Internet has become a part of everyday life with tens of millions online every day engaging in various Internet activities, 50 % of which include e-commerce. (See a special issue of *American Scientist*, 2001, and of *Communications of the ACM*, 2001, for trends and statistics.)

The article presents the research results of the e-banking usage in Slovak. The research was conducted by questionnaires on the sample of 117 companies in years 2003 and on the sample of 390 companies in 2004. The usage was studied according to the company size and in year 2004 also by sectors and legal form of companies. Their impact on the e-banking usage was analyzed by the logistic regression in case of one factor and by multinomial regression in case of more than one factor. Both bivariate and multivariate approaches were used.

2. E-banking usage in Slovak companies

The impact of several factors on e-banking usage will be discussed in the following subchapters. The factors are company size (measured by the number of employees), sectors and legal form of companies. The test and

confidence intervals are calculated and interpreted on the confidence level $\alpha = 0.05$. The confidence intervals are not symmetric since the exact formula (not the approximation using normal distribution) was used.

2.1 Company size

There are more possibilities to measure company size. Obviously, the simplest one is according to the number of employees. This could be also combined by the profit or the turnaround of the company. Since we tried to keep questionnaires as anonymous as possible and because of the previous experiences, we decided to divide companies only by the number of employees. Actually, there will be presented two divisions throughout the paper. The first one is compatible with the Statistical bureau (tables 1 and 3) and the second one is according to the Slovak law no. 231/1999 (tables 2 and 4).

E-banking usage was measured on the sample of 117 in 2003. The results according to the organizational statistics are presented in the table 1.

Table 1 E-banking by organizational statistics (2003)

	<i>yes</i>	<i>no</i>	<i>percentage</i>	<i>confidence interval</i>
<i>up to 9</i>	12	10	54.55 %	$\langle 32.21 \% ; 75.61 \% \rangle$
<i>10-19</i>	11	6	64.71 %	$\langle 38.33 \% ; 85.79 \% \rangle$
<i>20-49</i>	14	3	82.35 %	$\langle 56.57 \% ; 96.20 \% \rangle$
<i>50-249</i>	30	2	93.75 %	$\langle 79.19 \% ; 99.23 \% \rangle$
<i>250-499</i>	10	1	90.91 %	$\langle 58.72 \% ; 99.77 \% \rangle$
<i>500-999</i>	6	1	85.71 %	$\langle 42.13 \% ; 99.64 \% \rangle$
<i>1000+</i>	11	0	100.0 %	$\langle 71.51 \% ; 100.0 \% \rangle$

Source: Author's calculation

There are statistically significant differences in e-banking usage among the groups in this table (p-value = 0.002 413). These are the differences between the companies with less than 10 employees on the one hand and companies with 50-249 (p-value = 0.001 003) and with 1000+ employees (p-value = 0.012 902) on the other hand. The third difference is between the companies with 10-19 and 1000+ employees (p-value = 0.015 045).

The data as in the table 1, but according to the Slovak law no. 231/1999, are presented in the table 2.

Table 2 E-banking by law no. 231/1999 (2003)

	<i>yes</i>	<i>no</i>	<i>percentage</i>	<i>confidence interval</i>
<i>small</i>	37	19	66.07 %	<52.19 %; 78.19 %>
<i>medium</i>	30	2	93.75 %	<79.19 %; 99.23 %>
<i>large</i>	27	2	93.10 %	<77.23 %; 99.15 %>

Source: Author's calculation

Obviously, statistically significant differences exist also here (p-value = 0.000 638). They are between small companies on the one hand and medium (p-value = 0.003 690) and large companies (p-value = 0.007 219) on the other hand.

The research was repeated in 2004. There were 390 companies in the sample but only 383 of them supplied the number of their employees. The results according to the organizational statistics are presented in the table 3. There are again statistically significant differences between groups (p-value = 0.035 002).

Table 3 E-banking by organizational statistics (2004)

	<i>yes</i>	<i>no</i>	<i>percentage</i>	<i>confidence interval</i>
<i>up to 9</i>	65	25	72.22 %	<61.78 %; 81.15 %>
<i>10-19</i>	49	8	85.96 %	<74.21 %; 93.74 %>
<i>20-49</i>	61	11	84.72 %	<74.31 %; 92.12 %>
<i>50-249</i>	70	11	86.42 %	<77.00 %; 93.02 %>
<i>250-499</i>	19	5	79.17 %	<57.85 %; 92.87 %>
<i>500-999</i>	21	2	91.30 %	<71.96 %; 98.93 %>
<i>1000+</i>	34	2	94.44 %	<81.34 %; 99.32 %>

Source: Author's calculation

These are the differences between the companies with less than 10 employees on the one hand and companies with 50-249 (p-value = 0.025 260) and with 1000+ employees (p-value = 0.007 092) on the other hand.

We may want to compare the differences of e-banking usage also in time. The multinomial regression model with the year and the size is significant (p-value = 0.000 499). But the only significant factor in it is the size (p-value = 0.000 277). The effect of the time is not significant (p-value = 0.316 420).

The same data as in the table 3, but according to the Slovak law no. 231/1999, are presented in the table 4. But the differences between the groups do not seem to be significant (p-value = 0.100 132).

Table 4 E-banking by law no. 231/1999 (2004)

	<i>yes</i>	<i>no</i>	<i>percentage</i>	<i>confidence interval</i>
<i>small</i>	175	44	79.91 %	⟨73.98 %; 85.01 %⟩
<i>medium</i>	70	11	86.42 %	⟨77.00 %; 93.02 %⟩
<i>large</i>	74	9	89.16 %	⟨80.41 %; 94.92 %⟩

Source: Author's calculation

When we use the multinomial regression model with the year and the size, it is significant (p-value = 0.002 157). The only significant factor is the size (p-value = 0.000 865). The effect of the time is not significant (p-value = 0.302 846).

So, in both models there is enough evidence that there are differences in e-banking usage according to the size of the company but there is not enough evidence about the change between years 2003 and 2004.

2.2 Sectors

There was a closed question on sectors in the questionnaire. There were the full names of sectors according to the Slovak classification called OKEČ. The names were shortened in the table 5 in order to fit the table. 380 (out of 390) companies supplied data on the sector.

Table 5 E-banking by sectors (2004)

	<i>yes</i>	<i>no</i>	<i>percentage</i>	<i>confidence interval</i>
<i>agriculture</i>	6	3	66.67 %	⟨29.93 %; 92.51 %⟩
<i>forestry</i>	1	2	33.33 %	⟨0.84 %; 90.57 %⟩
<i>mining</i>	2	1	66.67 %	⟨9.43 %; 99.16 %⟩
<i>industry</i>	74	7	91.36 %	⟨83.00 %; 96.45 %⟩
<i>energy</i>	4	1	80.00 %	⟨28.36 %; 99.49 %⟩
<i>construction</i>	35	11	76.09 %	⟨61.23 %; 87.41 %⟩
<i>commerce</i>	71	18	79.78 %	⟨69.93 %; 87.55 %⟩
<i>transportation</i>	22	3	88.00 %	⟨68.78 %; 97.45 %⟩
<i>finance</i>	9	0	100.0 %	⟨0.00 %; 33.63 %⟩
<i>insurance</i>	6	2	75.00 %	⟨34.91 %; 96.81 %⟩
<i>other</i>	81	17	82.65 %	⟨73.69 %; 89.56 %⟩

Source: Author's calculation

In case we consider the possibility "other" to be a sector, there is not enough evidence that there are statistically significant differences between groups (p-value = 0.055 211). But since "other" represents a mix, we suggest not to include it as a sector. Then there is enough evidence that there are statistically significant differences between e-banking usage by sectors (p-

value = 0.035 407). These differences are between industrial and construction companies (p-value = 0.031 668); between industrial and commerce companies (p-value = 0.049 574).

2.3 Legal form

There was a question on legal form of companies in the questionnaire. 378 (out of 390) companies filled supplied data on the legal form. E-banking usage according to the legal form is presented in the table 6.

Table 6 E-banking by legal form (2004)

	<i>yes</i>	<i>no</i>	<i>percentage</i>	<i>confidence interval</i>
<i>v.o.s.</i>	6	0	100.0 %	⟨54.07 %; 100.0 %⟩
<i>k.s.</i>	1	0	100.0 %	⟨2.50 %; 100.0 %⟩
<i>s.r.o.</i>	158	24	86.81 %	⟨81.02 %; 91.36 %⟩
<i>a.s.</i>	93	12	88.57 %	⟨80.89 %; 93.95 %⟩
<i>cooperative</i>	3	2	60.00 %	⟨14.66 %; 94.73 %⟩
<i>sole entrepreneur</i>	55	25	68.75 %	⟨57.41 %; 78.65 %⟩

Source: Author's calculation

There are statistically significant differences in e-banking usage among the groups in the table (p-value = 0.003 000). These are the differences between the sole entrepreneurs on the one hand and s.r.o. (limited companies, p-value = 0.000 754) and a.s. (publicly traded companies, p-value = 0.001 385).

2.4 Summary

Data from the research conducted in 2004 were analyzed only by the bivariate approach in the previous subsections. Generally, one could expect that the bigger the company the more probably it uses e-banking in conducting business. Maybe someone would expect, since industrial companies have historically more experience with automating their processes, that they will automate also banking in greater extent than companies in other sectors.

And actually, all the factors seemed to be fairly significant. But the factors are not independent. All the commerce companies are small and medium enterprises. Every insurance company and bank has to have a legal form of a.s. Industrial companies are rather large and so on. Therefore it is important to use a multivariate approach to identify the really significant factors.

In case we use the organizational statistics in measuring the company size, the multinomial regression model (data on 276 (out of 380) companies

(rows in data table) because only they supplied all the required information, 97 (out of 276) rows are unique) is significant (p-value = 0.033 229) but none of the factors is significant (p-value of the size = 0.816 450, p-value of the sector = 0.218 832 and p-value of the legal form = 0.129 954).

In case we use the Slovak law no. 231/1999 in measuring the company size, the multinomial regression model (data on 276 (out of 380) companies because only they supplied all the required information, 71 rows are unique) is significant (p-value = 0.015 745) but only the legal form is significant as a factor (p-value = 0.034 595). Other factors are not significant (p-value of the size = 0.842 960, p-value of the sector = 0.178 129).

So, the legal form is probably the main factor influencing the usage of e-banking by Slovak companies. But it has to be noted that only three factors were analyzed. There are certainly many more relevant factors. The suggestion for the future research in this area is to try to add at least the proportion of foreign equity. Because the factor seemed to be about as important as the legal form in the research of decision support system usage (Sudzina, 2005).

3. Conclusion

Since banks all over the world invest billions in the Internet infrastructure (for example Deutsche Bank invests approximately half a billion USD per year), customer satisfaction and customer retention are increasingly developing into key success factors in e-banking. From the bank's point of view, profitable e-banking requires a strong focus not only on the acquisition of new customers but also on the retention of existing customers, since the acquisition costs in online banking exceed that of traditional off line business by 20-40 % (Reibstein, 2002; Reichheld and Scheffer, 2000). Consequently, establishing long-term customer relationships is a prerequisite for generating positive customer value on the Internet.

During the last few years, these findings have led to the development of simple banking web sites into comprehensive e-banking portals offering a great variety of services in addition to traditional bank products and thereby enabling customers to gain financial advice from merely one source. Thus, the user ideally no longer needs to make use of several different web sites. The great variety of portal resources available also creates incentives for longer site visits during each use.

Offering a broad range of financial services and features at one single site has been noted as the most important development in e-banking (Jun and Cai, 2001; Strieter, Gupta, Raj, Wilemon, 1999). According to Jun and Cai

(2001), most Internet banks are still lagging behind their customers' quality expectations. In order to enhance customer loyalty, portals are required to put a strong emphasis on their customers' quality demands, which are steadily increasing over time due to the growing competition in the internet banking industry (Jun and Cai, 2001). Most importantly, loyalty has been recognized as a key path to long-term profitability. These findings hold especially true for the financial service sector, where reducing the defection rate by 5 % can boost profits by up to 80 % (Reichheld and Sasser, 1990).

Our findings suggest that the most important target customer for acquisition in case of Slovakia is a sole entrepreneur since they use e-banking the least (69 % compared to 87 % at s.r.o. and 89 % at a.s.). Other discussed factors are not significant. In case the research is repeated, we suggest adding the proportion of foreign equity as another factor. We assume that the effect of time can be significant in the case of bigger research samples.

Based on what was mentioned before, we suggest to evaluate also the quality of e-banking portals through the customer satisfaction measured e.g. by the Likert scale. This means also adding a question to identify which bank's service is used.

References

- [1] BAUER, H.H., HAMMERSCHMIDT, M., FALK, T. Measuring the quality of e-banking portals. *International Journal of Bank Marketing*. 2005, vol. 23, no. 2, pp. 153-175. ISSN 0265-2323
- [2] BUCKO, J., MIHÓK, P., OROSI, V., VOJTKOVÁ, M. Elektronické bankovníctvo na Slovensku. In *Systémová integrácia 2001*. Demänovská dolina: Slovenská spoločnosť pre systémovú integráciu, 2001, pp. 65-74. ISBN 80-7100-880-X.
- [3] ČEPELOVÁ, A., BRIČOVÁ, Z. Management of change in banking sector. In *Future of the banking V*. Karviná: Obchodně-podnikatelská fakulta v Karviné, Slezská univerzita v Opavě, 2000, pp. 116-123. ISBN 80-7248-085-5.
- [4] ČERNOHORSKÝ, J. Vliv nové ekonomiky na bankovníctví. In *IMEA 2001*. Pardubice: Univerzita Pardubice, 2001, pp. 46-50. ISBN 80-7194-347-9.
- [5] DELINA, R., VAJDA, V. *Asistent elektronického obchodu - Manažérska príručka..* Prešov: Slovenská obchodná a priemyselná komora - Prešovská regionálna komora SOPK, 2005. ISBN 80-89105-21-1.

- [6] JUN, M., CAI, S. The key determinants of internet banking service quality: a content analysis. *International Journal of Bank Marketing*. 2001, vol. 19, no. 7, pp. 276-291. ISSN 0265-2323
- [7] KRAJČÍK, V. Informační a komunikační zabezpečení malých a středních firem. In WEBER, J., SRPOVÁ, J. (eds.) *Podnikání malé a střední firmy*. Praha: Grada, 2004. ISBN 80-247-1069-2.
- [8] LIESKOVSKÁ, V. Vybrané problémy spotřebitelského správania sa na bankovom trhu. In *Marketing služeb v praxi finančních institucí*. Ostrava: Newport University, 1999, pp. 41-44. ISBN 80-86122-44-1.
- [9] MAHAJAN, V., SRINIVASAN, R., WIND, J. The dot.com retail failures of 2000: were there any winners? *Journal of the Academy of Marketing Science*. 2002, vol. 30, no. 4, pp. 474-486. ISSN 0092-0703
- [10] REIBSTEIN, D.J. What attracts customers to online stores, and what keeps them coming back? *Journal of the Academy of Marketing Science*. 2002, vol. 30, no. 4, pp. 465-473. ISSN 0092-0703
- [11] REICHHELD, F.F., SASSER, W.E. Zero defections: quality comes to services. *Harvard Business Review*. 1990, vol. 68, no. 5, pp. 2-8. ISSN 0017-8012
- [12] REICHHELD, F.F., SCHEFTER, P. E-loyalty - your secret weapon on the web. *Harvard Business Review*. 2000, vol. 78, no. 4, pp. 105-113. ISSN 0017-8012
- [13] SOTERIOU, A.C., ZENIOS, S.A. *Delivering e-banking services: An emerging internet business model and a case study. (HERMES Working Paper #02-12)*. Nicosia: HERMES European Center of Excellence on Computational Finance and Economics, 2002. Access from: < http://www.hermes.ucy.ac.cy/Publications/working-papers-2002/02-12_Delivering%20E%20banking_Soteriou_1.pdf >
- [14] STRIETER, J., GUPTA, A.K., RAJ, S.P., WILEMON, D. Product management and the marketing of financial services. *International Journal of Bank Marketing*. 1999, vol. 17, no. 7, pp. 342-354. ISSN 0265-2323
- [15] SUDZINA, F. Využívania systémov na podporu rozhodovania na Slovensku. In *Ekonomika, financie a manažment podniku*. Bratislava: Fakulta podnikového manažmentu Ekonomickej univerzity v Bratislave, 2005, forthcoming.
- [16] URBAN, J. The significance of quality in banking services. In *Jakost 1998*. Ostrava: Dům techniky Ostrava, 1998, pp. G48-G55. ISBN 80-02-01218-6.

ELECTRONIC PAYMENT SYSTEMS, COMPENSATIONS AND SETTLEMENTS – INTERNATIONALLY SPEAKING

Elena Hlaciuc

Camelia Mihalciuc

Anisoara Niculina Daschievici

“Stefan cel Mare” University of Suceava

The Economy and Public Administration Faculty

University Street, No. 9, 720225, Romania

e-mail: elenah@seap.usv.ro , cameliamihalciuc@yahoo.com ,
anisoara_1978@yahoo.com

Abstract

Nowadays, a time of massive banking in which the great majority of people and of economic agents has become the banks' clients, on terms of the amplification of bank operations and of the development of the subsidiaries and agencies network, the banking activity implies the large-scale use of computer science and telecommunication. Within the present development phase of electronic trade, certain banks take on a positive attitude towards e-banking services, while some others remain reserved. Any bank willing to invest in e-banking services must make sure that introducing a new distribution channel of e-banking services is possible and viable.

Keywords: *electronic payment, e-banking, computer science, telecommunication*

1. Introduction

In close connection with the expansion of commerce and international investments, the financial-banking activity has become one of the peak fields of the globalization process. The globalization of commerce is accompanied by the development and institutionalization of banking institutions. Actually, the internalization of the banking activity takes place on two plans:

- on one plan, institutionally, the commercial banks and business banks develop their operational network by setting up new units on the territory of other states.
- on the other one, at an operational level, the products and services are also offered in other currencies except the national one.

As the society has grown, the banks have evolved from the emission bank to the transfer, deposits, business banks, from a regulation institution to the electronic bank. Traditionally, the commercial banks' activity consisted mainly in three main spheres: the attraction of deposits, credit granting and the monetary transfers' operation. Gradually, banking transfers diversified by engaging in some operations, once under the management of other specialized banks or financial societies and by performing new services existing in the neighboring area with other financial operators¹.

The unfolding of the payment flow, their appropriateness, slowing down and speeding up actually depend on:

- the payment capacity of the entities;
- the policy of making payments carried out by the economical entities;
- the efficiency of technologies and the organizational abilities of the payment systems carried out through banks².

Under the present conditions, in developed countries it is noticed that there ended a long time ago "the banking" process, process in which the largest majority of companies and persons have opened accounts in banks, which allows making payments through banks, by transfers or virements among banking accounts respectively.

In the process of the introduction of the new technologies based on telemathics, information technology, there have been reconsidered the traditional payment tools: the cheque and the bill of exchange, by their adjusting to the electronic transfer demands of funds. The evolution of the payment instruments is characterized by the accelerated decrease of base

¹ Basno, C., Dardac, N., *Payment system, compensations and settlements*, Publishing House, Didactica si Pedagogica R.A., Bucuresti, 2003, I.S.B.N. 9730-30-274103, p. 33

² Basno, C., Dardac, N., *Payment system, compensations and settlements*, Publishing House, Didactica si Pedagogica R.A., Bucuresti, 2003, I.S.B.N. 9730-30-274103, p. 5

paper documents and the rapid increase of dispositions and payment orders expressed in electronic messages.

Nowadays, the human society meets the most profound transformations from its entire existence, in which information technology plays a determinant part and has begun to transfer to the networks most of the common activities. We can talk at present of teleconferences and workgroups going on by the intermediary of computer networks, newspapers distributed in networks, funds' transfer systems and network commerce, all these services being a reality of the biggest and more impressive means of communication between people which has become the Internet.

Along with the entrance in the Internet and in the e-business age, of the new economy, in general, certain fundamental transformations of the social-economical structure are produced.

The development of the interconnectivity of computers in the internet, in all segments of society, has led to a more obvious tendency of companies to use these networks in order to carry out a new type of commerce, the electronic commerce, through the internet³.

The new economy or the digital one, resulting from the interaction between the personal computer, telecommunications, Internet and electronics, is characterized by a range of features completely different from the traditional economy and is subjected to the principle according to which "*the more people involved the bigger the benefit for everyone involved*". The micro and macro economical effects of the new economy have as foundation the general principles of its development, which are⁴:

- awareness;
- accessibility;
- availability;
- affordability;
- appropriateness.

The electronic commerce (e-commerce) offers the consumers and the companies alike information regarding the merchandise and the services available in the whole world, prices and sale conditions, giving them the option to take the best decisions in management.

The internet can be used in commercial transactions, either in business to business transactions, that is between companies or from company to company or from business to consumer, because a commercial transaction

³ Paraschiv, M., D., *Technique of international payments*, Publishing House, Economica, Bucuresti, 2003, I.S.B.N. 973-590-932-4, p. 303

⁴ www.gandul.info.ro

can be divided in three main stages: the advertisement and research stage, the contracting and payment stage and the delivery stage, and any of these may be accomplished successfully through their intermediary.

This new type of commerce has stimulated nevertheless the demand for new appropriate payment methods. The development of the communication network between computers, into what some people call “*the global village*”⁵ allowed the introduction and use on an ever larger scale of electronic payment systems. The electronic commerce offers the possibility of doing network commerce by consulting electronic “on” catalogues on the WEB or “off” catalogues on CD-ROM and by paying with credit cards or electronic wallets.

The convenient, fast and safe transfer of the money has become one of the fundamental demands of viability of the new concept of the electronic system of payment. The replacement of the traditional cash forms with the e-money offers a better flexibility to the payment systems, in the conditions of the increase of the safety level of all participants in the system. The replacement of coins and bills with electronic money leads to the lowering of costs involved by the issuance and maintenance in circulation of the cash⁶. In the electronic payments systems, most of them working online, the payer and the beneficiary communicate with banks during the payment transactions.

Using the electronic money, electronic cheque and the unfolding of the repeated exchanges of data through the networks, makes it compulsory to insure the confidentiality of transactions, by the safe authentication with digital signature and certificates.

Until recently, the banking branch was considered the only delivery channel for the banking services. Despite that, during the last few years the unconventional channels have won over the customers’ preferences because of :

- the increased costs for the building of the banking branches;
- large delivery costs for the conventional channels;
- the decrease of the communication costs and of equipment;
- the increased demand for better and easier services.

According to the covering quota of the banking business, the distribution channels also include⁷ :

⁵ Paraschiv, M., D., *Technique of international payments*, Publishing House, Economica, Bucuresti, 2003, I.S.B.N. 973-590-932-4, p. 303

⁶ www.byte.ro

⁷ Mihai, I., *The technique and the management of banking operations*, Publishing House, Expert, Bucuresti, 2003, I.S.B.N. 973-8177-91-X, p. 344

- Telephone banking and home banking, covering a larger business quota;
- Internet banking, characteristic to payments for standardized products and services;
- Mobile Banking- little used variant.

The physical and the juridical persons alike have the freedom of choosing from an entire range of channels such as: the ATM, the telephone, the terminal at distance, the mobile phone, the internet.

The advantages of the e –banking use are:

- for the effectuation of different operation the client doesn't have to go to the bank;
- the removal of the manual preparation of documents;
- the automatic processing of the payment orders;
- the payment orders are valid, the electronic signature being guaranteed by the bank;
- the access to the e-bank can be made every 7 days, 24 hours a day.

Mobile Banking is destined to the clients of the bank that own credits and are mobile phone users and presents the following advantages:

- comfort and time saving by the use of the telephone in order to connect with the bank;
- the access to information about credit card and the transactions made by ATM;
- the safety and confidentiality of operations;
- financial-banking information on-line.

The EU Banks have as central strategic objective the reduction of costs in order to improve the results by the reorganization of activities and the bringing outside of bank of the support activities (information activities, card processing). Another European banking strategy represents the maintaining of the various distribution channels (the network of unities especially), to the detriment of the Internet Banking, which continues to develop and to represent a solution of decreasing of costs and increase of the operational effectiveness⁸.

⁸ Mihai, I., *The technique and the management of banking operations*, Publishing House, Expert, Bucuresti, 2003, I.S.B.N. 973-8177-91-X, p. 344

1.1 The payment and discount systems in EU, USA and Japan The UE:TARGET payment system [Trans European Automated Real-Time Gross Settlement Express Transfer]

The payment systems of the EU countries are very diversified at present there existing more than 25 payment systems, while in the USA there are only two, CHIPS and FEDWIRE.

TARGET [Trans European Automated Real-Time Gross Settlement Express Transfer] represents a system stipulated in the Maastricht Treaty by which it is realized the transfer of the euro resources among the accounts from the central banks. TARGET is formed of a communication network and a whole range of common procedures that insure the effectuation of payments.

TARGET contributes to the integration of the monetary market and by this to the implementation of the unique monetary policy in Stage III of the European Monetary Union. The objective is to allow the payments in the euro region (especially the ones closely linked to the monetary market) to be realized at low costs, at a minimum risk and in a very short processing time⁹.

In the USA there are two funds transfer systems of great value¹⁰:

- a) The transfer system of the FEDWIRE funds, operated by the Federal Reserve System which is a system of interbank funds transfer, in real time with gross settlement and connects 12 Federal Reserve banks to the participant financial institutions and to federal governmental agencies;
- b) The CHIPS system(Clearing House Interbank Payment System) operated by the New York Clearing House Interbank Association (NYCHIA), a transfer system of the credit payment instruments, but which clears many-sidedly the funds transfers and settles at the end of the day the net calculated positions. The participants to this system are the commercial banks, certain corporations, investment companies or banks affiliated to a commercial banking institution that has its headquarters in New York.

The Japan banking system offers a large variety of payments, services which operate in more institutions for the establishment of some internet networks, such as¹¹:

⁹ Paraschiv, M., D., *Technique of international payments*, Publishing House, Economica, Bucuresti, 2003, I.S.B.N. 973-590-932-4, p.85

¹⁰ Paraschiv, M., D., *Technique of international payments*, Publishing House, Economica, Bucuresti, 2003, I.S.B.N. 973-590-932-4, p.87

- a) The local clearing houses of bills and cheques;there functioning around 700 local houses;
- b) The Zengin Data Telecommunication System which is managed by the Tokyo Bankers Association and is organized on two separate operating centers, Tokyo and Osaka respectively;
- c) The Foreign Exchange(Gaitame) Yen Clearing System (FEYES).The system is operated by the Bank of Japan as part of BOJ NET which performs the settlement and clearing of transactions;
- d) Bank of Japan Financial Network System (BOJ- NET) is an online system introduced in 1988 for electronic fund transfers to the financial institutions, including the Bank of Japan, which manages this system and establishes its regulations.

1.2. International Payment Modalities and Instruments

The international payments are realized by banks which hold and transfer the sums in corresponding currencies for the extinguishing of the payment obligations from the concluded commercial contracts.

The payment modalities comprise the banking procedures, the mechanisms and the techniques, by which the importers transfer the sums in foreign currency corresponding to the received goods or to the carried out services¹².

The international settlements by SWIFT and MONEW GRAM

SWIFT is a commercial society created in 1973 by American, Canadian and European banks in order to accelerate the international payments by processing the information with the help of information systems.

The transfer represents the most used payment modality in international transactions among the companies from the developed countries. The classical means used by banks to realize the international funds transfers were the courier and the telex.

The unfolding of an operation by payment order supposes the existence of a document, typified form. Its remittance by the principal bank to the paying bank can be made¹³:

¹¹ Paraschiv, M., D., *Technique of international payments*, Publishing House, Economica, Bucuresti, 2003, I.S.B.N. 973-590-932-4, p. 96

¹² Voinea, GH., *The mechanism and the international exchange and financial techniques*, Publishing House, Sedcom Libris, Iasi, 2004, I.S.B.N. 973-670-067-4, p. 185

¹³ Paraschiv, M., D., *Technique of international payments*, Publishing House, Economica, Bucuresti, 2003, I.S.B.N. 973-590-932-4, p. 120

- by letter-when the payment can be made on the basis of the standardized form;
- by telegraph-when the payment is made on the basis of the instructions received in a telegram;
- by telex or SWIFT- represents the most modern and the fastest way.

The international settlement by SWIFT (Society for Worldwide Interbank Financial Telecommunications) presents the following advantages¹⁴:

- contributes to the reduction of the settlement time;
- the means of information processing are equipped with detection and error correction programs;
- the international settlements by SWIFT involve more reduced expenses;
- the messages exchanged among the accumulators at a national level and the processing centres are recorded on computer.

The Money-Gram Service represents a fast and safe modality to send and receive money in any country by its own network of agents. This service is available in banks, exchange houses, tourism agencies, postal offices and in some countries in the supermarkets, airports and railway stations.

The Western Union System carried out through the Eurogiro network insures the safe transfer of the sums of money in any corner of the world where its own agents operate. The Euro-Giro system is a form of cooperation mainly between the postal organizations and other organizations and credit institutions interested in the funds transfer at the international level¹⁵.

The following settlement means can be used in the international payments: the letter of credit, the documentary incasso, the cheque, the card and others.

a) The letter of credit- represents the firm commitment assumed by a bank, at the order and in its client account, the importer, to pay a sum to the exporter, against the documents attesting the fulfillment of obligations by the latter, at the terms established by the importer¹⁶.

The unfolding mechanism of the payments through the letter of credit is regulated in the brochure “Uniform Regulations and uses regarding the

¹⁴ Voinea, GH., *The mechanism and the international exchange and financial techniques*, Publishing House, Sedcom Libris, Iasi, 2004, I.S.B.N. 973-670-067-4, p. 211

¹⁵ Basno, C., Dardac, N., *Payment system, compensations and settlements*, Publishing House, Didactica si Pedagogica R.A., Bucuresti, 2003, I.S.B.N. 9730-30-274103, p. 213

¹⁶ Paraschiv, M., D., *Technique of international payments*, Publishing House, Economica, Bucuresti, 2003, I.S.B.N. 973-590-932-4, p. 182

letters of credit” elaborated by the Chamber of International Commerce from Paris, modified in the years 1983 and 1993 and issued under the name Publication no.500.

In connection with the other settlement means, the letter of credit represents the preferred modality both by the letter of credit principal and by the beneficiary because it is a form of guaranteed settlement, the bank being the guarantor. Even though the exporter is the one who profits first of the advantages of the letter of credit, as settlement modality, this insures the importer as well a protection measure, taking into account that the exporter will be paid only after presenting the documents that certify the goods’ delivery conforming to the terms and conditions of the letter of credit.

b).The documentary incasso is a settlement modality that is based on the payment modality of the buyer assumed by the commercial contract, without presenting a payment commitment from the banks involved in the unfolding of the operations¹⁷.

As a payment modality used in the international economic exchanges, the incasso is regulated in the document entitled “Uniform regulations for the incasso”, known under the name Publication 522, revised in 1995 with practicability from 1996.

The payment mechanism by incasso can be used in the case in which the exporter trusts the reliability and the correctness of the importer, or if there exist certain interdictions in the legislation of the importer’s country or due to some common practices on certain markets. Because the payment by incasso doesn’t suppose any obligation or payment guarantee, beside the obligations assumed by the buyer through the commercial contract, the conclusion would be that the incasso is a risk source not to be ignored by the seller.

In the common practice, the risks of the unfolding of the payment operations by incasso documentary are: the risk at the payment delay, the risk of not being paid, the risk of the diminution of the cashing, the risk of the goods’ loss¹⁸.

c) The cheque represents a written order given by a client (credit holder) to his ban by which he requires this one to pay a certain amount,

¹⁷ Mihai, I., *The technique and the management of banking operations*, Publishing House, Expert, Bucuresti, 2003, I.S.B.N. 973-8177-91-X, p. 132

¹⁸ Paraschiv, M., D., *Technique of international payments*, Publishing House, Economica, Bucuresti, 2003, I.S.B.N. 973-590-932-4, p. 182

either to him for the cash withdrawal, or to a person specified by the client, for the payment of a debit¹⁹.

The cheque is a payment instrument which links, in the process of its formation, 3 persons: the drawer who issues the card, the drawee who pays the cheque and the beneficiary that is the legitimate owner who cashes the cheque.

In the specialized literature there are more criteria of cheques' classification: from the point of view of the beneficiary (nominative cheque and bearer cheque), from the point of view of the cashing modality (uncrossed cheque, crossed cheque, transfer cheque); other types of cheques: circular cheque, traveller's cheque, the eurocheques.

In addition to its advantages (simple use, operativity), the cheque presents also a series of risks (doesn't present guarantee against the commercial risks, can be without covering).

The electronic cheque represents an electronic payment instrument which removes the existence of paper support in the settlement of the international transaction, replacing the traditional cheque with an electronic equivalent. These were developed in a project of FISC – Financial Services Technology Consortium – a group of international financial institutions that suggested the creation of a project: E-Checks. This project improves the safety of settlements through the classic cheque as it follows²⁰:

- because of a system of information encoding, the participants to the transaction benefit of the confidentiality and increased safety;
- the reduction of the transaction duration and the clearance terms.

The electronic cheques are created in order to realize payments and other financial functions of the paper cheques; by the use of the digital signatures and encoded messages, on the Internet network support. For protection against theft and illegal utilization of the electronic cheque, a smart-card is also used.

As a debit transfer instrument, the cheque involves, in addition to the credit institutional risk the risk that the payer might not have sufficient monetary funds in his banking account in order to cover the cheque value. If the cheque is not guaranteed in any way, the financial institution of the payer might not honor it, so the payment might not be realized. A research performed by The International Regulation Bank on the use of the

¹⁹ Basno, C., Dardac, N., "*Payment system, compensations and settlements*, Publishing House, Didactica si Pedagogica R.A., Bucuresti, 2003, I.S.B.N. 9730-30-274103, p. 108

²⁰ Paraschiv, M., D., "*Technique of international payments*, Publishing House, Economica, Bucuresti, 2003, I.S.B.N. 973-590-932-4, p. 131

international payment means utilization points out the fact that the two countries from the top of the four first countries with the biggest non-cash payment level on inhabitant-USA and France-use to the largest extent the cheque for the purpose of carrying out of the payments. In Germany the transfer is preferred (45%) to the cheque (10%).

d) The card is a payment instrument without cash by which the authorized holder can settle the equivalent value of the goods bought from the tradesmen, or can benefit from the services carried out by third parties and who are empowered to accept it and use it and also allows the acquiring of liquidities from the issuing bank, managing in fact the current account of the credit holder²¹.

The banking cards fulfill multiple functions, the most important ones being the following²²:

- e) the function of funds withdrawal;
- f) the payment function;
- g) the credit function;
- h) the guarantee function.

The largest majority of the banking cards fulfil multiple functions of funds withdrawal, payments, credit and guarantee.

The credit market as an integrant part of the world finance is subjected more than any other activity, to a rapid globalization process, in addition to the two great payers (VISA International and Master Card International), an active role in the globalization of the credit market plays Europay International as well, American Express, Dinners, Club International, JCB (Japan Credit Bureau)

The itinerary covered from the full-bodied currency, with intrinsic value, to the paper currency has been incomparably longer than that from the paper money to the electronic money, which was achieved in a very short historical period of time.

On the mature markets (The West European market, American market) and on younger markets as well (The Central and East-European markets, to which there belongs also Romania) there is a multitude of card types, which are basically nothing more than variations of the three fundamental credit types: the debit card, the credit card and the charge card overdraft.

²¹ Basno, C., Dardac, N., *Payment system, compensations and settelements*, Publishing House, Didactica si Pedagogica R.A., Bucuresti, 2003, I.S.B.N. 9730-30-274103, p. 121

²² Paraschiv, M., D., *Technique of international payments*, Publishing House, Economica, Bucuresti, 2003, I.S.B.N. 973-590-932-4, p. 153

The e-money represents the value stored electronically on a device, either in an electronic support, or in the computer memory, and which can be recharged, with the possibility of its use to a multitude of goals²³.

The beginning of cards in Romania goes back to the year 1997, when the unresiding foreign persons visiting the country had the privilege that at certain hotels, restaurants, shops, stores, to use as a payment means, the card. Once with the passing to the market economy the Romanian commercial banks began to issue their own cards. During the last years the cards market in Romania has known a rapid development, being currently in full maturization process in all its segments.

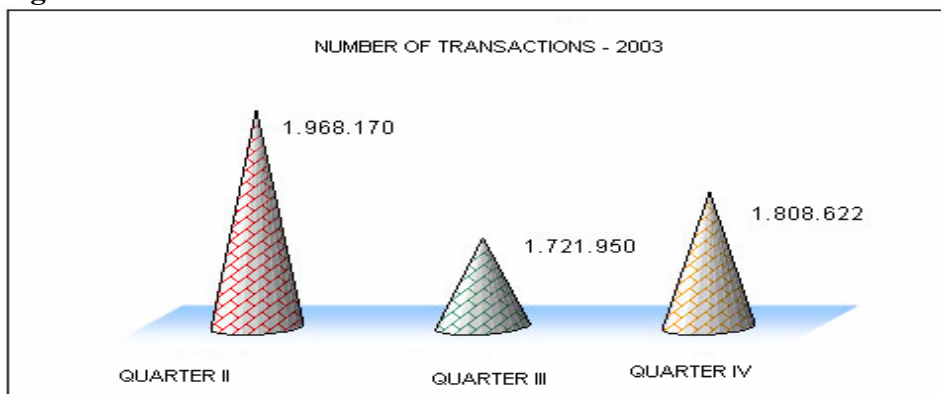
Conforming to a statistics drawn up by the National Bank of Romania, the situation of the number of cards users and the number of transactions performed by the intermediary of cards in the years 2003, 2004 and 2005 is presented in the following tables and graphics:

Table 1 The situation of the number of transactions performed by card in the period 2003-2004

QUARTER	YEARS		
	2003	2004	2005
QUARTER I	-	1.633.228	2.205.299
QUARTER II	1.968.170	1.998.148	2.590.994
QUARTER III	1.721.950	1.942.992	-
QUARTER IV	1.808.622	2.244.994	-

Source: www.bnr.ro

Figure 1 Number of transactions in 2003



²³ Mihai, I., *The technique and the management of banking operations*, Publishing House, Expert, Bucuresti, 2003, I.S.B.N. 973-8177-91-X, p. 336

Figure 2 Number of transactions in 2004

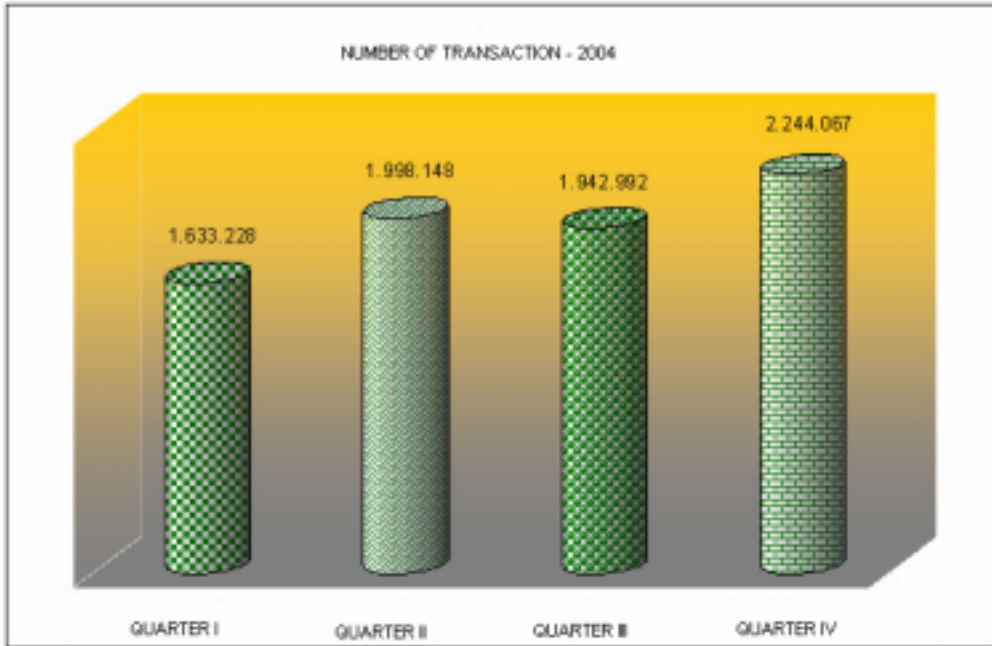


Figure 3 Number of transactions in 2005

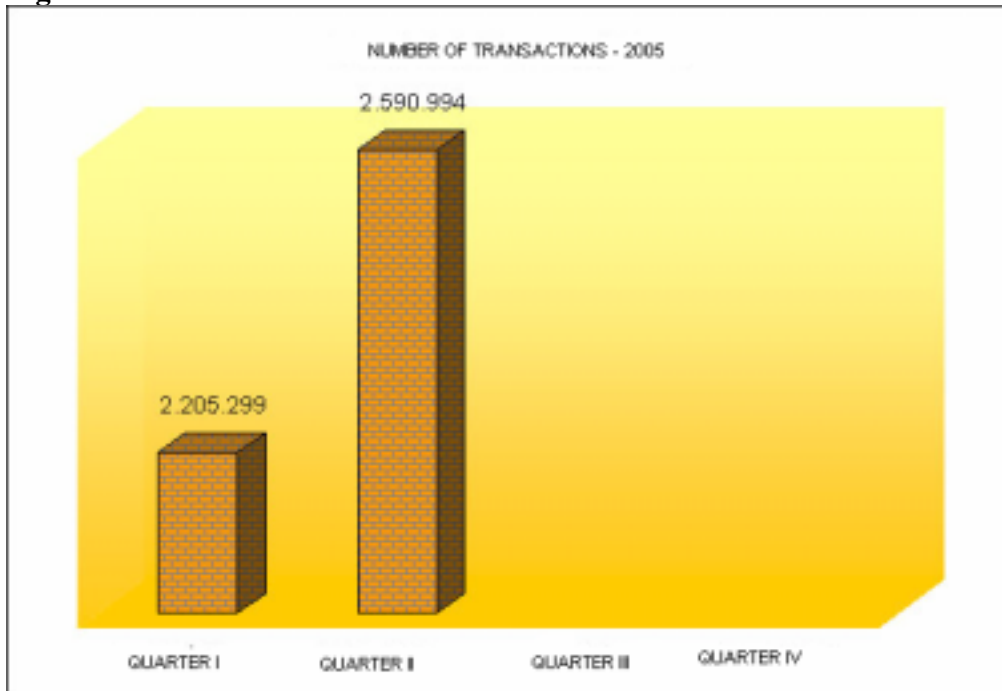


Table 2 The situation of the number of cards users in the period 2003 – 2005

<i>QUARTER</i>	<i>YEARS</i>		
	<i>2003</i>	<i>2004</i>	<i>2005</i>
<i>QUARTER I</i>	-	24.212	56.087
<i>QUARTER II</i>	14.142	27.944	66.062
<i>QUARTER III</i>	16.433	32.869	-
<i>QUARTER IV</i>	18.259	44.538	-

Source: www.bnr.ro

Figure 4 Users number of cards in 2003

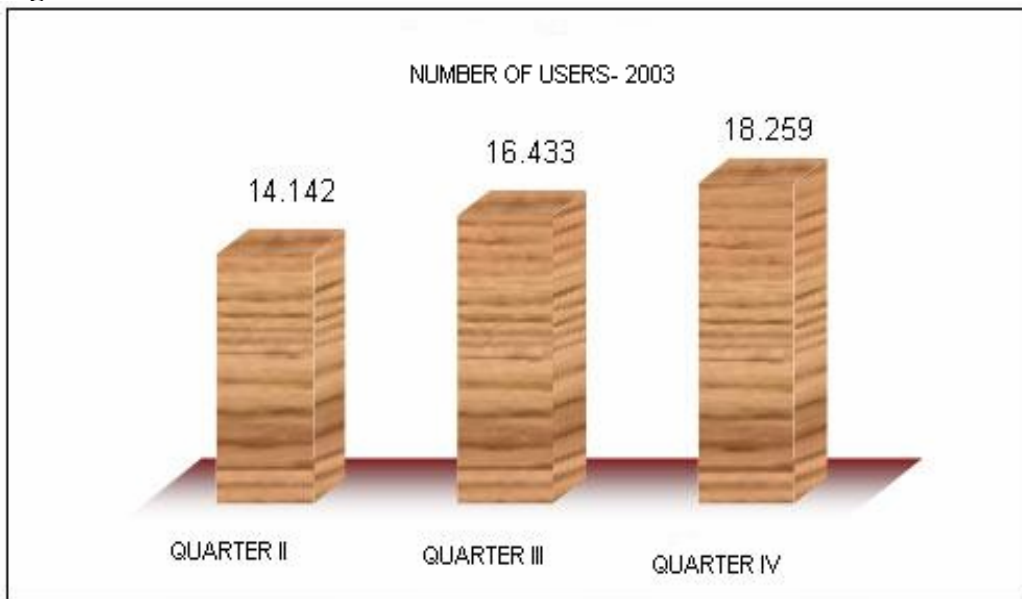


Figure 5 Users number of cards in 2004

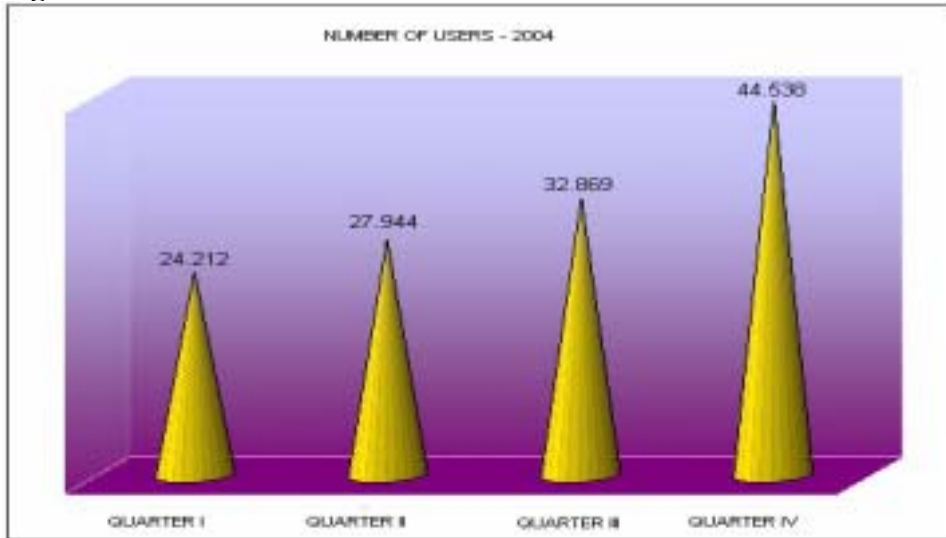
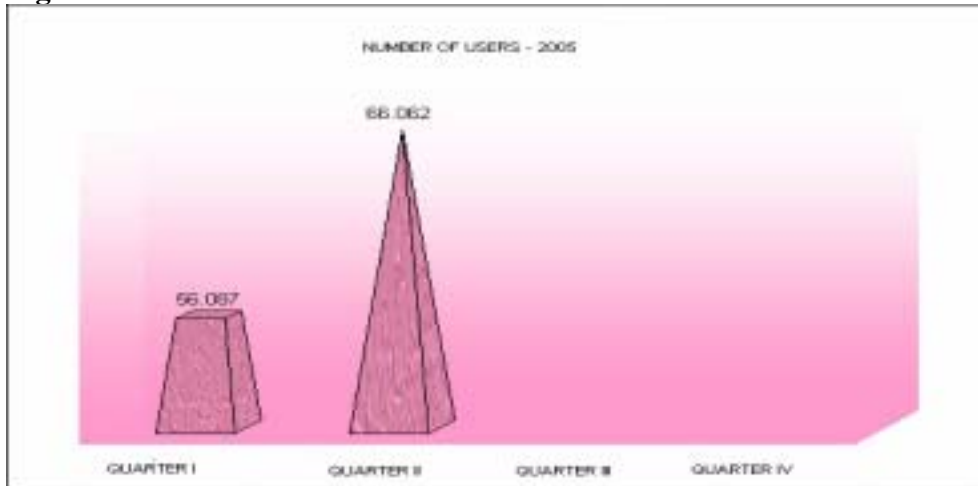


Figure 6 Users number of cards in 2005



Starting from the fact that the smart-card is the card offering the possibility of processing and stocking of the value units by the means of an integrant processor (chip) and, by comparison with the magnetic band card, this one can effectively store funds transferred from a banking account or from another smart-card(card to card operation), as well as information regarding the balance due , the payment realized with this type of card being realized on the spot, we can assert that the future belongs to the smart-card.

Expression of the technological progress, the card, instrument of economic and social identity of the person within the systems that insure the

globalization of payments by cards, is subjected to a continuous improvement process.

2. The mobile financial services

The Internet economy is already a reality, a fact of everyday life and is in continuous progress in Europe, being estimated an increase of the Internet users number of over 200 million in 2008.

The extent of the electronic commerce in Europe will be slightly different from that of the USA. Reflecting the penetration factors of personal computers, mobile phones and cable TV, there will be carried out in a proportionate way in Europe more transactions on non PC type devices, such as for instance the mobile phones, other portable equipments and web connected television

At a world level, the mobile communications represent the latest distribution channel of financial services which is estimated to have a huge impact in the future over the way in which the consumers will use and manage finances.

The m-banking applications will comprise from the simplest mobile banking operations to the possibility of effectuating financial operations for any transaction of the e-commerce type by the intermediary of a portable device. The analysts estimate that the base services of the retail-banking type will be followed by complicated applications of mobile financial services, as well as by stock market operations and financial facilities of transaction and commerce.

The users of the mobile financial instruments benefit from services such as the possibilities to make payments and to check the banking account balance.

The mobile telephony operators will confront in the future with a dramatic decrease of the income on user if they remain within the framework of the present services(voice services), and for this account they try to conclude partnerships with different institutions in view to diversify the services in order to maintain the income level or for registering an increase of these ones.

Before the future Internet banking expansion, the mobile banking offers very simple services, such as informing the client through his own mobile telephone about the situation of the current account balance, of deposit or of card accounts, through the sending of SMS messages.

The reasons for which the telecommunication companies need the financial institutions in the on-line sector/mobile banking are: the lack of the know-how and the absence of the mark image in the banking field. On the other side, the financial institutions pursue the attraction of new clients, a very attractive segment being the clients of the telecommunication companies eager to enter direct banking relations.

2.1. The mobile financial services (m-banking and the interactive television (ITV banking)-alternatives for Internet Banking

The main reason for which the Romanian large banks launched harder Internet-Banking services is the reduced number of potential clients, because of the weak penetration of Internet services.

The reduced number of personal computers in Romania and the relatively high cost of telecommunications generated that situation that leaves space to new alternatives to Internet access such as : Interactive TV (ITV) and mobile Internet.

The offer of e-banking services on all he three platforms (m-banking ITC and PC based internet) will allow a bank to attract clients using more platforms in order to carry out their transactions.

In the Western Europe it is estimated: an average increase of 140% yearly for the exclusive ITV users and of 221% for the m-banking users, increases which are clearly superior to the average increase ratio of the PC based e-banking users.(37%)²⁴.

Nevertheless, a TV is a good used by the entire family, without existing a sufficient confidentiality level for the operations performed using the ITV-banking operations. This distribution channel for the e-banking services is a channel for the customers for which the cost of the access to these services has a great importance and for the regions with a relatively low number of Internet users. In Romania the potential of development of this type of services is extremely promising because the Romanian market is price –sensitive and there is a great numbers of users of TV channels.

The mobile financial services (m-banking) give the clients the possibility to realize transactions anywhere and anytime, and the size of the screen and the fact hat the mobile phone is a personal use object insures a maximum confidentiality degree to this e-banking service. The m-banking services will have a much larger number of active users and the transaction

²⁴ Paraschiv, M., D., *Technique of international payments*, Publishing House, Economica, Bucuresti, 2003, I.S.B.N. 973-590-932-4, p. 268

volume will top clearly the volume of transactions for the ITV users and even PC-based e-banking.

Conforming to a certain opinion the e-banking services involves risks which the Romanian banks are not ready to face²⁵:

- conformity risk
- strategic risk;
- operation risks (among which the piracy);
- Crediting risk (accentuated by the client recognition);
- The liquidity risks, of interest rate, and of market volatilisation);
- Th reputational risk.

It is essential for any bank eager to invest in e-banking services to be able to offer these services on any of the three platforms. Even if at present the PC based e-banking potential users are the most important ones, this situation is about to change in the near future, and the banks must insure that the introduction of a new distribution channel of e-banking services is possible and viable.

These new payment procedures allow the convenient, safe and very fast transfer of the money among the business partners. In addition to this, the replacement of coins and paper money with electronic money leads, apart from the reduction of issuance costs and maintaining in circulation of the cash, to the increase of flexibility and safety of the payment systems.

3. Conclusion

Any of the payment modalities presented hereby involves risks and in order to insure themselves against these, the involved parties must get to know very well these payment modalities, their unfolding mechanisms and the documents necessary to be requested. Apart from the banking regulations, the successful carrying out of the transactions requires good faith from the part of everyone involved.

The continuous evolution of the payment means and the passing to the electronic money (e-money) can be considered a revolution, because they generate changes within the banking system (modern services, the legal financial frame adjusted at the international level. The Romanian banking system is subjected to a reorganization process, characteristic, in fact, to the entire national economy in transition not only to the market economy, but also to the Internet economy or new economy.

²⁵ Turcu, I., The operations and banking contracts, 5th edition, Publishing House Luminalex, Bucuresti, 2004, ISBN 973-588-824-6, p.173

It can be noticed that the payment means are in a permanent evolution determined by the economical development and the appearance of the new technologies, the money preserving, however, their essential functions. The passing to the electronic money causes changes both at the level of the banking infrastructure and at the level of the consumer behaviour as well.

Motto: "The computers are useless. They can only offer you answers", said Pablo Picasso. The utility levels of the electronic currency and what we will offer ourselves by its mediation is about to unveil the future for us.

The world of money is a world of caution and any hidden thing (a code, an address), can generate suspicion.

References

- [1] BASNO, C., DARDAC, N., *Payment system, compensations and settlements*, Publishing House, Didactica si Pedagogica R.A., Bucuresti, 2003, I.S.B.N. 973-30-2741-3
- [2] DIACONESCU, M., *Banks, payment systems, risks*, Publishing House, Economica, Bucuresti, 1999, I.S.B.N. 973-590-149-8
- [3] MIHAI, I., *The technique and the management of banking operations*, Publishing House, Expert, Bucuresti, 2003, I.S.B.N. 973-8177-91-Xthe technique international payments
- [4] PARASCHIV, M., D., *Technique of international payments*, Publishing House, Economica, Bucuresti, 2003, I.S.B.N. 973-590-932-4
- [5] TURCU, I., *The operations and banking contracts, 5th edition* Publishing House, Luminalex, Bucuresti, 2004 ISBN 973-588-824-6
- [6] VOINEA, GH., *The mechanism and the international exchange and financial techniques*, Publishing House, Sedcom Libris, Iasi, 2004, I.S.B.N. 973-670-067-4

***GOVERNEMENT BILL NR.118 from 2004 regarding the notification procedure of the payment instruments with distance access of the type of the Internet banking, home-banking and mobile-banking applications

***www.gandul.info.ro

***www.byte.ro

BANK-CLIENT RELATIONSHIP: ROMANIAN EXPERIENCE

**Cristi Marcel Spulbar
Raluca Mihaela Dracea
Roxana Maria Nanu
Costel Ionascu**

Faculty of Economics- University of Craiova
13 Al.I. Cuza Street, Craiova 200585, Dolj, Romania
Phone: +40 251 411 593, fax: +40 251 411 411
e-mail: cspulbar@central.ucv.ro, rdracea@central.ucv.ro,
manu@central.ucv.ro, icostelm@central.ucv.ro

Abstract

The main purpose of all economic activity is to satisfy the clients' needs. Everything that happens in connection with the bank must follow this objective. If certain banks neglect their clients' needs, then certainly it will be the rival banks to take care of them. We consider that success is always on the side of the bank that manages to find the answer to the question How can we improve the bank-client relations? Since 1990, numerous changes have taken place in the Romanian financial-banking system. The banks have opened for the public as well, they have introduced numerous new products and services, new processes have been established, new regulations have appeared, the foreign banks have opened new branches, the informational technology has been updated. Under these circumstances, it is vital that the banks be to a greater extent marketing- and management-oriented, more precisely client-oriented. They must be aware of the rapid changes in the banking environment and to be able to adapt and change their plans and strategies, to introduce products and services compatible with the new demands and transformations. The practical activity tells us that the banks offer services similar to those of their competitors'; that is why, in order to be more competitive, a bank always needs to find something to differentiate it from its rivals. Always situating the client as the first priority, anticipating his needs and problems, responding to the services that he requires are the strategies with this result. We must also mention that, as the clients' expectations increase and as they become more and more demanding with every service granted, the bank must be always ready to comply.

Keywords : *the bank-client relations; Romanian banking system; competition*

1. Introduction

The main purpose of all economic activity is to satisfy the clients' needs. Everything that happens in connection with the bank must follow this objective. If certain banks neglect their clients' needs, then certainly it will be the rival banks to take care of them. We consider that success is always on the side of the bank that manages to find the answer to the question *How can we improve the bank-client relations?*

In the countries with a tradition in the field, one can observe the tendency of the clients to appeal to several banks—a phenomenon called multi-bankarization, the tendency to recede from the banks when it comes to savings products (resorting to insurance products, financial products offered by the monetary authorities or to derived products). Under these circumstances, the administration of the institutions, the personnel and, in general, the businessmen implied in financial-banking services activities have shown particular interest in knowing as many aspects as possible concerning the domain in which they evolve.

Since 1990, numerous changes have taken place in the Romanian financial-banking system. The banks have opened for the public as well, they have introduced numerous new products and services, new processes have been established, new regulations have appeared, the foreign banks have opened new branches, the informational technology has been updated. Under these circumstances, it is vital that the banks be to a greater extent marketing- and management-oriented, more precisely client-oriented. They must be aware of the rapid changes in the banking environment and to be able to adapt and change their plans and strategies, to introduce products and services compatible with the new demands and transformations.

The human society is confronted at the beginning of the third millennium with a series of vital and unprecedented issues. That is how the Romanian banking system finds itself in a transition process that creates the conditions for a turbulent environment for the banks functioning in the system. It is likely that this environment will continue to exist for a period of time while the economy continues to develop.

As a natural consequence, the competition in the banking system will increase. Several well-known foreign banking corporations have entered the banking market, new private banks have appeared and a part of the banks in the Romanian state sector have undergone a process of privatization. In this context, satisfying the clients' interest by offering a variety of banking products and services has become a must. This will lead to an increase of the

clients' loyalty and of the reputation of the bank, thus insuring the clients' fidelity and stability.

The practical activity tells us that the banks offer services similar to those of their competitors'; that is why, in order to be more competitive, a bank always needs to find something to differentiate it from its rivals. Always situating the client as the first priority, anticipating his needs and problems, responding to the services that he requires are the strategies with this result. We must also mention that, as the clients' expectations increase and as they become more and more demanding with every service granted, the bank must be always ready to comply.

2. Conditions specific for Romania

2.1 Limits of development of the banking market and of the relationship bank-customer. Macroeconomic conditions

The instability of the macroeconomic environment represents an obstacle for the well development of the activity of the economic agents (especially in the case of the entrepreneurs), but also of the banks, through the fact that, in much less predictable conditions, the business plans, which are at the basis of lending, have a lower degree of credibility from the financier's point of view.

Also, the still significant gravity of the inefficient companies diminishes the degree of safety of the lending activity. Thus, the delays registered in the restructuring of the actual sector determine many of the economical agents not to be eligible for granting credits.

2.2 The inadequate, insufficiently developed legal environment

The existence of an inconsequent and incomplete legal environment, as well as of some judicial and extrajudicial procedures for recovering the debts by forced, expensive and long lasting execution, has a negative impact over the financing activity.

2.3 The behaviour of the market participants

The partnership bank-customer has to suffer because of:

- the lack of transparency of the real situation of the patrimony of economical agents, which allows correcting the performance indicators afferent to their activity within the solvency analyses

for granting the solicited funds. In this context we must mention the embellishments produced by annulment, re-phasing of the debts of state companies, without taking into consideration the objective principles such as competition ;

- the non-promotion of the corporate management;
- the weak use of the instruments specific to risk management.

Moreover, the reduced level of economical and especially banking education, of the actual and potential consumers of products/banking services, as well as the professional training, which is still adverse, as an average in the banking system, of the staff of the credit institutions hinders the achievement of an efficient communication between the two parties. Thus, on one hand, many economical agents with funding necessities do only appeal to banks as a last resort, and on the other hand, there are still banks which do not give sufficient importance to the aspects regarding the introduction in their offer of consulting services for their customers.

The analysis pointed out the fact that, regarding the efficiency of the activity in the banking system, as an ensemble, supplementary efforts are necessary on behalf of credit institutions in order to be able to handle the level of competition in the European Union.

Thus, the degree of banking intermediary in Romania, expressed as banking assets/inner gross product, represented at the end of 2002 only half of the level registered in Poland and a quarter of the one reported by the National Bank of the Czech Republic in the same period. Regarding the productivity of the banking activity (banking assets/employees in the banking section) this was in Romania, in the previously mentioned period, three times smaller than in Poland and six times smaller than in the Czech Republic.

3. Customers for Romanian Banks. General characteristics

The principal goal of any economic activity is satisfying the customers' needs. If the organizations do not take care of their own customers, then their competition will. The bank must understand its customers' necessities and the process of their decision taking.

The analysis of the customer's behaviour is a key component of marketing research. By understanding this behaviour, the Romanian banks anticipate the probable reaction of a customer and can influence the structure and planning of the services provided by the bank. The customers represent the most obvious barometer in the evolution of a bank. The presence of an increasing number of commercial companies or individual entities in the offices of the bank, confirm the quality of the bank's services, while the

migration of the same customers to other banks serves as proof for the unit's weaknesses.

In a broader acceptance, a customer is defined as a legal or individual entity, who frequently or sporadically asks for the services of the bank in order to satisfy their needs and producing economical effects on the bank.

In a limited acceptance, a customer is defined as a legal or individual entity, with one or more open accounts at the bank, a clear name, well-defined headquarter or residence, legal judicial status, who constantly and frequently resorts to the products and services of the bank satisfying some of its needs and producing economical effects on the bank.

In the case of commercial banks in Romania, the high dynamic of their customers confirm the trust they have in the capacity to work of some banking units, in the quality of the staff and of the offer of products and services.

At the present time, among the customers of the banks there is an important number of commercial companies with state capital, different autonomous administrations, budgetary institutions, commercial companies with private capital, as well as individual entities.

In the last years, the counters of the banks have been assaulted by a big number of individual entities, especially for the fruition of the available funds, either by open deposit accounts, or by the deposit certificates, a very tempting capitalization instrument.

The bank's customers desire an ever better quality of the services and a diversified range of products. This is why competition becomes stronger together with the continuous development of the economy. It is vital, for any bank, that its products and services to be presented on the market successfully in order to obtain the increase, development and power in the financial-banking sector.

The relationship between the customer and the bank is very important and needs to be maintained in order to assure the loyalty of the customers and to develop long term relationships with them.

Attracting new customers can be more expensive than keeping the existing ones. It is universally known that, in market economy, the price for attracting new customers is four or five times bigger, in financial costs and effort, than developing and maintaining the relationship with the existing customers. For this reason, maintaining the existing customers content is a crucial side of the marketing strategy. The strategy must contain a component which is directed in maintaining and developing this customer content, by satisfying their needs.

Both actual and potential customers are important for the economic activity; losing one customer could not be very important, but losing more the bank would really have problems.

The quality of the services and the concern for the customer inevitably remain the key elements of the total offer of services, but conditioned by the constraints imposed by the cost control and maintaining the competition regarding prices.

The key of maintaining the customers' loyalty is to keep them satisfied. If a customer is satisfied, he will wish to continue the relationship with the bank, he will use more and more services to satisfy his needs and will recommend the bank to others.

Long term loyal customers will guarantee the income of the bank. The customer's loyalty improves the image of a bank and can be an excellent source of advertisement. The bank's customers will not wish to work with the bank's competition for similar services, even if sometimes they may offer cheaper services or may offer attractive interest rates.

Customers want consultancy regarding the ever bigger number of services and the best solutions for their objectives. The employers of the bank have the obligation to give the customers the best consultancy and clear information concerning the services which best satisfy their needs and demands.

The customers which are individual entities and legal entities have different needs and expectations from the bank they work with. Banks must give the customer – individual entity consultancies for the services they need and help him in organizing his personal incomes.

The customer - legal entity will need consultancy in preparing the business plans, adequate services for solving his business needs, money transfer services, etc.

The bank is interested in attracting its customers from the market and maintaining a relationship of long term collaboration with them. In this sense, performing financial consultancy services (free of charge) the bank must:

- strengthen the image of professionalism of the bank;
- eliminate the psychological barriers (preconceived ideas) of the customer;
- obtain as much information as possible about the customer, free of charge.

At the present time, serving the customer is the decisive starting point for many organizations and will become vital for the strategy of the Romanian banking system, while the competition becomes stronger and more

services are created. Any organization, which is aware of the quality of the services, aspires to overcome a minimum level of satisfaction and offer the customers more than they ask for. In the last decades the quality of the services has become such an important matter for banks, that none of them can neglect this aspect, as long as the others improve the level of their services.

It is important for those who deal with the marketing activity to understand the customer's behaviour and how the final buying decision is made. In the financial – banking service, the customer does not only choose the product, but also the bank he wishes to do business with. The understanding of the customer is vital for any marketing department.

The factors which influence the customer's behaviour (as a buyer) in relation with the bank are:

- trust in the banking system;
- the accessibility to acquisition of services;
- the reputation of the bank;
- the range of products and services;
- the quality of the services;
- the tariffs for the services;
- easy spotting the bank;
- the possibility to satisfy the needs regarding the financial-banking services;
- the presence of a friendly and capable staff.

In Romania competition continues to grow, new banks are founded, and this is why customers have the possibility to choose from the banks the one which satisfies their specific needs concerning the financial-banking services. Within the financial-banking department, the services and products are alike due to their effect, for this reason, a bank must maintain its competitive advantage. The quality of the services is a domain in which an organization is capable of acting and is the key for a future development. One of the secrets of guaranteeing the customer a good service is to understand his needs and wishes.

The commercial sector is the most complex in a bank. Despite all this, for many of the small businesses, accounting is made by individual persons and for this reason, the personal factors will probably have a bigger influence in their decisions, than in business confidences. It is important not to ignore the attitudes of the persons in large organizations, because they can influence the bank where the account is opened and which provides the services.

Reconsidering the preoccupation towards the customer implies:

- the concern for the granted time
- the concern for the moral values of the customer
- the concern for educating the customer (helping him in understanding the responsibility of the customer and the preoccupation of the bank for his needs)
- rough concern (identifying the moment when and how to say NO)

Today in marketing the accent begins to fall on keeping the clients in order to defend the market quota. The client is a productive resource, has it's own contribution to the creation of quality, value and satisfaction and it also appears as a competition to the company.

If in the beginning of its activity, the bank offered its clients a reduced range of bank products and services, this confining to performing the cashing and payment operations through the bank accounts and giving credits to the economic agents and individual persons; as new products and new banking services were created, the range of clients has expanded, their number and the number of the accounts have increased from year to year.

The clients develop most of their activity through accounts opened at the bank. Their accounts and evolution provide an image on the banking activity. The evolution in time of the customers is crucial for two essential aspects: first of all because their interest towards the bank's services, the trust in the stability and safety that the bank provides and then the impact of these customers on the bank's resources, as a result of receiving an important number of Lei and foreign currency. The customer segment that had known the biggest development, both as number and as resources brought to the bank, is the population. Though the products and services especially created for this type of clients, the individual persons have manifested a great interest towards banks, this because of the reorientation of the population's economy to the bank deposits and as a result of the deponents' change in point of view, and that is, that the value of the earning is less important than the safety of the investment.

A client – individual person can be described as a person that holds a bank account for his/her personal use. This type of clients must respect the existing regulations, and the bankers must make sure that these people do not open nor use bank accounts for illegal purposes. The persons can open accounts only in their own name, with the possibility that the account holders authorize other persons too for the account signature. In other countries, the joined accounts (opened in two names), are very frequently encountered (for example, in a family, the husband and wife can open an account on both names).

Regarding the individual persons, the only thing that the banks must take into consideration, is the age of the persons that wish to change an account. It is taken into consideration that very young persons might not entirely know the consequences of operating certain transactions with the banks, and therefore, such persons are protected, in order not to be taken advantage of.

Also, it wouldn't be wise for the banks to engage in complex loan agreements with too young persons. Even if the law is not very clear at this point, the banks can have their regulations regarding the minimum age of the clients. In Romania as in most countries, beginning with the age of 18 individuals have the full exercise ability, and as such, can exercise their rights and they can assume the respective obligations to the legal reports that they close.

3.1 Conditions for keeping the clients

The clients that were admitted by the bank as a result of fulfilling some criteria, and that enter a normal and current relationship with the bank, will be permanently observed in the purpose of establishing to what extent they are keeping, enlarge or reduce their initial performances. In this way, during the business development and the different connexions with the bank concerning the clients, the following possibilities may occur:

- The clients maintain or enlarge their basic qualities, which were approved through the acceptance criteria. These clients are recommended as being very good, with high performances and, in these conditions, the bank and its regional units shall actively approach him/her.
- The clients change their performances, in the sense that they register low profitableness, the fixed assets are not in a very good situation (too big) towards the own capitals and the long term resources, they appeal to few of the bank's products and services, the customer indexes will be accepted continuously in a passive way and will be carefully followed and supported in order to be able to improve the general state in which they find themselves.
- The clients no longer qualify for the criteria they were accepted, no longer perform a profitable activity, have liquidities and a debt level no longer admitted, their activities and products are no longer accepted on the market, generally they find themselves in a determined situation which promises no future improvement.

The legal persons have always been encouraged and sustained by the banks in their efforts for productivity modernizations and change of the technology by granting a various range of credits in Romanian and foreign currency, that came in the completion of their own resources used in this purpose. In the course of their activities, the banks have given a special attention to the state enterprises that have not yet undergone privatization, as well as to the foreign investors that have shown interest in investing in economical activities undergone on the Romanian territory. The growth of the customers' number will be followed in parallel with the growth of the quality of the offered services, so that the clients' interest is satisfied by the bank in mutual convenient conditions. The client will still occupy the central place in the bank's activity, enjoying a special attention from its behalf, the bank pursuing the keeping of profitable clients' base and its expansion at maximum length, through attracting other big regional agents.

The place and the role of the client will be still kept in the centre of the bank's attention, observing its behaviour in accordance with whom the bank can better organize its activity. All this will be accomplished because for the employees of the bank, the clients represent a permanent priority, them being the most important part of the banking activity, those who put in motion the bank resources and without whom the bank would not exist.

I. The Conditions and the contents of the research

A group of professors (the co-authors of the paper) have realized a research project which was selected by the National Council of The Scientific Research of the Superior Education from Romania, as being part of the priority fields in research and developing regarding the Romanian integration in the Euro-Atlantic Structures.

In the project entitled **“Study regarding the banking environment in Dolj County and the identification of the improving possibilities of the bank-client relationship”** we proposed to make an analysis of the bank environment from Dolj County, in order to identify the opportunities of improving the bank – client relationship in the context of the reorganisation of the banking activity in Romania imposed by the alignment at the European banking standards.

As part of the research we appealed to the elaboration of a questionnaire for analysing the bank-customer relationship. We have made a pole based on the questionnaire based on the following major directions:

- Attitude towards the bank;
- The degree of knowledge of the banks in the county;
- The utilization range of the banking products and services;

- The motivation of bank change.

Following the development and the interpretation of the data obtained through statistic methods, we have reached a series of conclusions which we present in the following.

4. General conclusions

The bank market in Romania has known in the last two years a more pronounced change of the power equilibrium in the bank –client relationship, on behalf of the supplier of banking solutions towards the client. This change is more accentuated on that part of cooperative clients, where the number of the clients is still small, and the competition is big, and less notable in the bank’s relationship with individual persons. In this respect, the commercial banks have diversified their range of products, have become more flexible in the relationship with the clients and have decreased the interest rates.

Different approaches for different range of clients have appeared, but in the same time the innovation on the bank market has been quickly imitated. In this way, the “innovative” products become “standard” in a high speed.

Predictable evolution, sustained dynamics, a very high grade of competitiveness are just a few of the basic characteristics of the bank market specialized in companies. It is the place where the clients gain the hardest way and these are maintained with efforts and quality at the highest standards. Regarding the evolution of the financing products, in the last year we have noticed closeness in the financing conditions from the structural markets, a relative relaxation of the granting conditions, following the use of rating techniques, as well as the division of the activity between two or three banks.

Furthermore, together with the favourable evolution of the country risk, with the improved financial situation of the companies and the economic growth, the bank’s appetite for long term finance has increased. In this way after a period when the companies had mostly access to the short term credits, nowadays an increase of the maturity in the corporate credits towards 7-10 years is noticeable. The credit activity is headed towards the field of productive investments on longer terms that exceed five years and the credits for commerce activities have diminished. Under these circumstances, the commercial banks have evolved from short time financers, who offered only working capital for their clients, to suppliers that offer complete financial solutions.

In this way an intensive growth of the bank's portfolio is being accomplished, in parallel with the increase of the clients' portfolio. So, the lending products have diversified and financing structures have appeared meant to circulate the company's financial flux and to make risks easier to control. Furthermore, the credits for project financing will be more and more used, and there will appear new approaches of the complex projects.

Regarding the currency in which the credit is given, a sinuous evolution has been registered in the past few months. The credit in a foreign currency dominated in the first months of the year, but through the accentuated drop of the interests, through the nature of the operations of many companies and the elimination of the exchange risk, the credit in Lei becomes competitive.

The evolution in the last year of the financing conditions has been closely connected to the growth of the competition in the banking system. In this way, the accentuation of the competition has been determined by the very aggressive target of the majority of the foreign banks in increasing their market quota. In order to accomplish this objective, the commercial banks were forced to offer the corporate clients more convenient conditions. In certain geographical areas, the banking service offer obviously exceeds the request – especially on the segment of big companies and with a low risk – so that the competition to earn clients has become stronger and stronger.

The credit still represents the most important reason for which a company chooses a bank or another. The current offer regarding loans is relatively various, and the diversification possibilities are multiple, not only in the field of the lending, but also in the field of the monetary and capital market. We consider that on the market in general, the Romanian companies take little advantage from the possibilities of the banking sector of offering derivate products or finances through emission of obligations or commercial papers.

Although the banking products directed to the companies are almost standard, some of the banks present on the Romanian market try to differentiate the offer towards the competitors, and the good news is that in Romania innovation in the banking field is still possible, both regarding the products, as well as the offer characteristics. The adjustability to the specific needs of the company, the consultant and partner attitude towards the client, as well as the quickness and professionalism in the implementation of the offered banking services are the main attributes that we consider that differentiate one bank from another.

On the other hand, there are no magic recepies through which the banks can handle when facing the competition especially that the Romanian

market companies become more sophisticated and professional clients. They want dedicated solutions, a pragmatic approach and closer to their necessities, as well as bank counselling.

If it succeeds in being close to the client and in understanding its need, banks has chances in imposing itself on the banking market and win the battle with the competition.

5. Specific conclusion

The research was elaborated on the basis of a questionnaire that contains 38 questions and is structured in four main parts. The main conclusions that come from the research are the following:

I. The perception towards the banking activity:

1.1. Name the banks that you most often use or you know of:

Question

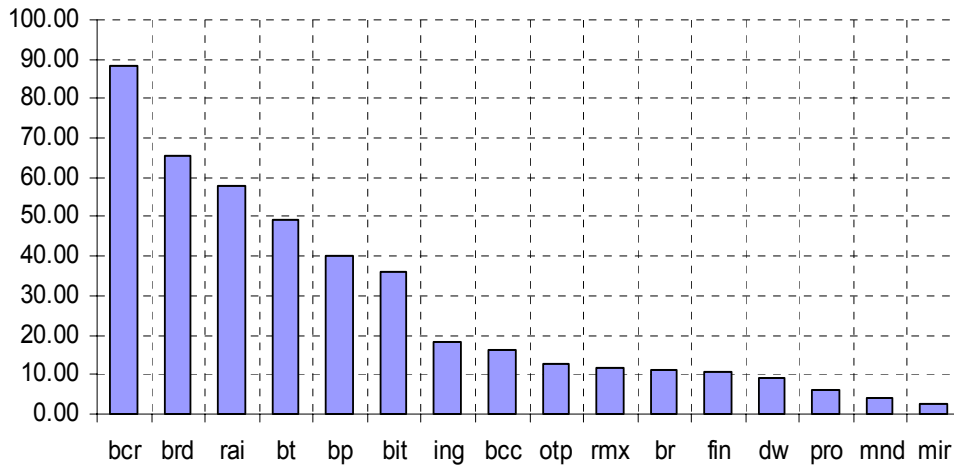
1.1.

No. of known banks

5

Banks' notoriety Ranking

position	1	2	3	4	5	6	7	8	9	10	Total
bcr	53	47	25	13	10	2	1	0	0	0	151
brd	17	30	15	26	13	9	2	0	0	0	112
rai	11	22	37	14	4	8	1	1	1	0	99
bt	9	18	15	15	14	5	7	1	0	0	84
bp	18	13	11	6	12	3	3	1	0	2	69
bit	15	8	13	11	3	8	1	1	0	2	62
ing	1	3	4	6	4	7	3	3	0	0	31
bcc	7	2	4	6	4	2	2	1	0	0	28
otp	10	5	2	3	0	1	1	0	0	0	22
rmx	8	3	3	1	1	0	2	1	1	0	20
br	1	3	2	1	4	2	1	3	2	0	19
fin	2	2	5	3	3	2	0	1	0	0	18
dw	9	1	0	0	2	2	1	1	0	0	16
pro	5	2	2	0	1	0	0	0	0	0	10
mdn	1	2	1	0	2	0	0	1	0	0	7
mir	2	0	1	1	0	0	0	0	0	0	4

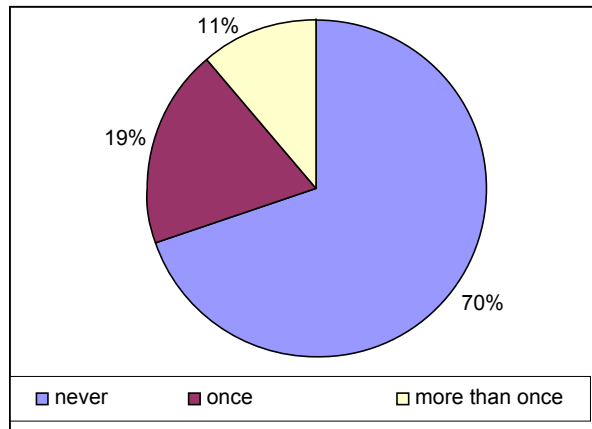


Thus, the degree of knowledge for ten banks, unassisted, places on the first three places the Banca Comerciala Romana (Romanian Commercial Bank), Banca Romana pentru Dezvoltare (the Romanian Development Bank) and Raiffaisen Bank

1.5 How many times did you change the bank you have been most frequently used in the last three years?

1. never;
2. once;
3. more than once.

1.5	
1	119
2	33
3	19
Non-response	0
Total	171

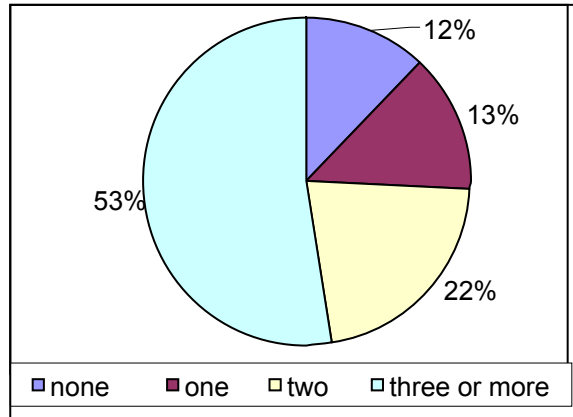


we discover that 70% of the interviewed clients have remained faithful to the bank they work with.

1.7. how many products or banking services do you use beside the running account:

1. none;
2. one;
3. two;
4. three or more.

1.7.	
1	21
2	23
3	37
4	90
Non-response	0
Total	171

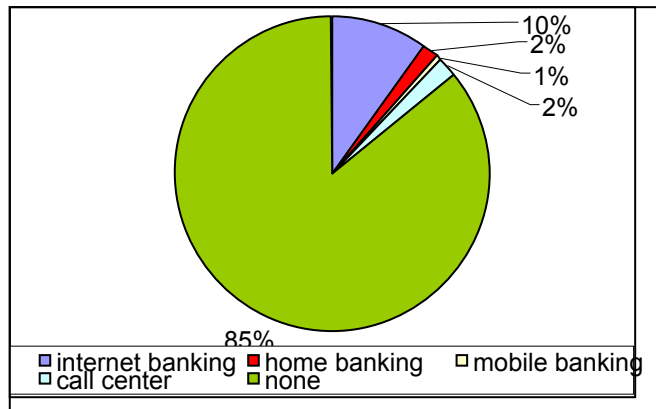


More than half of the interviewed persons specified that they use three or more banking products.

1.10. Which of the following products or services have you been using in the last 6 months?

1. internet banking ;
2. home banking ;
3. mobile banking;
4. call centre;
5. none.

1.10	
1	17
2	3
3	1
4	3
5	146
Total	170



Although the Romanian commercial banks spend important amounts of money to implement new products and services, we discover that 85% of the interviewed persons do not use not one even one of the new products.

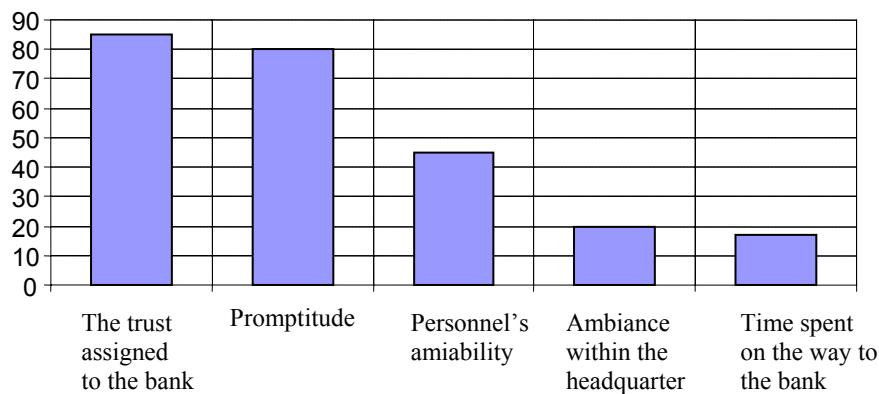
II. The attitude towards the banking services:

2.12. The greatest impact for you when choosing a bank is:

1. the trust you have in the bank;
2. the ambiance within the bank headquarter;
3. the amiability of the bank personnel;
4. the promptitude in solving your requests;
5. the time spent on the way to the bank.

2.12

1	85
2	20
3	45
4	80
5	17



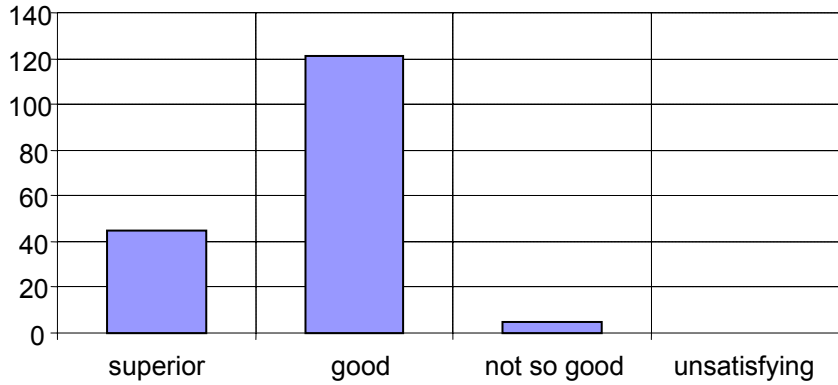
In Romania, when choosing a bank, the clients still take into consideration the trust they have in it.

2.20. You evaluate the efficiency of the process of solving your problems as:

1. superior;
2. good;
3. not very good;
4. unsatisfying.

2.20

1	45
2	121
3	5
4	0



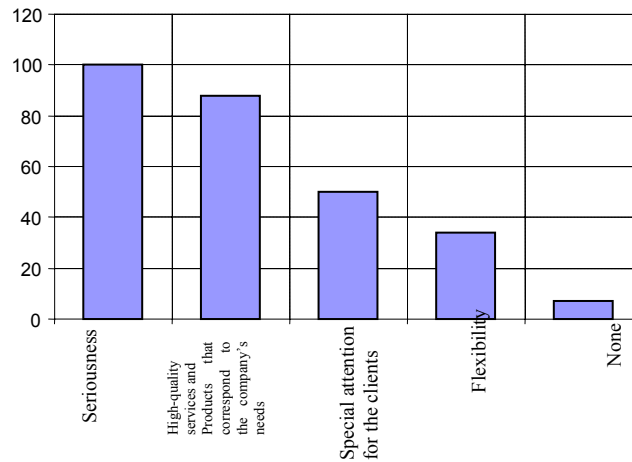
Although the banks make important efforts in order to improve the bank-client relationship, only 70% of the clients appreciate their relationship with the bank as good and only 23% of them consider it superior

2.21. Which of the following qualities match your bank:

1. seriousness;
2. high-quality services and products that correspond to the needs of my company;
3. flexibility;
4. special attention for the clients
5. neither.

2.21

1	100
2	88
3	50
4	34
5	7

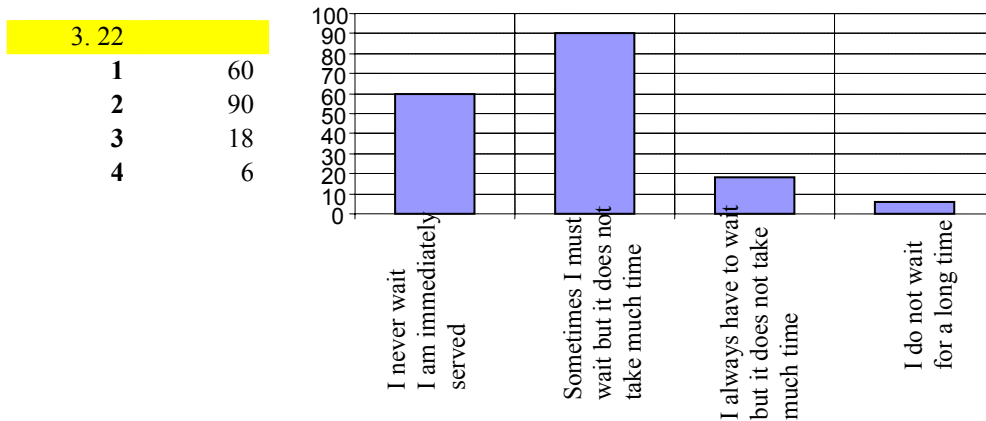


The main qualities appreciated by the clients are seriousness and high-quality services.

III. The quality of the services and products

3.22. How do you characterise the waiting time at the bank:

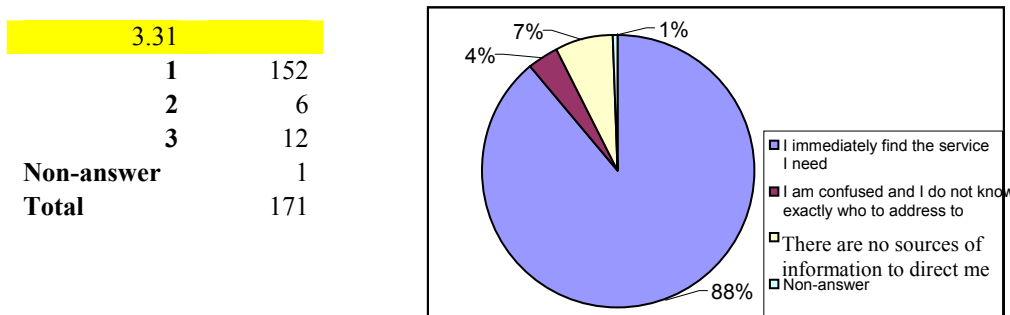
1. I never wait, I am immediately served;
2. sometimes I must wait, but it does not take much time;
3. I always have to wait, but it does not take much time;
4. I wait too much.



More than half of the interviewed clients consider that they sometimes happen to wait at the bank window, nevertheless, not for a long time.

3.31. How well are the signs and the posters directing you when entering the bank:

1. I immediately find the service I need;
2. I am confused and I do not know exactly who to ask for directions;
3. there are no sources of information to guide me, therefore I ask an employee for information.

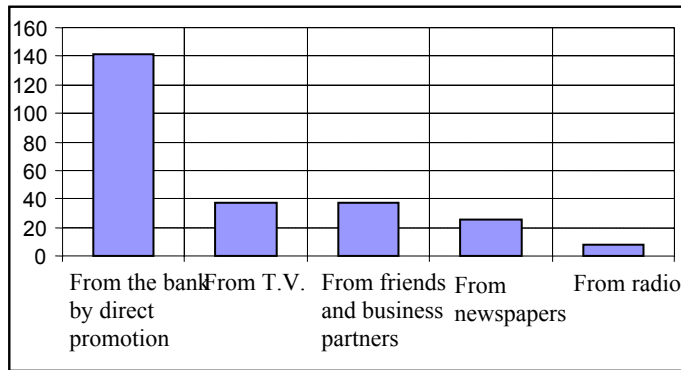


The clients can easily enter the locations where the services are performed, 88% of them being satisfied of the way the posters and signs within the bank direct them towards the services or the products they need.

3.33. You learn new information about new the banking services and products from:

1. the bank throughout direct promotion;
2. television;
3. radio stations;
4. newspapers;
5. friends and business partners.

33	
1	141
2	37
3	8
4	26
5	37



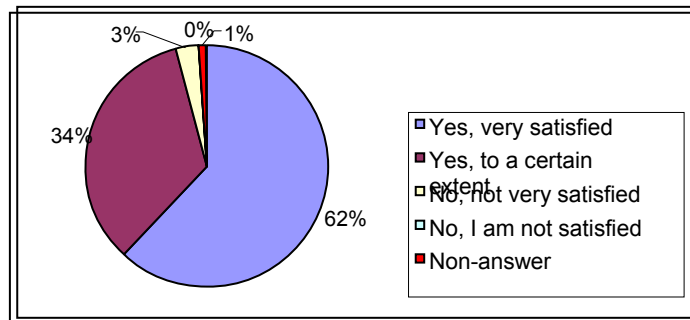
With the exception of the direct promotion, we find that a large number of clients learn about the banking services and products promoted by the banks from their friends and business partners.

IV. Clients' fidelity.

4.34. Are you satisfied by the bank-client relationship:

1. yes, I am very satisfied;
2. yes, to a certain extent;
3. no, I am not very satisfied ;
4. no, I am not satisfied.

4.34	
1	106
2	58
3	5
4	0
Non-answer	2

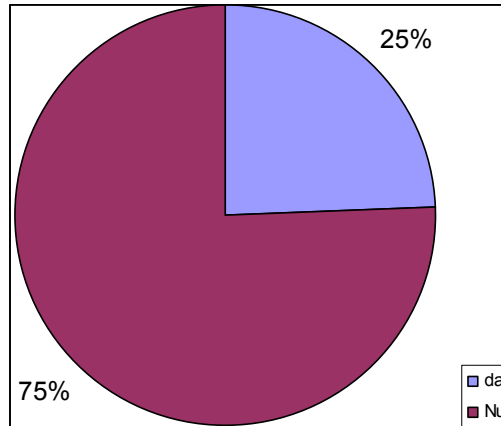


From the study we understand that most of the clients are satisfied about their relationship with the bank.

4.38. Did you know that there is a standard, respectively ISO 9004-2, that recommend the clear definition of the requests concerning the banking services:

1. yes, I did ;
2. no, I did not.

4.38	
Yes, I did	42
No, I did not	129
Total	171



As expected, the quality standard is familiar to approximately 25% of the interviewed persons; had the research extended also to the natural persons we consider that this degree of knowledge would have been even more reduced.

References

- [1] ZOLLINGER M., *Marketing et strategies bancaires*, Dunod, Paris, 1992, ISBN : 2-1000-1538-9
- [2] COUSSERGUES, S., *La banque: structures, marches, gestion – 2 edition*, Editura Dalloz, Paris, 1996, ISBN : 2-2970-2181-6.

THE ADOPTION OF ELECTRONIC BANKING SERVICES IN DEVELOPING COUNTRIES – THE ROMANIAN CASE

Octavian Dospinescu
Daniela Rusu¹

“Alexandru Ioan Cuza” University Iassy, Romania
Faculty of Economics and Business Administration
Department of Business Information Systems
Bd. Carol I nr. 22
700505 Iassy
Romania
e-mail: doctav@uaic.ro, rdaniela@uaic.ro
telephone: +0040 232 201 413

Abstract

The developments taking place in information and communication technology are affecting the financial institutions worldwide. This evolution had transformed the way banks deliver their services, using technologies such as automated teller machines, phones, the Internet, credit cards, and electronic cash. In this spirit, banking in Romania has been undergoing some changes. Many banks have been investing in Internet technology in order to maintain a competitive edge. This paper presents various aspects regarding the application of information and communication technology in the context of a developing nation.

Keywords: *electronic financial services, electronic banking, Internet*

¹ Grant TD 122 CNCSIS 2004 Romania, Grant TD 11 CNCSIS 2004 Romania

1. Introduction

In the financial sector, the last century has been under the sign of continuous liberalization and modernization. *The democratization of finances* (in an expression of Thomas Friedman) has been based in the first place on the development of the market of “commercial papers”(commitments that, since 1960, are sent to the public by corporations or even nations, introducing a sense of pluralism in the financial world and reducing the monopoly of banks). The democratization of investments has also been intensified on an international level when the set exchange rate and the strict control of cash flow system, that was founded in Bretton Woods after World War II, have disappeared at the beginning of the 1970’s. The moment when this system became more pliant, the developed countries democratized their financial markets, by opening them to the foreign participants, and the countries in the process of development followed the same example.

One of the most important revolutions “lived” by the banking sector has been set off by ... the new informational and communication technologies, “under the guidance” of the Internet. Under the impact of the new technologies, new types of banking services rose, the financial markets became more fluid and more efficient, and the consumers were able to choose from a number of offers – that often also come from other organizations than the banking ones.

The success of informational and communication technologies was bigger in the inter-banking transactions. Since many of the operations that take place between banks are standardized, their “digitalization” proved to be easy. In time, the important banks have developed their own ICT departments, have devised advanced networks and brought the informational operations that used to be externalized “in house”.

In the retail area, the ever growing power of the customer had the following effects:

- the ever growing variety of banking products;
- the cut in prices in the banking services;
- the increase of the quality of banking services etc.

All this came as a follow-up of the change of optic of the banking institutions, that have had to give up their traditional “pride” and become flexible, interactive, adaptable to customer’s demands.

But the ICT impact was not as large as in the inter-banking discount area. To choose a banking service is a complex decision, one that is hard to

make without direct contact with a bank employee. As a result, ICT have only been used by individual body customers in repetitive operations, such as taking out cash or visualizing the available sum in the bank account.

2. E-banking. General factors

The financial-banking domain has known an uncommon evolution in the last few years; the increase in volume of the transactions in this field has been accompanied by a diversification of the services offered by the institutions in the branch. Under these conditions, the use of some IT solutions that were able to answer some more and more specific needs became a mandatory requirement for the growth of operational efficiency of financial institutions.

The banking service market is not exactly new. In Romania “electronic banking” was introduced since 1996, first by the foreign banks and then (starting from 1998-1999) by the local banks as well. The fact that since 2001 some of the banks have moved on to the implementation of “internet banking” could determine us to draw the conclusion that the Romanian market has matured and is offering services so as to cover the new needs of the customer. Even so, the obtained results do not come up to the expected level yet; practically, five years after the first home-banking service emerged in Romania, from the over six million customers of the banking system, the number of users of home banking services (whether we are talking about I-banking, e-banking, phone banking or mobile banking) barely comes close to 10.000².

Because of the fact that the mass of banking service users in Romania is growing continuously, as are their skills in using Internet technologies, the expectations include modern services from the banks: accessible, with high performances and comfortable in Internet technology. The banks themselves need robust and advanced computing infrastructures that are able to integrate the existent applications, out of practical reasons, in an evolutionary rather than revolutionary manner. In Romania, right now, these tendencies are very much accentuated by the positive dynamics of the banking sector.

From a functional point of view, a high performance e-banking application should distinguish itself through easiness in navigation, meeting the customer’s demands, selective access to content based on needs/types of consumers, credit simulation and diagnostic tools and, of course, for the authorized customers, the whole set of banking operations for consultation and administration of the bank account and bank transfer.

² <http://www.no-cash.ro/sti/stiric15.html>, accessed in September 2005

Technically, response time and system reaction, pertinence and selectivity of the search engine are the important ones. The last, but not the least, the security of the application operation and of the traveling information should be built, maintained and monitored in a manner beyond doubt. For the business to business applications, which serve the really important transactions in the banking activity, the requirements are made to match. These applications have to change with each other an impressive amount of data and, furthermore, to react to a standard number of events with standard functions.

3. Risks for e-banking

The companies from the financial sector that were interviewed by the Gartner analysts have showed that they intend to invest about 10% on average from the total IT budgets in risk management products and services. The analysts consider that in 2006 the risk management will continue to situate itself in the top of the priority lists of the companies from the financial sector. And as this subject becomes more important, the responsibility to build some risk management strategies is attributed to a higher level of the organization's management. The strategic responsibility is shifted from the individual department's level to the corporation's level.

Although for the financial companies the risk is becoming an element that needs to be kept under control under any circumstances, in the case of implementation of some IT projects, risk management becomes a key to success. The risk may come from the direction of businesses, of people or of IT elements. While certain risk elements are obvious, others are more difficult to identify. The risks may vary during the life span of a project and are, in general more significant in the last stages of the project. Still, risk management, the active and continuous process of risk identification, of analysis and reply to the risk factors, must begin even before initiating an e-banking type project. The organizations have to recognize the fact that risk management is a repetitive process, and that's why it takes regular risk reevaluations. IDC considers that at the core of IT projects failure there are many causes that are not immediately obvious.

4. The interoperability of e-banking solutions and the Web service market

The interoperability of e-banking solutions is a mandatory requirement for the bank-implemented solutions, and necessary for ensuring the connection of the existing applications at the level of a financial institution and for the interoperability with various systems of the partners.

According to the estimates, the global market of Web services and that of the solutions dedicated to application interoperability was estimated in 2004 to approximately 3,4 billion USD. For the next years an important evolution is estimated for this sector, Web services covering a more and more acute demand of IT system integration. Thus, in 2008 the market of solutions based on Web services is estimated to approximately 11 billion USD. A consolidation of the market of solutions based on Web Services for the 2004-2008 timespan is foreseen. The defining of some evolved standards, as well as their acceptance by an ever-growing number of companies will contribute to the adopting of this technology on a wider and wider scale. Considering the transmission of relevant business information through the Web, the use of methods which allow the implementation of an enhanced level of security and which ensure data confidentiality is absolutely necessary. The achievement of standards as comprehensive as possible in the Web service field is a priority for the next years. The future versions of the Web service standards, available for now in the testing phase, will allow the encoding of data transmissions and the use of digital signatures. For the SOAP protocol, extensions for the attachment of identification elements will be available, ensuring an efficient control of the identity of the users which make the connections.

An example of implementation of the interoperability of IT systems on a national level in Romania is the electronic payment system implemented by BNR (National Bank of Romania). The process of modernization of the system began in 1995 with the improvement of BNR's ability to implement the monetary politics, the modernization of the payment on paper system and the nearing to a society predominantly without cash. Through the second stage of the process, which takes place in this period of time, the facilitation of the development of economy is targeted through the enhancement of security and of the efficiency of the inter-banking payment system, the passage to a society predominantly without cash, as well as the establishment of a well founded legal base for the payment and discount system. The project is operational in this moment, ensuring the interoperability on the level of IT systems from different banking institutions.

5. Romanian data and realities regarding e-banking services

If the "Internet Banking" service has its beginnings somewhere around 2002 here, on a global level it has emerged since 1990, when the "Wells Fargo" Bank in California, USA, introduced the first service of this kind in the world.

According to the statistics of the Ministry of Informational Technology and Communications, the number of users of electronic payment systems with access from a distance is over 56.000, representing a growth of 26% compared with 2004. Also, the value of the payments expressed in euro equivalents has increased from 6,9 billion euros in the first trimester of 2004 to 12,6 billion euros in the first trimester of 2005.

Internet banking is a service offered to the customers by the banks, a service through which online banking operations are facilitated, from a distance. All that it takes is a computer, no matter its location and a connection to the internet. The access to this service is ensured all year round, 24 hours a day, 7 days a week. Except for its high availability, this service also offers the advantage of simplicity. Generally, surfing on the Internet-Banking dedicated sites is simple and intuitive, most of this product's interfaces being "user friendly".

In Romania, for a bank to be able to provide its customers with the Internet-Banking service, it has to obtain an approval from the Ministry of Informational Technology and Communications (MITC). In the present moment, according to the information on the MITC site, a number of 30 Internet banking, mobile banking and home banking services are approved. Most of the sites for these services are secured and guaranteed by the Verisign company, so that the customers are able easily recognize and verify its authenticity. Without trying to promote certain bank names in Romania, we present in the following table a few e-banking type functional products, as well as their main security features.

Table 1 – Internet Banking Services in Romania

<i>Bank</i>	<i>Product name</i>	<i>Security</i>	<i>Customers</i>
<i>Alpha Bank Romania</i>	Alpha Web Banking	Electronic signature A/S 400 & Midas	Corporate body
<i>Italo-Romena SpA Italia Treviso Bank</i>	WirWeb	Firewall against unauthorized access Communication channel secured through the SSL protocol with a 128 bites length of the encrypting key. Digipass type device that generates unique access codes.	Individual body Corporate body

<i>BancPost</i>	Internet e-bank	The data exchange takes place under a SSL3 secured protocol that uses an 128 bites encrypting key and 3DES Firewall algorithm and intrusion detectors at Internet access level The customer authenticates himself/herself through a Digipass 300 (token) security device	Individual body Corporate body
<i>BRD Group Societe Generale</i>	BRD-NET	For the encrypting of the transmitted data the SSL 128 bites security protocol is used BRD-NET is provided with 80 connections that can be made with the same password	Individual body Corporate body
<i>HVB Bank</i>	Online Banking	Data encoding 128 bites SSL Three security levels access system Digipass 300 security device	

Source: ComputerWorld Romania, May 2005, no.9 (268), p.13

6. Conclusion

The Internet, phone, mobile or electronic banking offer on the Romanian banking market is in full development process, and the banks have to win the confidence of the individual and corporate body customers, taking into account the fact that the transactions that are made on the online system are perceived as incorporating a high risk factor. But the level of accessibility regarding the performing of banking operations straight from the company office or from home without depending on the opening hours of pay-offices determines a growing number of customers to resort to this kind of services.

A market is initiated and stimulated to grow and, in consequence, the banks have the role of getting involved in the forming of the future demand for this kind of services on the Romanian banking market, as the economy and the society develop. The role of banks is in this sense very important, consisting in the rise of the knowledge level in most modern practices, work techniques and in the adjustment of customers to these. In many cases, the Romanian customers do not resort to e-banking services because they are not familiar with them or because they don't understand them well enough.

On the other hand, the potential user's trust in the e-banking services is just one of the factors that influence the manner in which this market develops. Also here we can add the lack of information amongst the population, the legislation regarding the electronic signature, the national payment system.

References

- [1] BNR Site (www.bnr.ro)
- [2] GARDENER, E., VERSLUJIS, P., *Bank Strategies and Challenges in the New Europe*, Palgrave, 2001
- [3] MCTI, Site (www.mcti.ro)

MOBILE BANKING SERVICES IN ROMANIA¹

Daniela Rusu

Octavian Dospinescu

“Alexandru Ioan Cuza” University

Faculty of Economics and Business Administration, Department of Business

Information Systems

Bd. Carol I nr. 22

700505 Iassy

Romania

e-mail: rdaniela@uaic.ro, doctav@uaic.ro

telephone: +0040 232 201 413

Abstract

The field of mobile technologies has been particularly dynamic during the past few years. The number of mobile phone users has grown permanently. Mobile operators are involved in launching new technologies which allow for an ever faster and better data exchange. The degree of expansion of the mobile phone networks, fast penetration rate of handsets and the emerging use of banking services via the fixed Internet are the main reasons for a strong anticipated growth of mobile banking, a mechanism with a number of unique advantages. This paper discusses mobile banking services aspects, with specific attention focused on the development of a new model for analyzing mobile banking solution. The proposed model focuses on the customer's motivation and preferences. Also, there are presented the results of an investigation regarding mobile banking services in Romania, in the framework of the new model of analysis.

Keywords: *mobile financial services, mobile banking, mobile Internet*

¹ Grant TD 11/2004, CNCSIS Romania, Grant TD 122/2004, CNCSIS Romania

1. Introduction

The fulminatory development of the last decades in the informational technology has created a context in which global market has become a relevant arena for the economic competition. The commerce, the electronic and mobile business – radical innovations which have the potential to drastically change the current products and processes- have as a support this informational technologies' evolution and are an important element in the enlargement of globalization's action sphere.

The evolution of informational technologies continues in the same astounding manner and their communication component becomes more and more obvious. A foresight form the specialized literature² says that until 2010, the data communications will rapidly develop and will become more important than even the computer processing. They have gone hand in hand until now, but we are slowly moving from a computer era towards a communication era. This affirmation is supported by a score estimated by ITU: the number of mobile telephony users exceeded 1, 5 billion persons (a quarter of the Globe's population), in the middle of 2004.³ The rhythm of development of mobile telephony surpassed the fix telephony one: the wireless communications develop six times faster than the fix telephony services⁴.

In this context, the mobile devices and technologies will continue their evolution too. All the progresses registered until now hardly represent, according to literature, **the first step in acquiring mobility**. The successful combination between services applications with added value, the developing capacity of transmission, the more and more extended development area, the better and better quality of services continue to impose mobile telephony as an indispensable comfort.

The continuing development, the happy marketing approaches and the harsh competition lead to a permanent development of mobile telephony. The financial services have achieved an important position within the mobile industry.

² Fitzgerald, J., Dennis, A., *Business Data Communications and Networking*, John Wiley & Sons, Inc., 2002

³ „Biz”, nr. 98, 1 – 15 februarie 2005, p. 40

⁴ Oprea. D., Meșniță, G., *Regula 4x20 în informatica ieșeană (The 4x 20 rule in the informatics of Iasi)*, in Meșniță, G. (coordinator), *Societatea informațională – Educație, cercetare, sisteme informaționale, tehnologii informaționale (Informational society-Education, research, informational systems, informational technologies)*, Tehnopress Publishing House , Iași, 2004, p. 26

2. The mobile financial services

The mobile financial services are a *sub-set of mobile commerce* and include *the financial transactions carried out through the agency of portable devices*. Metaphorically speaking, they represent “an important step towards a cashless society”⁵.

There are three main categories of financial services that have been adapted to the business development mobile environment:

- Stock exchange transactions;
- The payment of goods and services counter value;
- Bank services.

2.1 Stock Transactions via Mobile Phone

Stock Transactions via Mobile Phone are an extension of the type of transactions practiced on the Fix Internet. When the stock activity is carried on on-line, the presence of intermediaries isn't required anymore. Relevant information about actions, obligations etc. can be obtained directly, by searching on the Internet, and the persons interested can express the desire to invest through the agency of the Internet. The strong competition in the field, combined with small transaction costs, has strongly reduced the taxes afferent to the brokers' services. As a result, the number of on-line investors has grown and is continually growing. With the help of mobile communication services, it is possible for new services destined to investors who possess a mobile device to appear, such as:

- the transmission of alerts/notifications to the persons interested, based on predefined factors: at a certain period of time or at the quotations' fluctuations between certain margins;
- the transmission of personalized news , selected according to the persons' interest field and delivered to them by SMS or with the help of a WAP portal;
- immediate consultancy services, at the request of the beneficiary of such a service; the administration of the portfolio and the titles' quotation evaluation.
- the buying and selling of financial titles.

⁵ Hyun Jun Yong, BankOn LG TeleCom, in Ihlwan, M., *There's a Bank in my Phone*, „Business Week”, September 27 2004, p. 30

2.2 Mobile payments

With the help of mobile devices, both the goods and services acquired in the mobile environment, and also the goods and services acquired in the “traditional” manner can be paid. We continue by presenting a series of classifications of mobile payments, meant to help examining and classifying the concept from different angles.

According to the *moment* in which they take place, the mobile payments can occur immediately (from a debit account) and even previously (from a pre-paid sum) to the acquisition moment. According to the *type (nature) of the acquired goods*, the payments are divided into payments for physical (real) goods, for digital (virtual) goods or for different services. From the *geographical* point of view, the mobile payments can be national or international. Taking into account the *currency involved in the transaction*, the payments can be carried out in national currency, in one or several currencies.

A more technical classification divides the mobile payments according to the place where the beneficiary’s account information is stocked: on a server from the financial institution network or a telephony operator, in the user’s mobile device or on a card inside the mobile device.⁶ By analyzing in more detail, we identify three ways of stocking the client’s financial information in his mobile phone⁷:

- Mobile with only one chip : a bank application is stocked on the SIM card (elegant solution, dependent on an a certain bank and on a certain operator. The SIM card has also WIM functionalities (Wireless Identity Module) and other supplementary functions;
- Two cards are inserted in the phone – the one belonging to the mobile telephony (SIM) operator and to the financial institution (WIM), foreseen with PKI⁸ and one for the mobile devices.
- Dual Slot: the phone has two slots, one for the SIM card and one for a normal dimension card.; in this situation, the user places the bank card in a card reader and then pays with mobile phone (it is a rather awkward alternative for an usual

⁶ Telecom Media Networks 2003, *Mobile Payment: Money in Your Hand*, at <http://www.capgemini.com/tme/pdf/MobilePayments.pdf>

⁷ Kalliola, M., *Mobile Payments*, la http://www.tml.hut.fi/Opinnot/T-109.551/2005/reports/Mobile_payments.doc

⁸ PKI – Public Key Infrastructure

person but can be used in the B2C sector – for the use of ambulant sellers or the delivery personnel, for whom the transportation of a normal card reader would be difficult). The Dual Slot Mobile was used by the French system „Payment sur Mobile CB”.⁹

Some payments can also be made through SMS, with a usual mobile phone, provided with only one SIM chip. Some operators can provide SIMs with payment applications. There are also mobile phones foreseen with a special key, through which a menu dedicated to the mobile parts is activated (the NTT DoCoMo I-mode key of Japanese mobile phones).

The mobile payments systems can also be classified in *closed and open systems*.¹⁰ The closed systems characteristic, which is of a majority, is that both the phone possessors, and the traders have accounts at the same bank, this being connected with the mobile telephony operator that intermediates the payments. With the less numerous open systems, several banks and mobile operators can participate, with their interconnected networks. The transactions are mediated, in this case, by a payment services provider (mobile operator, a bank or an independent entity).

According to their purpose, the mobile payments can be used in three main fields: in the mobile commerce, within the banking mobile services, and also in the mobile payments of bills (mBilling). The three fields are superposed.¹¹

Among the most common classification criteria in the specialized literature, there are the payment value and the place of payment.

According to the *payment value*¹², there are:

- Micro payments (with a value of 10 euros or USD);
- Macro payments (in which larger sums than 10 euros or USD are involved).

The distinction according to the payment value is important especially for security reasons: in the case of macro payments, stronger procedures of payer's authentication are necessary (PIN, user name and password or even authentication certificates), while in the case of micro payments, the

⁹ a description of this service can be founded at <http://www.jrc.es/cfapp/invent/details.cfm?uid=13>

¹⁰ Vasilache, D., *Plăți electronice. O introducere (Electronic payments. An introduction)*, Rosetti Educational Publishing House, Bucharest, 2004, p. 225

¹¹ Vasilache, D., *Read Works.*, p. 227

¹² Mallat, N., Rossi, M., Tuunainen, V. K., *Mobile Banking Services*, in the magazine „Communications of the ACM”, May 2004, Volume 47, Number 5, p. 43

authentication can be made only according to the PIN checked by the operator or bank or can even be absent.

Taking into account the place of goods or the paid service, the following mobile payments categories can be identified:

- Local payments, to a device (POS ¹³ from a shop or a street automaton, provided with a special apparatus) found in the proximity of the mobile terminal's possessor. The user utilizes, most of the times, a prepaid account, of electronic pocket book type, and the discount is made between the bank that issued the pocket book and the accepting bank, that has the equipment to which the payment was made. A preliminary understanding is necessary between the network operator and the bank that issued the pre-paid accounts.
- Distant payments (through the agency of electronic networks). These payments are also called OTA payments (Over the Air). Distance mobile payments are made through the mobile operator, using usual telephony protocols (GSM, CDMA, GPRS etc.), SMS or the Internet access through WAP. The other actors are the issuing banks (that have control over the one who pays) and the accepting banks (where the traders' accounts are) and eventually, the intermediary (the payment services provider).

By combining the last two criteria we obtain several mobile payment categories.

The *micro-payments* made at the distance, through the agency of the telephony operator network, allow paying the informational content and the services acquired through the agency of a mobile device (different types of information, sounds, logos, digital format tickets for several events, participation at network games etc.) The micro payments to a POS found in the proximity of the user allow the direct or intermediated by a human operator payment of small value goods (newspapers, restaurant meals, goods offered by street automates etc.)

The issuing of immaterial shape tickets can be easily assimilated by the mobile payments. The person to person payment through the agency of the mobile phone is advantageous, for example, in the case of relatives who live in different countries.

¹³ Point-of-Sale

The micro payments are intended for the payment of great value goods and services, bought on the Internet or in the traditional manner.

The numerous classifications presented above foresee the fact that mobile payments have found ways of various materialization, such as:

- The adding of the counter value of goods and services acquired at the mobile phone bill, modality that has the advantage of being familiar to the user. For example, the seller contacts the mobile phone operator, who supplements the value of the user's bill (the m-play Vodafone service functions in this way). In this category the added value payment by SMS is also included.
- The deducing of mobile payments from the user's credit account (Mobile Payment forum works at a standard for this type of payment); the mobile phone works as a credit card; a variant of this type of payment is the extraction of the due sum from a buyer's separate account, meant for mobile payments (the risks are reduced, but the user has the supplementary concern to administrate a new bank account);
- Payments from virtual accounts or from pre-paid SIM cards- the virtual sums are in fact the proof of the previous payment of a sum of money to a person who gives such payment solutions. The "loaded" sum can be spent through the agency of mobile technologies, and of course rebuilt by previous depositions. The payments from virtual sums are especially used by persons who do not have a bank account (such as children and persons living in isolated areas). Their advantage is the low risk, for all the payments involved in the transaction. The main disadvantage consists of the fact that blocking a sum of money in a virtual account does not bring any profit to the user, but rather to the provider of this payment solution; moreover, the depositing of the sum is a step forward in a transaction whose main trump is simplicity;
- Other ways of payment: the transformation of loyalty points in currency for several acquisitions; the payment according to use session (in the case of video-games for example)

2.3 The mobile bank services

M-banking can be defined as "that part of products and services, of relationships established between banks and their clients or between banks

and other banks, based on a mobile device or which use as a transmission support a mobile telephony network.”¹⁴

The *m-banking* services are generally modified versions of Internet banking services type, which suppose to serve the bank’s client from a distance, through the agency of Internet technologies. Both types of services have as an advantage the decrease of bank transaction costs (there are providers of mobile payments technologies who claim they have reduced the transaction cost below 1 cent, very small value compared to the cost of a transaction through ATM -27 cents or with a cash transaction- 1.07 USD¹⁵.) From the user’s point of view, mobile-banking means making bank operations from your own mobile device¹⁶. The bank services can be divided in two distinct categories: basic services and advanced services.

Basic services have the same functions as the one met in the case of Internet:

The visualization of account extracts, of recent transactions, of interest rate and of exchange currency, fund transfers, the bill payment. The simplest form of m-banking is interrogating your personal accounts’ sold by SMS. It makes use of the person’s natural interest regarding his financial situation, offering him the possibility to find out conveniently and immediately his own financial situation, no matter the place where he is or the moment of the day,.

The services belonging to the fix Internet field must be adapted to the restrictions of mobile devices by using predefined forms and processed with an established course.

Advanced services must be capable to increase consumers’ loyalty and to differentiate the rest of current bank services, being especially designed for mobile consumers. A few examples of such services are: account extracts sent when the account reaches a certain limit, notifications related to the credit line, installment simulators, instantaneous contracting of consume credits etc.

Generally, the access to advanced services is conditioned by the use of a “smart” mobile phone, with Java, WAP, GPRS incorporated facilities.

¹⁴ Butiri, A., Nițchi, Ș., *Mobile Banking*, in Vol. International Symposium Works „Specializare, Dezvoltare și Integrare” (*Specialization, Development and Integration*), S.C. Roprint S.R.L., Cluj Napoca, p. 179

¹⁵ Dandapani, K., *Success and Failure in Web-Based Financial Services*, in the magazine „Communications of the ACM”, May 2004, Volume 47, Number 5, p. 32

¹⁶ Butiri, A., Nițchi, Ș., *Read Works*, p. 179,

3. The stage of development of mobile financial services

As far as the **stage of development of mobile financial services** is concerned, we appreciate the fact that among the facts that determined the proliferation of mobile solutions use in the field of financial services, there are:

- *The impressive penetration of mobile phones at the world level*, in a relatively short period of time;
- *The personal nature of mobile devices*, which make them appropriate for the administration of your own money funds;
- *Positive experiences of use of informational technologies and of financial transactions communications* (Internet banking, home banking).

Although the number and variety of contemporary mobile financial services are impressive, many of these are in an early stage of development and haven't reached the number of users which can ensure their success and survival. And generally, the degree of mobile financial transactions' penetration is reduced, both compared to the number of mobile devices possessors and also compared to the number of persons who have a bank account.

We continue by presenting part of the reasons for the weak development of financial transactions in the mobile environment.

- *The limits of the current technologies*. If in order to receive bank information by SMS only a usual mobile phone is necessary, the complex financial applications require technologies of an improved data transmission (GPRS, Java). The promised step towards third generation technologies (3G) will allow the development of these services' application, which will become faster and more comfortable, cheaper and more standardized;
- *The immaturity and deficiency of mobile devices*. Very often, in order to activate a financial application, complex settings of phones are required. From another point of view, complex settings of phones are necessary. From a different approach, there are not enough automates provided with technologies such as infrared rays, identification based on radio frequencies (RFID – Radio Frequency Identification) or Bluetooth, which accept the payment from a mobile device. For small sums, because of the simple reason of comfort, the cash payment is

preferred. All these technologic difficulties make the evolution of mobile payments hard to foresee.

- *The existence of a “negative publicity” phenomenon.* The profile press, not to become too excessively enthusiastic from the boodot.com period has treated the newly-come mobile commerce with reserves.
- *Security problems.* The payment through the mobile phone seems safer than providing the details of the credit card to a human operator. The security mechanisms such as digital signature and PKI contribute to the creation of a safety feeling. Nevertheless, the attackers of information have easily adapted their methods for the mobile telecommunication sector. Together with interceptions or mobile viruses, already in circulation, dangers of the identity stealing type can appear (by phishing and phreacking). Moreover, many times, especially for micro payments, the implementation of some supplementary security mechanisms would be too expensive.
- *The lack of safe and interoperable standards for the mobile payments.* The phenomenon is paradoxical: although there are a multitude of forums and the consorts constitute in the purpose of standard formulation, a general accepted model delays to appear. In this context, constituting a mobile payment global market is difficult.
- *In the area of micro payments, persons are not willing to pay for the information that can be found on the “traditional” internet.* The psychological threshold of payment accepting has been overcome only in the case of digital products (such as sounds or logos that personalize the mobile phone) that could only be acquired by buying them, ever since they appeared. Even those who pay for the goods acquired by mobile phone prefer to do this periodically, by subscription. Moreover, there are not many products which can be sold in exchange of small sums of money. This thing can be changed if we take into account initiatives such as Google¹⁷ that intends to create a huge on-line library, project for which they are already collaborating with famous names such as Harvard or

¹⁷ Hof, R., *Noua putere în tehnologie (The new power in technology)*, article „Business Week” taken in “Biz”, no 108, 8 - 20 July 2005, pp. 40 – 45

Michigan. Accessing information from virtual libraries or archives is made by payment, by using micro payments.

The estimation regarding the evolution of mobile payments is generally optimistic. It is estimated that towards the end of 2005 and the beginning of 2006, the effect of competition between Visa, American Express and MasterCard will be felt by the evolution of mobile payments, and in 2008 they will be adopted on a large scale in USA.¹⁸ According to other previsions, in 2009 the incomes generated by mobile payments will be greater than 50 billion dollars.¹⁹

The immediate reality does not seem to confirm these expectations. While, according to the borings, more than a quarter of the Europeans are willing to pay with the mobile²⁰, the USA banks have given up mobile services, because the number of users was not satisfactory. A possible indicator for the ulterior evolution of mobile payments is the current situation of North Korea- an excellent space of testing for the communication technologies. Here, tens of thousands of restaurants and shops have already terminals reading bank information from the phones, by infrared rays. The access to the subway or bus station is also paid by phone.²¹

4. The place of mobile technology in the developing countries

The reality according to which different people, different cultures and areas within a nation do not have access in the same way to information and communication technologies, is referred to with the term *digital divide*-translated by “digital gap”, “digital disparity” or “digital division”. A term referring strictly to the differences between countries and regions on the globe regarding the access to TIC is *global digital divide*.²²

¹⁸ Ganapathy Subramaniam, N., director executiv, Tara Consultacy Services, India, in Swann, J., *Mobile Payment Technology Could Hit It Big In The Remittance Market, But Adoption Challenges Remain*, „Community Banker”, Jan 2005, vol. 14, p46(2), online version at

http://web3.infotrac.galegroup.com/itw/infomark/137/226/92002071w3/purl=rc1_SP00_0_A127433583&dyn=33!nxt_1_0_A127433583?sw_aep=uaic

¹⁹ ARC Group, in Swann, J., *Read Works*

²⁰ AT & Kerney and Judge Institute of Management Studies, quoted in Mușătescu, M., *Schimbarea la față a mobilului* (The mobile’s change of look) „Business Magazin”, Nr. 23 (10/2005), 16-22 March 2005, p. 51

²¹ Ihlwan, M., *Read Works*, p. 30

²² Haag, S., Cummings, M., McCubbrey, D., *Management Information Systems for the Information Age*, 4th Edition, McGrawHill Irwin, 2004, p. 246

The phenomenon *digital divide* is persistently tackled in the specialized literature of the beginning of XXI century and is the object of concern for a great number of institutions.

The easiest way to “build a bridge” over the digital gap is providing the less developed countries with computers and the founding of consultancy centers. Samples of these initiatives can be found in great number in magazines such as “Business Week”, “The Economist” or “Harvard Business Review”. UNO, for example, has launched a “Digital Solidarity Fund” for financing the projects that address the “unequal use and distribution of TIC” and allow the “excluded countries and persons to enter a new era of informational society”²³.

However, a contrary idea was recently discovered in the same magazines’ pages: providing persons with computers only builds a feeble bridge between the two margins of the imaginary gap. There still remain the serious discrepancies between incomes, the level of development and of education. The people from the countries in course of development have greater needs than those of desiring TIC, such as providing for food, taking care of their health and personal security.

Taking into account these fund elements, they reached the conclusion that mobile telephony has a much bigger potential of reducing the digital disparity than the more sophisticated calculation technique, because of the more reduced costs of devices and their use and of the fact that approximately 77 % of the world’s population already lives in areas covered by mobile telephony networks. The technologies of mobile data transmission seem to have a greater long term impact on the development of countries of the second world. In this respect, a study²⁴ of “London Business School” shows that an increase of 10 mobile phones per 100 persons has as a result an increase of 0,6 percentage points in the Gross Internal Product.

Their governments, who must support the free competition, are the first who can influence the development of mobile telephony in the countries in course of development. The device producers play an important role in providing the persons from countries in course of development with mobile phones. Although the biggest majority of their incomes result from selling sophisticated phones in the developed countries, the markets of these countries are becoming full. As a result, producers have oriented themselves towards the countries in course of development, offering rudimentary telephones, with long lasting battery independence, at very low prices. More sophisticated telephones also sell well in the poor countries, where they play

²³ ***, *The Real Digital Divide*, in „The Economist”, March 12th 2005, p. 11

²⁴ ***, *Calling an End to Poverty*, in „The Economist”, July 9th – 15th 2005, p. 51

the role of a social symbol and supply for other devices, such as radios or PCs.

The next table presents the factors with positive and negative implications on the m-readiness level in Romania.

Table 1 A possible appreciation of m-readiness level in Romania

<i>Positive factors</i>	<i>Negative factors</i>
The rate of mobile telephony penetration in Romania in 2004 was of 48% of the country's population. The estimated increase for 2005 is of at least 10%. The rate is visibly higher than the penetration of personal computers.	The penetration rate is still reduced compared to the higher than 100% rate reached in the developed countries
The main operators have already launched (Connex) or are intending to launch (Orange) 3G advanced data services (video calls, Internet files download, games, music, live TV etc.) They also address the companies with offers such as IP Data services, point-to-point services, or the wireless Internet access. In the future, the operators intend to introduce Unified Messaging as well.	For the time being, the pre-paid services (the use of cards) are the most common in the entire operator's activity. This fact shows a reduced level of mobile telephony users' incomes and questions the use of devices for the transmission of Data (other than the rudimentary way of SMS)
The operators have signed partnerships with content providers such as MTV or UEFA Champions League.	
The phones with advanced functions sell better and better in Romania.	In 2004, only 1-2 % of the phones sold in Romania were smartphones. ²⁵

Concluding, we can appreciate that although Romanians are some of the most open consumers as far as mobile telephony is concerned, the national market is not yet ready to adopt data services on a large scale.

²⁵ Antohi, D., *Românii preferă telefoanele cu ecran color și sunete polifonice (Romanians prefer phones with colored screen and polyphonic sounds)*, în „Biz”, no. 101, 21 March - 4 April 2005, p. 34

The only mobile services which have reached a certain level of development are the financial ones, analyzed in the following lines.

5. Adopting mobile payments in Romania

As it was previously shown, many economical organizations, traditional players on the market of financial services and not only, have identified opportunities and niches in this area and have proposed solutions to these issues. Among the numerous projects, launched in very short periods of time, many don't overcome the pilot stage. Few applications were rapidly accepted on a large scale by the mobile telephones possessors (an example is the payment of small value digital goods by the mobile phones possessors by SMS). Because of this reason, the analysis of existent applications from the point of view of their beneficiary is considered appropriate. The necessity of this kind of analyses is obvious, if we take into account the fact that the attractiveness of a certain financial solution for the consumers determines its success and development.

Generally, the mobile financial services are appreciated by their users because of the independence from the place and time of their occurring and implicitly, as a synergetic effect of these two characteristics, because of the comfort they offer.

Beyond these general advantages, the characteristics of a mobile system that we consider relevant from the point of view of its potential user are:

- The necessity of adapting the mobile phone to the payment system- the importance of changing the SIM card or even the phone in order to be able to use the mobile solution can be considered a serious obstacle in the way of adopting the application.¹¹;
- The necessity of registration- signing a contract may not be necessary (for example in order to pay some goods at the street automates) , it can be made through Internet or through the mobile phone or may obligatorily require the physical presence of the person; the users will accept more easily the systems for which the registration is easy, but only with the guarantee of the data confidentiality.
- The dependency of payment solution on a certain telephony operator can be a serious impediment in its implementation- the users will not easily accept to change the company they are subscribed at;

- The diversity of services that the payment instrument offers – some applications try to offer the user the possibility to pay through the mobile phone in a great number of circumstances, while others focus on a single type of payment;
- The complexity of the payment transaction itself, which depends on a series of aspects: the necessity of phoning a number at the beginning of the transaction, the necessity of communicating the transaction details to the user (by SMS, vocal call or the direct screen display of the transaction details), the manner of authenticating the user;
- The user's perception of the security of the transaction – mainly influenced by the manner of accepting the transaction by the user (*by a PIN code established together with the solution provider during the registration period or through a PIN+ randomly generated unique code combination for each transaction) and by the transaction confirmation in the moment following immediately after the payment, by cash voucher in the case of traditional POS or by SMS or display on the mobile device screen;
- The occurrence of payments- the paid sum is subtracted from the client's bank account, from a sum prepaid to the payment solution provider or is added to the monthly invoice issued by the mobile telephony operator;
- The brand name attached to the payment system- can belong to the financial institution , to the mobile telephony operator, to the application provider- the more credible the brand is for the user, the bigger his trust in the system;
- The cost associated to the mobile transaction – can include the registration fee, a temporary subscription for the solution use, the payment of a solution for each transaction made, the cost of the phone call, of the SMS sent within the transaction etc.
- The transaction time- can be appreciated in comparison with cash transactions (in average less than 10 seconds) or with the card ones (about 30 seconds); the fact that the mobile transaction has the advantage of not depending on the time and place of payment, even if it doesn't last more, must not be neglected.

Starting from this theoretical background, we will continue by analyzing the *mobile banking* type of services from Romania²⁶, which represent, in our opinion, the most developed segment of national mobile financial services.

As a result of the public information analyses from the web sites of the 38 commercial banks in Romania, we can express the following observations:

- The number of banks offering services of Internet banking type is of 68% from the total number of banks, optimistic percentage that shows a tendency of bank institutions towards the electronic sphere of their interaction with the consumer;
- In contrast, only 18 % of the total number of Romanian banks offer mobile banking services;
- All the banks that have certificates, according to the Communication and Information Technology Ministry's Order No. 218/2004 concerning the procedure of certifying the payment instruments with distance access (Internet Banking, Home Banking or Mobile Banking) have effectively implemented these instruments.
- According to the information on the Romanian banks' sites, accessed in April 2005, there is a number of 7 banks offering mobile banking services, alone or in partnership with national mobile telephony operators (see table 2); the distribution of individual and partnership solutions is evenly (4 individual solutions, 4 instruments offered together with a mobile telephony company);
- These services' characteristics differ considerably (see table 3).

As far as the necessity to adapt the mobile phone in view of using the mobile banking application is concerned, two of the solutions analyzed propose the replacement of SIM card with a special card, which has the advantage of being free. The card is available only in a few towns, district residence, for at least one of these solutions. There are also two solutions which require an eventual adaptation of the phone- one for which a WAP phone is necessary (not very restrictive, taking into account that the greatest

²⁶ Their list was taken from the National bank's sites(<http://www.bnro.ro/>), and the Communication and Information Technology Ministry's site (<http://www.mcti.ro/1398.html>)

majority of phones have incorporated WAP facilities) and another for which a phone provided with a micro browser is necessary. The applications that don't require any phone or card adaptation generally offer basic services.

Figure 1 The percentage of banks offering Internet Banking and Mobile banking in Romania

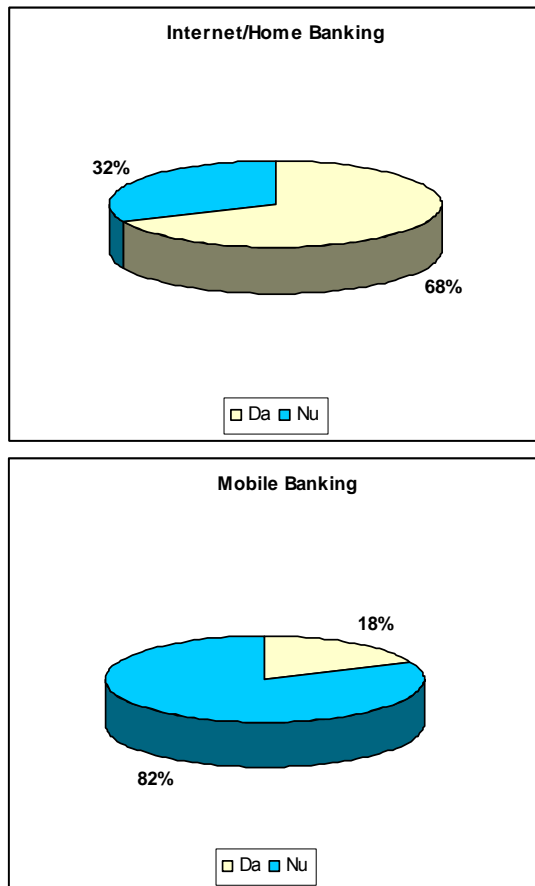


Table 2 Romanian mobile banking instruments

<i>Bidder</i>	<i>Instrument</i>
Raiffeisen – Connex	myBanking
BRD - Orange	Mobilis
BCR – Connex, Orange, Zapp, Cosmorom	Smart Tel SMS and Smart Tel 3G SMS+ Browsing
Banca Italo Romena	Bank@You
Piraeus Bank Romania	MOBILBank
UniCredit	UniCredit Mobile Banking
BancPost	SmartTel, in three variants: SMS, 3G and WAP

A mobile solution which is not interoperable, in other words, functions in only one mobile network, will only have the success allowed by the limits of that network. After the SMS model, the success belongs to the applications independent of the network. Before accepting this assertion, we must look at the mobile telephony market context from Romania, where dominants are the Orange and Vodafone (the owner of Connex brand) operators, each one having an equal (and impressive) number of users. The two operators have each achieved, in partnership with a financial institution, an *m-banking* solution, comparable with the one of the competitor's.

Thus, a consumer of each of the two companies will always have at his disposal an m-banking application which may satisfy his needs. Problems appear only for users who have a bank account at a different financial institution than the one that the mobile telephony operator has made the m-banking solution with. Annulling the possibility of occurrence of this type of problems, five of the analyzed services offer applications independent of the network.

For the amazing majority of applications, it is necessary to sign a contract with the bank. In Romania, a bureaucratic country by excellence, this fact isn't necessarily negative, being considered a foregone conclusion. On the contrary, it even has positive connotations, increasing the consumer's trust in that service.

The m-banking Romanian applications have generally focused on offering basic services. Almost all instruments offer their user the possibility to visualize information about their own accounts (most of them in the easiest way- by SMS), to receive alerts/notifications regarding the transactions made in accounts and the possibility to make transfers between accounts. Only two solutions offer the payment service of bills to the providers (by providers meaning only mobile telephony operators who have made the application). However, this is not the fault of financial institutions offering the solution, but moreover the fault of utilities of other goods providers, who have to adapt their own informative systems in order to sustain the payment by mobile.²⁷

Together with the basic services presented above, some banks also offer there services, destined to attract the consumer (see table 3).

²⁷ According to „Jurnalului Național”, in March 2005 Electrica carried out tests related to the possibility of bill payment through mobile telephony-Radescu , A, *Buying train tickets by SMS*, in „Jurnalul Național”, online version , 18th of March 2005, at <http://www.jurnalul.ro/modules.php?op=modload&name=News&file=article&sid=244105&mode=thread&order=0&thold=0>

Table 3 The characteristics of national mobile banking type instruments

<i>Instrument/ Characteristics</i>	<i>my Banking</i>	<i>Mobilis</i>	<i>Smart Tel SMS (BCR)</i>	<i>Smart Tel 3G (BCR)</i>	<i>Bank @ You</i>	<i>MOBIL Bank</i>	<i>UniCredit Mobile Banking</i>	<i>Smart Tel (Banc Post)</i>
The necessity of adapting the phone	Yes, special card	Yes, special card	No	Yes, phone with browser	No	No	Yes, WAP phone	No
The dependency of a certain telephonic company	Yes, Connex	Yes, Orange	No	No	No	No	Yes, Connex, Orange, Cosmorum	No
The necessity to register to the bank	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes
The diversity of services offered								
<i>Transfer between accounts</i>	Yes	Yes	Yes	Yes	No	No	Yes	No
<i>Information about your own accounts</i>	Yes, SMS	Yes, SMS	Yes, SMS	Yes, browsing	Yes	No	Yes	Yes
<i>Alerts (Notifications) regarding the transactions made between the accounts</i>	Yes	Yes	Yes	Yes	Yes	No	No	No
<i>The payment of the bill to some providers</i>	Yes (Connex)	Yes	No	No	No	No	No	No
<i>The request to block the card account</i>	No	No	Yes	Yes	No	No	No	No
<i>Information about the currency, interests, types of bank products</i>	No	No	No	Yes	Yes, currency	Yes, currency, interests	Yes, currency	No
<i>Currency exchange completion</i>	No	No	No	No	No	No	Yes	No
<i>ATM in the area</i>	Yes	No	No	Yes	No	No	No	No
<i>Bank in the area</i>	Yes	No	No	Yes	No	No	No	No
<i>Telephonic cards recharge</i>	Yes, Connex	Yes Orange	No	No	No	No	No	No
Security								
<i>Coding</i>	Yes	No	No	No	No	No	No	No
<i>Authentication by codes/passwords</i>	Yes	Yes	Yes	No	No	No	No	No
Costs								
<i>Monthly subscriptions</i>	0,5 €	No	No	1 \$	No	No	No	No
<i>Unitary cost(/message)</i>	0,15 € or 0,30 €	No	0,19 \$	0,19 \$	Normal message	No	No	No

From the point of view of transactions' security, the preferred method of authentication is the codes one. It is adopted only by three of the 8 analyzed solutions. One of the applications has implemented a method of coding information that circulates between the bank and the client. We consider the level of security ensured by the greatest majority of solutions as being unsatisfactory, especially taking into account that the information spread are part of the confidential category.

Regarding the m-banking services, the situation is heterogeneous: a part of the solutions offer services for a cost formed of subscription and unitary cost, per transmitted message, while others are free. The costs do not have a restrictive level, especially taking into account that the m-banking instruments do not address the large public, but, for Romania, to a population segment with incomes over the average.

6. Conclusion

In conclusion, mobile banking is an additional channel to the bank's traditional activity in Romania. The implementation of such a solution brings a plus of image to banks and mobile telephony operators involved, but do not represent, at least until now, an important source of income. Regarding the mobile data services, it is assumed that the national wireless market will have an explosive evolution, with increases between 30% and 60% from one year to another²⁸. The beginning is promising: Information and Communication technology Ministry and the General Inspectorate for Information Technology are about to elaborate a strategy of clearing the 3,6 – 3,8 Mhz frequency band and to provide it, by auction to the operators who want to implement WiMax in Romania²⁹, while Orange Romania has developed localization services³⁰.

By using the mobile phones, the area or road where the mobile phone or the vehicle belonging to one of the company's employees is found can be discovered at any moment, from the computer's screen.

In this context, we can estimate that IMMs will be more and more interested in mobility, security, registration and stocking applications in Romania, while more and more Notebooks will be bought and the portable devices will be more and more appreciated. In this background, a

²⁸ Simion, D., *Everything wireless*, in „Biz”, no. 98, 1 – 15 February 2005

²⁹ Ibidem

³⁰ Birzoi, V., *The public eye and tympanum*” in „BusinessMagazin”, no. 46 (33/2005), 24-30 August 2005

development of mobile financial services is possible, but in a rather remote future.

References

- [1] ***, *Calling an End to Poverty*, in „The Economist”, July 9th – 15th 2005
- [2] ***, *The Real Digital Divide*, in „The Economist”, March 12th 2005
- [3] „Biz”, nr. 98, 1 – 15 February 2005
- [4] ANTOHI, D., *Românii preferă telefoanele cu ecran color și sunete polifonice (Romanians prefer phones with colored screen and polyphonic sounds)*, în „Biz”, no. 101, 21 March - 4 April 2005
- [5] BÎRZOI, V., *Ochiul și timpanul public (The public eye and tympanum)*, in „BusinessMagazin”, no. 46 (33/2005), 24 - 30 August 2005
- [6] BUTIRI, A., NIȚCHI, Ș., *Mobile Banking*, in Vol. International Symposium Works „Specializare, Dezvoltare și Integrare” (*Specialization, Development and Integration*), S.C. Roprint S.R.L., Cluj Napoca
- [7] DANDAPANI, K., *Success and Failure in Web-Based Financial Services*, in the magazine “Communications of the ACM”, May 2004, Volume 47, Number 5
- [8] FITZGERALD, J., DENNIS, A., *Business Data Communications and Networking*, John Wiley & Sons, Inc., 2002
- [9] HAAG, S., CUMMINGS, M., MCCUBBREY, D., *Management Information Systems for the Information Age*, 4th Edition, McGrawHill Irwin, 2004
- [10] HOF, R., *Noua putere în tehnologie (The new power in technology)*, article „Business Week” taken in “Biz”, no 108, 8 - 20 July 2005
- [11] HOUSE, B., MAHAJAN, R., DANESI, F., *B2C Mobile Commerce – Sizing the Opportunity*, la <http://www.advertis.com/pdf/mobilecomm2.pdf>
- [12] <http://www.jrc.es/cfapp/invent/details.cfm?uid=13>
- [13] <http://www.mobilewallet.t-mobile.net/hosting.taglab.com/uk/howitworks/index.html>
- [14] IHLWAN, M., *There’s a Bank in my Phone*, „Business Week”, September 27 2004
- [15] KALLIOLA, M., *Mobile Payments*, la http://www.tml.hut.fi/OpinNot/T-109.551/2005/reports/Mobile_payments.doc
- [16] MALLAT, N., ROSSI, M., TUUNAINEN, V. K., *Mobile Banking Services*, in the magazine „Communications of the ACM”, May 2004, Volume 47, Number 5

- [17] MUȘĂTESCU, M., *Schimbarea la față a mobilului* (The mobile's change of look) „Business Magazin”, Nr. 23 (10/2005), 16-22 March 2005
- [18] OPREA, D., MEȘNIȚĂ, G., *Regula 4x20 în informatica ieșeană* (The 4x20 rule in the informatics of Iasi), in Meșniță, G. (coordinator), *Societatea informațională – Educație, cercetare, sisteme informaționale, tehnologii informaționale* (Informational society- Education, research, informational systems, informational technologies), Tehnopress Publishing House , Iași, 2004
- [19] RĂDESCU, A., *Cumpărarea biletelor de tren prin SMS* (Buying train tickets by SMS), in „Jurnalul Național”, online version , 18th of March 2005, at <http://www.jurnalul.ro/modules.php?op=modload&name=News&file=article&sid=244105&mode=thread&order=0&thold=0>
- [20] SIMION, D., *Totul fără fire* (Everything wireless), in „Biz”, no. 98, 1 – 15 February 2005
- [21] SWANN, J., *Mobile Payment Technology Could Hit It Big In The Remittance Market, But Adoption Challenges Remain*, „Community Banker”, Jan 2005, vol. 14, p. 46(2), online version at http://web3.infotrac.galegroup.com/itw/infomark/137/226/92002071w3/purl=rc1_SP00_0_A127433583&dyn=33!nxt_1_0_A127433583?sw_aep=uaic
- [22] Telecom Media Networks 2003, *Mobile Payment: Money in Your Hand*, <http://www.capgemini.com/tme/pdf/MobilePayments.pdf>
- [23] VASILACHE, D., *Plăți electronice. O introducere* (Electronic payments. An introduction), Rosetti Educational Publishing House, Bucharest, 2004
- [24] ZMIJEWSKY, A., LAWRENCE, E., STEELE, R., *Classifying M-payments – a User-Centric Model*, Proceedings of the Third International Conference on Mobile Business, M-Business 2004, la http://www-staff.it.uts.edu.au/~rsteele/classifyingm_paymentmodel.pdf