

Banking Services Based on High Information Technologies and their Implications

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Abstract: The paper approaches the most advanced information technologies, whose implementation gives shape to a new type of bank the bank of the future. Within the context, there are characterized the banking services, offered by this bank, such as home-banking, electronic banking, virtual banking and on-line banking from the point of view of their operation and of the performances, brought by using them, for the modern banking systems, including the Romanian one, presently and for the future.

Keywords: information technologies; modern banking services; internet; home-banking; electronic-banking; virtual banking

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The mutations, which define the current stage of human society's development, outline the creation of an information society, respectively of a knowledge one, bringing in front the electronic systems' operation, which offer more and more efficient means for gathering, storage, processing and transmitting of informations. Especially, it has been remarked that by using the personal computers, within the framework of Internet development, people can easily access a higher quantity and diversity of informations and, at the same time, they can enrich their knowledge, as elements for progress and civilization.

Also, it becomes increasingly evident that new technologies of information and communication may influence the evolution of the entire economic and social life, including conducting financial activities, out of which the ones made with the involvement of banking institutions are occupying a privileged position.

Within this framework, the banking institutions are called to implement, continuously, more and more advanced information technologies for improving customer service. So, it has been emerged, in recent years, an outstanding model of

bank, what stands out, especially in terms of organization and the performance of remote banking operations.

Considered as image of the bank of the future, the new type of bank offers all the services of a traditional bank, starting from money transfer operations, national and international, and up to the granting of loans, without the client having to move to a physical location of the bank. Such a bank becomes for the clients only their interaction with a computer (Gandy, 1999, p. 2) and it works based on adequate technologies like home banking, electronic banking, virtual banking and online banking, which allow customers direct access to banking services at home, at work or any other location them.

On the background of the new type of bank appearance, we appreciate that is necessary for traditional banks, including those in Romania, to develop also banking services based on high information technologies, as a more effective alternative than that to extend the number of subunits, which became a characteristic of the current banking system. By promoting this new alternative the banks have the advantage of reducing investment costs in new locations, but, and most important, the advantage of keeping customers, whether they change their home and attracting new customers in areas where there is not a previous bank influence. Likewise, it is significant the fact that bank costs can be reduced from about \$ 1.07 per transaction, for traditional banks, to only 2 cents in the case of using such high information technologies. (Efrain, 2000, p. 231)

From the same perspective, it has to be admitted that present era, called the "consumer's era", determines the focus of the banking services on the client and abandoning the traditional vision of banks' activity in favor of relational banking. If the traditional vision had as central element the bank product, the new vision, relational, puts the client (the beneficiary of the services) in the foreground. Within the same framework, it has emerged the idea of developing of some systems that allow the bank to provide personalized services in real time, at the doorstep of the client. A first version of remote customer service, by using high information technologies, is the "home-banking", whose name signifies the idea of a Bank at home.

The structure for the operation of a Home Banking service can be summarized as in Figure 1):

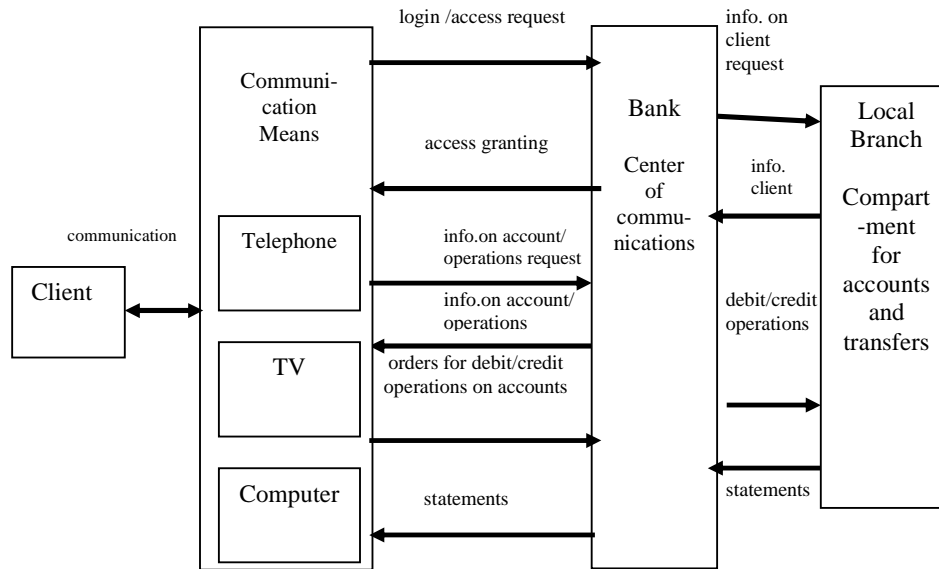


Figure 1. Operating structure of the Home Banking service

According to Figure 1, the Home banking software application gives customers the ability to connect to the computer centre of the bank via phone, TV or PC, as means of communication. In this way, it is made a "two ways interactive computer system," through which can be transmitted information as text or graphics, adapted for representation on the screen and easily accessed through simplified controls, regarding the requested operations. Such communication channels used for the bank at home services are developed within the framework of the electronic systems as Videotex and Viewdata. The client must identify himself with a password in order to access the bank system. After the access validation, he can request and obtain information regarding his accounts or operations or may request to be performed debit / credit operations on his accounts. After performing these operations, the bank will submit the statements confirming the execution of the orders for debit or credit.

The bank at home service includes financial services performed outside the banking unit. It can provide transfers of funds through payment orders, but also through payment agreements. Through this service, the clients can transmit to the

bank orders for debit and credit operations on personal accounts, in the form of specialized files, and can receive from the bank account statements, notifications, summaries of operations, etc.

On the other hand, the electronic banking has a broader content to the home-banking, including automated acquisition and processing of banking information regarding the money transfer operations. In relation to these, the operating structure of a money transfer service supported by "electronic-banking" technology may be represented as in Figure 2.

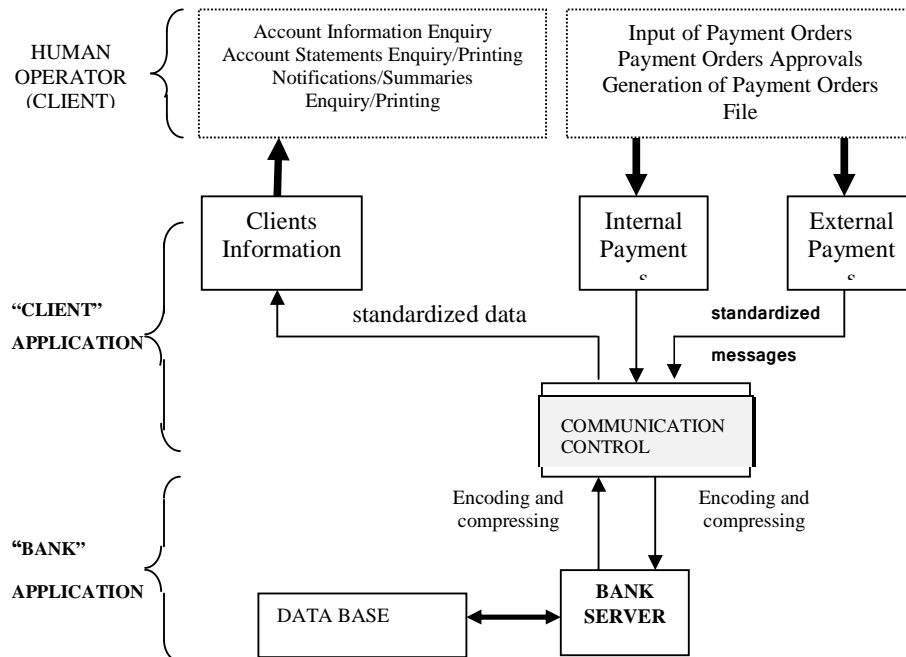


Figure 2. The structure of money transfer service operation based on "electronic-banking" technology

(remake after User's Manual of Multicash Electronic-Banking Application, made by OMIKRON, Germany)

As shown in the previous figure, the operating structure of this service (of money transfers) involves completion of three hierarchical levels, starting from the human operator (the client initiating the money transfer, respectively the client that is beneficiary of it) and continuing with the application levels "Client" application and "Bank" application.

The "Client" application allows, on one hand, taking orders from the clients, in domestic and foreign currency, their correctness checking, the generation and compaction of payment messages and their transmission towards the bank. On the other hand, it allows taking over the server bank account statements, notifications, summaries, etc., processing them for customer's accounting management and, also, offers information regarding the reasons for any possible rejection of orders.

The "Bank" application provides automatic download of orders from customers and their integration into the bank's electronic system, validation of orders by account managers or rejection and generation of warning messages to the client on that rejection. Also by this module is done taking over account statements generated as SWIFT messages, and directing them to account holders.

The third service offered by the new type of banks is virtual banking, also called "virtual bank". If, until recently, branch banking was considered the main conventional channel for delivery of banking services, currently, customer preferences are turning to unconventional channels. For banks, such delivery solutions avoid high costs related to construction of branches and delivery of services through conventional channels, against a much lower cost for communications and computer equipment. Thus, it appeared virtual-banking technology, which offers services through unconventional channels. As defined by the Banking Technology magazine, the virtual bank is "the Bank where the contact can be made through a variety of channels, but maintaining the same interface for the client and offering access for the same services." To access the virtual bank, for the purpose of transfer operations, the customer can choose between a variety of channels such as ATM, telephone, remote terminal, POS terminal, Video Kiosk, mobile phone or Internet, as shown in figure no. 3).

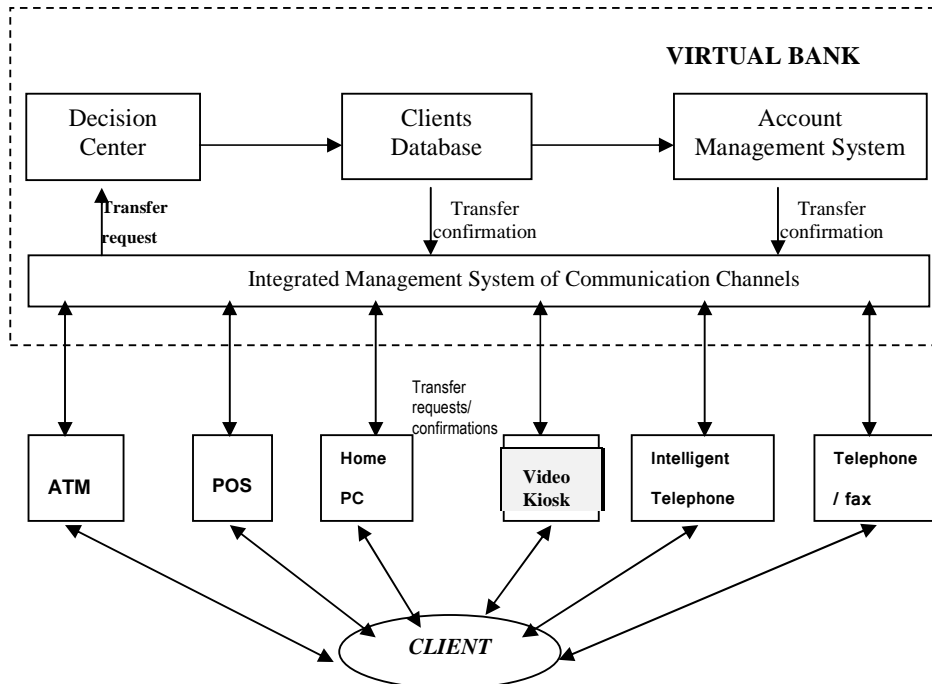


Figure 3. The Operation Structure of a Virtual banking service

Virtual Bank appears as a bank without officials, existing only in the memory of a very powerful computer system and being served by automated software. Its customers can fill in their checks and electronic payment orders by using the computer, can pay any bills electronically, and have access to current information and special offers at any time and anywhere.

In order to make a money transfer, the client can access the virtual bank's computer system through various technical means, such as computer terminals, telephones, modems, POS and especially through Internet, by transmitting to the bank the request for making the operation. Through an integrated management system of communication channels, the bank takes the client request and directs it to its own decision centre. The Decision Centre goes for the verification of security features and of the conditions and information required for the money transfer (the existence of payer accounts, that of the beneficiary, there is availability in the payer's account, etc.) and authorizes the operation if they are accomplished. Following authorization, automatically by electronic computers, carries out the

money transfer and its effects are recorded in databases of customers and accounts, respectively. Following these, prepared statements are obtained for the payer and payee and are transmitted to them in order to carry out confirmation of the money transfer, on a reverse route.

Virtual Bank offers customers only the image of a traditional bank, partitioned on services such as personal accounts, financial services, etc. Significant characterization of virtual banks is that it provides financial services that may otherwise be provided only by real financial institutions. Moreover, it does not encounter the problem of limited offer of banking services, characteristic for a real bank. This bank can provide a comprehensive package of both financial and non-financial services, thanks to the opportunities created by the electronic market.

Another way of serving clients, used by the new type of bank, is based on online banking technology, which connects it with remote clients and is designed primarily to support bank lending activity away. Its operation is influenced by the look of the consumer credit market for small business, which has changed dramatically, as lenders have adopted new technologies designed to make the lending process quicker and as non-traditional lenders and the banks have increased competition.

The Internet has made it possible for credit market players to show an active and extensive presence. The occurrence of non-traditional competitors, represented by virtual financial companies without a physical presence, using the Internet to place financial services, especially in the lending, has led banks to focus efforts to develop services such as on-line banking, based on Internet, which can attract a significant segment of the market as credit applicants. These services are attractive to potential bank customers both by the reduced costs they must bear as loan applicants, and by the convenience and speed of obtaining the loan. The costs of an application for credit are reduced by up to 50% less than those for loans made in the traditional banking units.

Likewise, the time required for obtaining a loan per applicant drops significantly when using online banking services. This is demonstrated for a mortgage loan application (for example) and in this case the reduction of the lending decision is from 8-56 days for traditional banks to only 7-21 days. The significant time difference comes mainly from the data processing and decision making phases, the time being reduced from 5-45 days to 3-7 days, by using advanced technologies of

automatic data processing, based expert systems and advanced computer algorithms of data processing. (Zask, 2001, p. 182-183)

From the point of view of the use of high information technologies, Romanian banking system has passed an important stage of modernization, closing to the level of the banking systems from developed countries. But, in turn, the latter show a continuously amplified tendency for implementing the latest information technology and extending of electronic banking services, moving from a traditional approach to an information approach. Within this new framework, the high information technologies are the spearhead, through the benefits they generate both for the customer (convenience, speed, reduced costs) and for the bank (efficiency, gain a greater market share, automatic marketing and diversifying of services, reduced costs, etc.).

It occurs, this way, the transition from traditional banks to the new type of banks, which implies, also for our banking system, the existence of certain prerequisites, as: a high degree of computerization of society; encouraging electronic business development; affordable access to electronic payment means (cards, electronic checks, etc.); a logistics infrastructure of means for electronic information transfer etc. These phenomena are present also in Romania, where it can be observed a significant increase in the use of new information technologies, implying the development and improvement of telecommunications technologies (through the development of computer networks, Internet access, development of fixed and mobile networks and communications by cable and satellite). Also, the attractiveness of payment instruments, as credit and debit cards is rising and, furthermore, there is rising the use of the banking services as home-banking, electronic banking, on-line banking, etc. Out of these, we can remark the Voice Teller – Fax Teller service of home-banking, offered by Banca Transilvania; the Mobilis mobile-banking service offered by BRD; the Multicash electronic-banking services offered by BCR, BRD or Royal Bank of Scotland; the services using Internet connections, offered by many of the banks acting in Romania, which are the base for the operation of online-banking and, also, virtual banking services.

Within the current conditions of amplification of bank's competition on the banking services market and of the continuous progress in the sphere of high information technologies it is necessary and natural the enhancement of the concerns, both of the banks and of the clients, regarding the extension of the area of implementation and use of these ones, aiming to turn to account as much as possible the advantages offered by them.

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