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Sajić Mirko, Sberbank a.d. Banja Luka, Bosnia and Herzegovina, mirko.sajic@gmail.com
Bundalo Zlatko, Faculty of Electrical Engineering, University of Banja Luka, Bosnia and Herzegovina
Bundalo Dušanka, Faculty of Philosophy, University of Banja Luka, Bosnia and Herzegovina

PROPOSALS FOR INTRODUCTION OF NEW BANKING SERVICES WITH APPLICATION OF INFORMATION AND MOBILE TECHNOLOGIES

Summary: *The goal of this paper is to point out on the necessity of changes in the way that the banking services are provided, on the change in the content and nature of those services and on the need to introduce some new banking services. In accordance with that, it is pointed out that there is the need to shift the focus of banking business on some new services that the bank has not provided so far, but it has the potential and need for it. The unavoidable reduction of the volume or giving up of providing classical banking services are expected. The reason for that is because a significant drop in the prices of these services is expected, due to evident upcoming competition and their conception. That conception allows to competition to realize these services at significantly lower prices, because they initially reduced their costs. In this regard, it is proposed in this paper that banks introduce some new products into a set of services that they provide to users and that utilize in the best way possibilities that are offered by information and mobile digital technologies. That would enable improvement of quality of services, reduction of the cost of providing such services and transferring on to the bank entirely new types of services, for which the bank has the potential which should to develop and utilize. Some such new types of banking services based on the application of modern information, communication and mobile digital technologies are proposed and described in the paper.*

Key words: *classical banking services, introduction of new banking services, application of information and mobile technologies in banking, quality improvement and reduction of costs of service delivery*

Jel classification: *G14, G21, M15, O32, O33*

INTRODUCTION

Habits of people are subject to permanent changes. They are especially exposed to changes when they are under some stronger influence. Just that is happening all over the world under the influence of mobile digital information and communication technologies. Based on experience in working with mobile phones and other mobile devices, it can be seen that the first habit that is such created is to use the opportunity to collect and exchange information remotely and to perform tasks in real time but from a remote location. From that, naturally it was created tendency of the modern client of the bank to perform its activities with the bank at a distance, as much as it is possible. At this moment, except allowing banks to conduct banking activities from a distance by introducing appropriate software and hardware solutions, that mainly depends on the legal regulations of a concrete country. In particular, that depends on whether the client must personally and physically, by his/her signature, in the premises of the bank, to give agreement to some document or it is possible to perform

remotely by sending the verified digital signature as a form of legal agreement and legal operations.

In the past, banks were primarily concerned, in their "retail" business, on collecting money in the form of savings from their clients, with a certain fee for those clients, and on issuing loans, also to their clients, with higher fee then is the fee for savings. Based on the differences in these fees, the banks, by providing these their primary services, were maid financial gain and earned.

During the time banks have expanded the scope of services that they provide. That is directly connected with the development of information technologies. Banks started to deal with investment banking, stock exchange business, mortgage business, securities, various other forms of lending (for example credit on credit and similarly), money market funds, markets for repurchase contracts, and so on. Some of that types of operations banks are performing in cooperation with some other institutions. All that listed and similar jobs are often called „Shadow Banking" or „Banking in the shadow“ (McMillan 2014, 65).

The reason for mentioning this term, that as a phenomenon appears since 1970. year, is to indicate on the directions of the development of banking services and also on the harmful effects of that phenomenon. That phenomenon is particularly connected with the banking crisis in 2007. and 2008. years (Vukić and Knežević and Miličević 2017, 245). The shadow banking started to generate high income to banks long time ago,. However, it was mainly out of reach of regulatory instruments of the stats. It is considered that these are the main reasons for the size of the mentioned banking crisis. Clients are treated there more like goods, trying to get as much profit as possible from them, without worrying about the consequences. It is normal that this had negative consequences on operations of banks and led to the crisis (McMillan 2014, 81).

Also, a bank that has existed for a long time has collected and collects daily information on clients, with a special focus on financial information. That information essentially has a financial value. It can be used and charged in a certain way, if it is used timely and purposefully.

The modern banking client no longer wants that its "retail" business, i.e. procurement of a particular product or service, performs partially and that personally goes from institution to institution. A modern client no longer wants or does not have time to go to the store first, to see and select the goods, to get invoice, and to go with that invoice to the bank. The bank would then probably send him to obtain the necessary documentation about his/her monthly income and similar. The client would then go to his/her company, and back to the bank to sign a loan, and then again to the store to buy the desired goods. The modern client wants that all that can to perform from one place and with the help of mobile devices, that he/she uses every day, and that enable him to quickly and easily realize all needed activities (Bobrek Macanović 2017, 245). Client could such to see the goods he/she wants to buy, via images that receives on the mobile phone or other mobile device, and that quickly and easily perform a comparison of prices and quality of the goods in more stores, all from one place. Also, the client could by using mobile applications of the bank where he/she is client to close the financial construction of the process of purchasing of the desired product or service, and to activate the home delivery, to all that be delivered to him/her on the desired place.

The client, aware of the possibilities of modern mobile digital technology, does not want any more to spend its time and attention, and that has to come out of one application, to record the product he wants, its price and to send it all to the bank for approval of the credit line, and when gets the approval, to goes back to the application that performs selling of the desired product. The client would want to have some institution that will lead the complete retail process of obtaining the desired product, which will quickly and easily guide him/her through that complete process. What institution, where and how, will become a leader in that complete process it will depend on the skills and capabilities of such institution. The bank has all resources for that. it should only to activate them, and before that it should to be reorganized

in that direction (Sajić et al. 2018, 78). As a good example how that can be performed, it can be used the largest Internet stores, which are already prepared to perform the complete process of procurement the desired product. They connect their clients-customers with their clients-sellers, at the same time enabling the purchase via their electronic payment cards, and also purchase on instalments.

It is proposed and recommended in this paper that banks consider their possibilities and potentials, that constantly improve them and to try to impose themselves as leaders in certain parts of retail business, to introduce new banking services and accordingly to that become recognizable institutions (Harangus 2011, 86).

Some of such new services that banks already provide are: mobile and electronic banking, mobile wallet and personal financial canceller (PFC), P2P payment transactions, P2P crediting, chatbot, crowdfunding, etc.. To all these services it is common that they are applications that use advantages of mobile devices, possibilities of built Knowledge Data Bases, DataWarehouse systems, BigData systems, application of artificial intelligence and business intelligence, creation of good CRM platforms, application of API functions, document management systems (DMS), "cloud" technology, application of "Internet of Things/IoT", application of blockchain technology, and so on.

Some new banking services or products that could be very interesting as the services that the banks could provide to the clients in the future are proposed and described in this paper. A few of these services have already been practically implemented and offered to banks, but banks have not yet begun to use them. Some of the services are in the development phase. Five new services (products) are proposes and describes in the paper, with the names:

- Marketing campaign for needs of users,
- PhotoLoan,
- Management of transaction limits of clients,
- Digital bank safety deposit box,
- Document Management System (DMS) for small and medium enterprises.

1. MARKETING CAMPAIGN FOR NEEDS OF USERS

Let us suppose, for example, that it is opened a shop of expensive watches and perfumery with branded products. In order to be all well advertised managers of that store should hire a quality marketing agency. However, some of the managers come up on idea and proposes to involve one or more banks for finding clients (Atif 2002, 19), and to use information about bank clients that banks already have. Banks that have high-quality CRM applications, based on data they already have, can with a high degree of precision to identify groups of clients that are capable for paying of the described type of products. Banks then can to locate that clients, for example in the diameter of 10 km, to send them all needed information with suitable material, with coupons on which are given discounts to the bearer, etc.

Locating of clients can be performed very easily. It is enough to perform it on the basis of client address, to collect information about the longitudes and latitudes of the addresses of clients, and there are many programs (even very cheap or completely free of charge) that can visually display the address of each client of the bank in the form of some point or some other type of marker. This method can also be used as a good visual method for showing the density of presence of clients in desired area of observation.

In such case of service, where a bank realizes a marketing campaign for a user, both a user (store and seller) and a bank have benefits. The seller, through the bank, addresses a well-chosen potential clientele because of which was opened the store. He/she such increases the number of customers of his/her products or services. The bank, in addition to the economic interest that it realizes through charging of the costs of providing the services, realizes also indirect benefit. It is providing the clients to whom addresses with timely and useful information and thus increases their trust in the bank

Based on this proposal, it can be realized and offered to users a number of similar new services, where the bank would use the knowledge acquired on the basis of the available information, primarily financial but also other, about its clients, based on the experience acquired in work with them, and on the basis of the expertise of its employees. Such, the bank could act as a service and/or in the form of consulting through these new services.

2. PHOTOLOAN

The prototype of already practically realized application for appropriate service, called FotoKredit/PhotoLoan, as an example of the use of digital and information technologies for the purpose of facilitation and acceleration of usage of services for the user, is presented here (Authors).

PhotoLoan is an application developed on the Android platform (there is also a customized Web version that functions on all platforms). Its primary purpose is to enable fast forwarding and resolving of requests for banking financial services, primarily loans, via mobile devices.

It will not be here described in detail the complete application, but it will be outlined some of advantages of this and similar applications, in context of already emphasized potential advantages of the bank, which are insufficiently used.

Implemented application presents and describes practical way of connecting client private person (loan claimant) with client legal entity (seller of goods) through the bank as loan provider. That application proposes, presents and shows how to effectively stimulate and organize purchase, crediting and transfer of goods that customer needs from the seller using mobile applications and mobile technologies. It practically shows how it is possible to effectively connect client physical person with client legal entity through the bank or how to effectively stimulate and organize sale and transfer of goods from seller to buyer. One of the best ways for that is through financial institutions and banks, with an accelerated way of issuing loans, by using mobile devices. Using the FotoKredit mobile application the user is able to send credit requests, check exchange rates, find basic information about all bank's branches, agencies and ATMs, shops/travel agencies and also to find them on the Google map via entered GPS positions. Figure 1 shows the main menu and some options of the PhotoLoan application that are implemented on the Android platform (Sajić et al. 2017, 41).

In the application for the loan it is needed and sufficient that the client sends to the bank picture of product he/she wants to bay. By sending picture client emphasizes what actually wants to buy and chooses an easier and quicker way to perform it through a loan. The bank now knows very well what client need is about and it only remains to examine the client's creditworthiness. The bank can to do that based on obtained information about the client, and to approach to realization of the loan, to request additional information from the client or to refuse client due to poor credit ability. Also, it should not be forget interest of the third party, interest of stores to sell their product.

The assumption is and it is suggested that in the future Personal Banker/Account Manager will be more profiled for certain groups of clients, both private persons and legal entities. Such he/she will be able to use this type of loan application, precisely to use the knowledge for what purpose is particular loan, to try to get for a client even better offer than the one he/she sent, using his/her own (of his/her bank) network of contacts with potential sellers. Thus, this circle is simple, quickly and naturally closed with the satisfaction of all parties, client, bank and seller. Client gets even more favourable offer than he/she has personally found. Such it is created certain kind of gratitude to the bank and a stronger connection (the so-called socialization of clients) with the bank (Sajić and Bundalo and Bundalo 2019, 69). Similar situation is also for the seller because the bank finds buyers and increases selling for seller. At the end, the bank is also satisfied since issued a loan that was set on good grounds. In addition to all of mentioned, the application has the ability to create a list of stores and

touristic agencies, and in the future also their product catalogues the purchase of which would be realized through the issuance of bank loan.

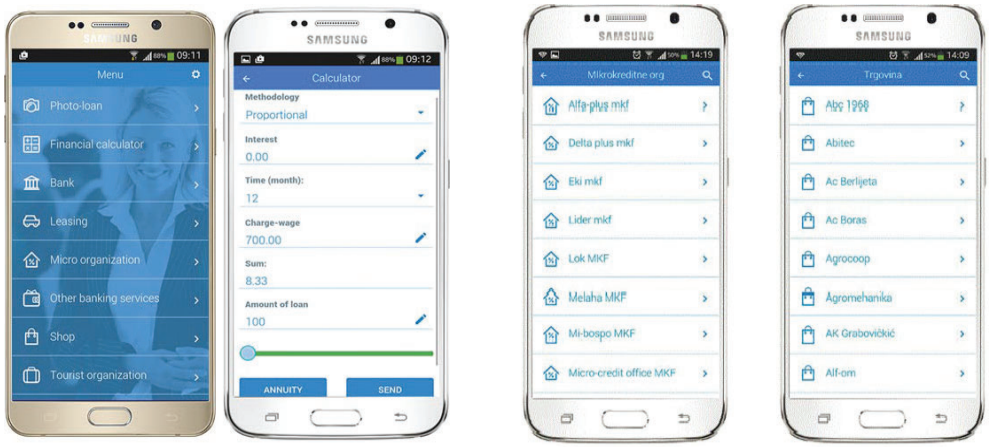
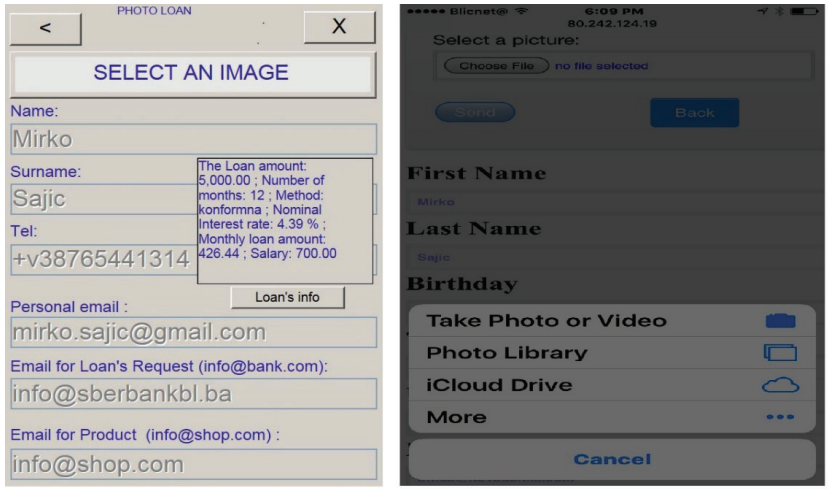


Figure 1 – PhotoLoan application – Main menu and some options (Android ver.) (Authors 2015)

Figure 2 shows some options for the PhotoLoan application implemented as Web and IOS versions. Figure 2a shows way for preparing request for sending, i.e. the procedure with selecting appropriate credit product of the appropriate bank. Figure 2b shows the option for taking picture or to select image of desired product from the Image Gallery. That picture is then sent to the bank within the credit information details.



a) b)

Figure 2. PhotoLoan application options for preparing request for sending (a) and for taking picture or selecting image of desired product from Image Gallery (b) (Authors 2015)

Here, for the banks can be equally interesting existing stores and travel agencies with which they already have some cooperation, as well as making new cooperation through this

application after expressed interest of users of the application for some specific store/tourist agency or some products and services that their offer. The Photo Credit application has built-in local database which exchanges data with the server (MySQL database) over the network (e.g. Wi-Fi). In this way are made changes to the data on the user's application itself. At the moment, the application uses information available from Web sites. For quality operation of the application it would be especially important that information, especially information on product catalogue with all relevant data, be supplied from the bank, on prescribed documents format.

3. MANAGEMENT OF TRANSACTION LIMITS OF CLIENTS

This service enables management, i.e. use and adjustment of daily and monthly financial transaction limits of clients, amount of their daily transactions and allowed overdrafts per account and per payment by electronic payment cards, in order to create a better quality multifunctional banking product. The purpose of this service is briefly described here, in order to create ability for client to select and adjust amount and way of using limit, to meet its financial needs. On the other hand, the flexibility of the limit setting in real time can serve as one of the best protections for the client against unauthorized outflow of money from his account, most often caused by theft of information from electronic payment cards. More information about this proposal of new banking product can be found in the references (Sajić et al. 2018, 188).

By obtaining electronic payment card from a bank the client usually gets opportunity to go into financial minus on that card up to the amount of defined limit. That limit is usually in the amount of one or more of client monthly salaries. It is also known that large number of clients has more electronic payment cards (revolving - for payment of services and products up to approved limit; instalment - for possibility of payment in instalments; credit cards; cards for payments that can be made on the Internet, etc.). When it is taken into consideration also possibility of overrun of the limit (going into the minus) on the current account of the client, it can be seen that one client can use the approved limits on more basses.

Since, depending on used limit, certain products that provide it are located in different departments of the bank, banks usually do not have a complete insight into totally utilized limit of the client in real time. The bank will be able to more easily control the assigned limits by implementing such software solution that will be able to give inform at any time about currently used total limit of the client, by all types of products,. It will also be able for bank to provide a more flexible approach to the client in terms of way of utilization of total amount of limit approved to him/her.

Let us consider two examples of using transaction limits in practice.

Example 1: The bank to the client has been approved 15000 KM of possibility for total overrun on the basis of his/her financial indicators. The client has a current account at the bank and revolving and instalment electronic payment cards. The client is considering purchasing a used (not new) car on a car market (price about 12000 KM). In negotiations with the seller he/she comes to the conclusion that it is financially the best for hem/her to pay it by cash. The client addresses the bank to provide to him/her sufficient amount of money and comes to the bank cashier, takes money and pays to the seller of the desired car. There is still left 3000 KM more allocated unused limits approved to him/her.

The advantage of this method of manipulation with limit transactions is clearly seen in this example. If the bank did not have this option, but works according to the usual principles, the client would have total limit sufficient to buy the desired car. But, the limits would have been splited by products (some part for a client bank account override, some part for the instalment card, some part for a revolving electronic payment card). Such it would be insufficient looking partially at the assigned limits by products, to make it purchase. In that case, he/she would have to ask the bank to give him/her a proper kind of loan, what sometimes takes time.

In many cases, like is this described example, speed of reaction is very important because of some advantages of making purchase in short period.

Example 2: Let us suppose that the client is in some foreign country and in another time zone. He/she invites business friends at dinner and at the time of paying by his/her electronic payment card the waiter told him/her that something is wrong with the card. Meaning of message received on the POS device is not always understandable and the client is confused and in an unpleasant position. When he/she finds out that the problem is in the level of a transaction, that exceeds to him/her assigned daily limit, then he/she understands that because of the difference in time zones the bank does not working in that moment and that it is to late to call anyone for help.

This example also shows the need of the bank to introduce the proposed or similar product and service for managing with the limits. That the bank could perform it in a flexible way, the proposal for bank is to create appropriate mobile application that has ability to connect to a core banking application. That application will show current available limit, daily and monthly, and total amount of dedicated limit. Also, the client could himself to adjust his/her daily limit or limit per transaction to the desired value, which can't exceed current assigned total limit, and could execute the desired transaction. By using such defined solution, it is clear that the situations described in Example 2 would be avoided, since the client could personally and very quick to change and increase current transaction limit and successfully perform needed payment.

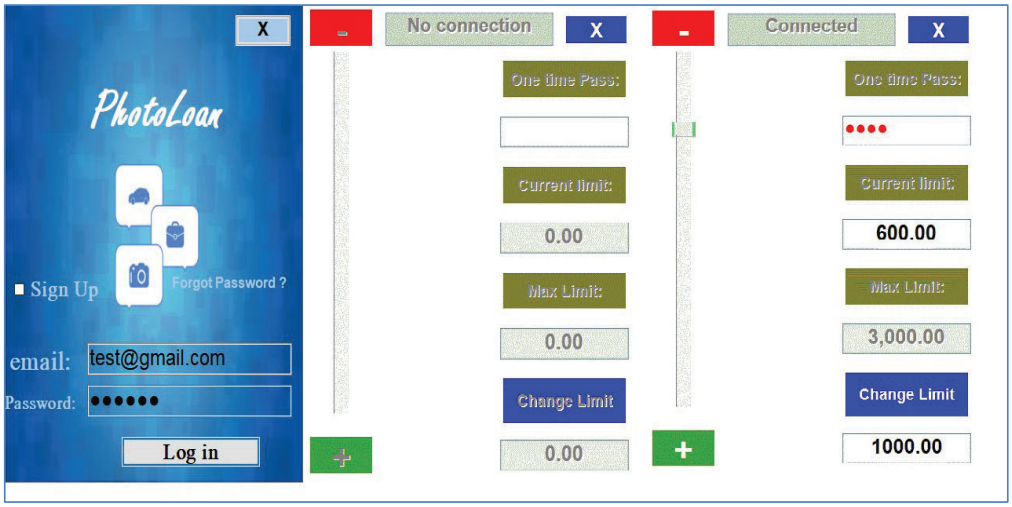
If the bank would have such system for management with limits of the client that would further enable to the client to protect himself/herself from unauthorized transactions from his/her own bank account. In that case, by proper using of the application for regulation of limit value, the client would have the possibility to protect himself/herself. By setting a limit before each payment at a very small value (preferably at value 0) unauthorized transactions of larger financial amounts (or no amounts) from the client account are disabled. Immediately before each payment the user can adjust needed limit, perform the payment, and then return the limit to the minimum (or to 0 value). Even if his/her electronic payment cards or some of them would be stolen, if in some kind would be detected PIN code on them, transaction that could be performed would be only up to the current minimum limit amount. In practice that would be a very small amount. By setting limit to 0 value the transaction would be completely disabled.

It is described here proposal and way of implementation of one such application for realization of mentioned banking service, developed under the name Lukas PCWL. That application and service were practically developed and implemented and were offered to banks, but banks did not yet involved it into their services. Lukas PCWL is application developed and implemented on a customised Web version that works on all computer platforms, as well as using SMS communication technology. The purpose of the application is to increase security and protection of financial transactions using a flexible ability to change the limits and to protect users from unauthorized use and unauthorized transactions from his/her bank account. Also, it should to increase flexibility and commodity in the amount of payment for each transaction. It enables quick and easy way to define and set (program) limit of amount of money transfer using mobile devices (smartphones and tablets), thus preventing possibility of unauthorized transactions of larger money amounts from user bank account.

By using this mobile application and solution, the user is able to send requests for changing a limit of money transaction, to program needed money transaction limit and to obtain confirmation that the limit has been approved and changed to the required value. Of course, requested transaction limit can not exceed maximum value that the bank has approved in the contract.

Figure 3 shows some of used options and forms of the Web version of implemented Lukas PCWL application (Sajić et al. 2018, 188). Figure 3a shows the access option and form. This is option that appears after launching of mobile application and is used for log in of user

(client). The user logs in by entering his/her username and password correctly. If he/she had no account in mentioned application yet, the user completes the mandatory fields in the application and gets notification about success of application and opening account on his/her e-mail address registered in the application.



a) b) c)

Figure 3. Some of options for Web version of Lukas PCWL application for managing client limits (Authors 2018)

Figure 3 shows example of option for defining and programming of transaction limit. That is option that appears before it is defined and sent needed value for transaction limit. In that process the client must first to enter one-time password received from the banking server. When it is entered, after successful connection with information system of the bank, as feedback information he/she receives current approved limit. For programming of transaction limit there is also possibility to use the slider on the left side of the screen to increase or decrease the limit value. Also, new limit can be simply entered in the field for entering (Change Limit). When the application is started and is performed user log in, it is first required from bank the one-time password for verification and communication with the banking information system. The request is performed by clicking the "One Time Pass" button. Information system of the bank then generates and sends one-time password via SMS massage to number of user mobile phone. At the same time, the bank information system checks also data about unique factory number of user mobile phone, about user name and passwords. All these data must be identical with corresponding data stored in the bank information system for that client. The client reads received password in the SMS message and writes that password in required field (One time Pass field).

The application communicates with the bank information system. After successful check of one-time passwords and other client data, the bank information system returns and records in the application information about programmed current daily limit and about remaining monthly limit, i.e. about total or maximum limit. The total or maximum limit can be defined as specified in the contract between the bank and the client. It can also be calculated based on defined maximal monthly limit for the client, the portion spent up to that time, the account balance of the client and allowed overdraft on the client account. The amount of defined maximal limit depends also on agreement between the bank and the client.

After entering new desired limit, by entering one time password (One Time Pass) and clicking "Change Limit" button, it is forwarded to the bank information system the request to change current limit. Figure 3 shows example of state that appears on mobile phone screen in

preparing of change in current limit (Figure 3b) and state after changing the current limit (Figure 3c). On the screens can be seen that previous limit was 600 KM and that programmed new limit value of transaction is now 1000 KM. It was also shown maximal transaction limit approved by the bank (here 3000 KM) as a reminder to the client that can not exceed this limited amount. The program allows two ways to change amount for desired limit, by the slider or directly by entering desired value into appropriate field and clicking on the "Change Limit" button. After performed transaction of 1000 KM new usable maximal limit is reduced by this amount and now is 2000 KM. Normally, that limit will be again increased to 3000 KM, according to client payments for purpose of repaying the loan of bank of 1000 KM.

It is recommendation that, immediately after performed transaction, client returns current limit on desired minimal value (e.g. on 1 KM or better on 0 KM, as was shown in Figure 3b that the limit before its change and increase was 0 KM). Such will surely prevent misuse and unauthorised transactions from his/her account. It is also recommendation to banks to develop some type of special contract, where client becomes aware and with his signature responsible for eventual failure in work with that application in case of leaving large amount of current limit. Also, the bank should that in its information system incorporate possibility of warning client, by SMS messages, email alerts, etc., when it realizes that large amount of his/her current limit has been left. It is also possible to introduce possibilities to limit time duration of the limit on defined time period that can be programmed. Such will be defined how long the information system will keep value of set current limit and that after expiration of that time will return limit amount on minimal value. Similarly, it is possible to enable option for the client that in the application set default minimal value of current amount of the limit, and that after each performed transaction value of limit automatically returns on that default minimum value.

It is recommendation that this or similar application be implemented as separated and independent application, and not within the mobile banking application, because of clear security reasons. If someone unauthorized enters into mobile application of the client it remains to him/her problem with current limits that are located in other application and vice versa.

Additional protection of the application against unauthorized use is achieved in the following way. When a user takes the application from bank Web site and installs it on his mobile device, the application sends unique identification number of that mobile device to the bank information system. One user can uses only one mobile phone and one mobile phone number. For log in the application the username and password are used for each user. Changes of transaction limits are also protected in one more way, an additional one time password is used for each change and the adjustment of the transaction limit.

By using such way of working with limits it can be said that the client becomes actual owner over to him/her assigned amount of the maximum limit.

4. DIGITAL BANK SAFETY DEPOSIT BOX

Digital modular bank safety deposit box that was developed using modern digital information and communication technology is briefly described as next proposal of new banking product and service. More details about the product can be found in the references (Sajić et al. 2018, 108).

The fact is that each person uses and has an increasing number of digital documents that have certain importance and value for him/her. It is enough to just mention digital pictures which in time become more and more important, especially family pictures. Also, there are various videos, important digitized documents, diplomas, certificates, project documentation in digital form and similar. It is true that there are various companies and applications on the Internet that offer their services for store such documents. But the question is whether is that sufficient? Is it sufficient for an average client that to him/her in such situation be offered the

option "Take it or leave it" or " Agree/Not agree"? Is it sufficient guaranty to the client that his/her digital valuable documents will be safe and preserved? Also, private and home variants of storing such data and documents in many cases lead to loss of that data. The reason for that is very simple. Standard costumer and client does not have sufficient IT knowledge in information technologies and equipment that in a proper way protect and store his/her data for safe keeping. Also, when client has enough knowledge and equipment problem is that such properly implemented system for local data storage can be very expensive.

On the basis of mentioned reasons it can be concluded that there is enough needs to create one such banking service. That service, based on model of classic safes that banks possess, would have possibility of storing and saving digital information in a similar way. In classic bank deposit box (safe) are stored and saved valuable things of client such as are jewellery, expensive watches, valuable paper in printed form, and similar, where banks have many years of experience and customer trust. The digital security deposit banking box would store and save digital information and data of user. It is clear that the main advantage that the bank has over already existing Internet service providers of this type would be security and guarantee of preserving that data.

Such service should not be based on a simple "Take it or leave it" type contract. To clients should be offered certain type of SLA (Service Level Agreement) type contract where would be precisely regulated rights and obligations of both the client and the bank. The accent should be on the security part of the contract, where each digital document would be precisely defined in terms of its importance and value. Since it is difficult to determine the financial value of some digital document, the proposal is that the client himself/herself assesses the importance and value of his/her digital records. The bank can, with its experience and expertise to help in that, but the final decision should be left to the client. For example, it would be very difficult to perform some kind of financial evaluation of the value of family pictures and other similar digital records. Someone can say that those pictures to him/her have value of just a few hundred of KM and someone else can estimate that on a multiple higher amount. Also, performing value estimation only based on the size of storage capacity that the data occupy would not be a good estimation. That would be then a similar principle as in such services that are offer by existing Internet providers.

The cost of such service that the bank would perform and charge would depend on agreed amount of estimated value of digital information that is stored, on eventual penalties that bank would pay in case of compromising or losing records, as well as on level of obligations that the bank should be required to realize through the contract. It is proposed that in the case of low amounts of estimated values of data, clients would not be rejected or not to make contracts for them with unfavourable amounts of costs of services, and to accept also those clients but without some higher obligation conditions for bank. In such cases, the goal would be to obtain certain useful information also about such clients, but in accordance with GDPR (General Data Protection Regulation) and other regulatory norms of behaviour.

Proposal is to realize two versions of the proposed digital modular bank safety deposit box: offline and online version.

Proposed version of offline digital modular bank safety deposit box is realization that uses isolated computer network, isolated from the banking computer network, located in special for that dedicated premises of the bank, in a similar way as is the case with classic bank deposit boxes. Such implementation of a security digital safety box allows clients that their very valuable digital data, that must not be transmitted over the Internet and over computer networks, can by using some their storage medium to transfer into digital data storage system of the bank in strictly assigned safety box. Clients can also bring that their documents in their original form (paper, photo, video, etc.) and will be able to convert that documents into digital form, using digital scanners and other equipment dedicated for that purpose, and then to store them on the assigned security digital modular safe. In addition to the classic way of protection

by the user name and password, all stored data is cryptographically protected using selected cryptographic technology, if the user has not already protected them, so this remains as an option for the user. In the opposite case, when a client needs to obtain documents in some their standard form (paper, photo, video record), he/she can download it through him/her allocated digital security bank deposit box. For complete manipulation of client data and client documents it is used appropriate DMS as part of the offline digital storage system. The offline digital bank safety deposit box was created as modular system. By using the appropriate hardware and software modules it is possible to easily increase the capacity and capabilities of that digital safety box. Figure 4 shows proposed block scheme of offline digital modular safety deposit box (Sajić et al. 2018, 110).

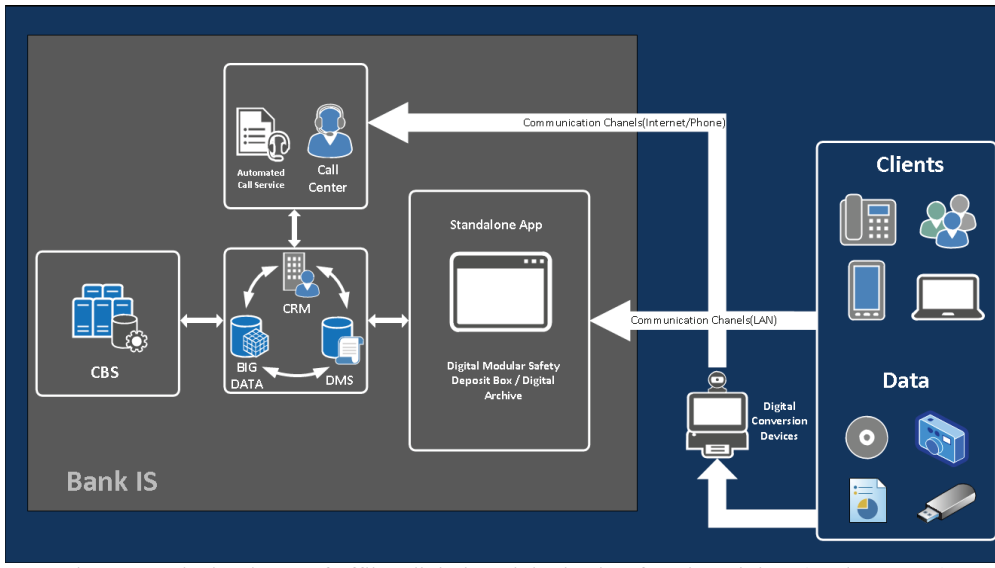


Figure 4 - Block scheme of offline digital modular bank safety deposit box (Authors 2018)

Proposed version of online (cloud) digital modular bank safety deposit box is realization that uses data transmission over the Internet and that is accessible via the Internet, using specific Web application or mobile application, for this purpose made by the bank and placed on Web site of the bank. That type of digital safety deposit box is intended for clients who need simpler and easier way of archiving, protecting and securing for them less valuable and less important digital data, different types of documents and other information. Clients can access and use these applications (Web and/or mobile applications) from their homes or work places over the Internet. That allows a faster, simpler and easier way for clients to archive and access their data at any time from their computers or smartphones. That version is realized using digital information technologies, computers, appropriate hardware (servers and storage devices), appropriate software and using appropriate communication and mobile technologies. The proposed system of online digital (cloud) security deposit box would be similar to the well-known existing cloud digital systems for archiving. But, accent and emphasis is on much greater security and data protection guaranteed by the bank as known and secure institution. Similarly as in offline version, in addition to the classic way of protection by the user name and password, all stored data would be cryptographically protected by some cryptographic technologies. Also, it should be suggested to the client that digital data that sends previously encrypts if they contain for him/her confidential information. For this service, the bank would also charge certain fee, but much less than for the offline digital safety deposit box. For store

smaller amounts of data, up to a certain limit, the bank could provide this service for free. Such would be increased total number of users who could later begin to store larger amounts of data, and also could be thus collected information about that clients. The digital online (cloud) safety deposit box was also created modularly. By using appropriate hardware and software modules it is simple and easy to increase the capacity and expand its capabilities. Figure 5 shows proposed scheme of the online (cloud) version of the digital modular bank safety deposit box (Sajić et al. 2018, 111).

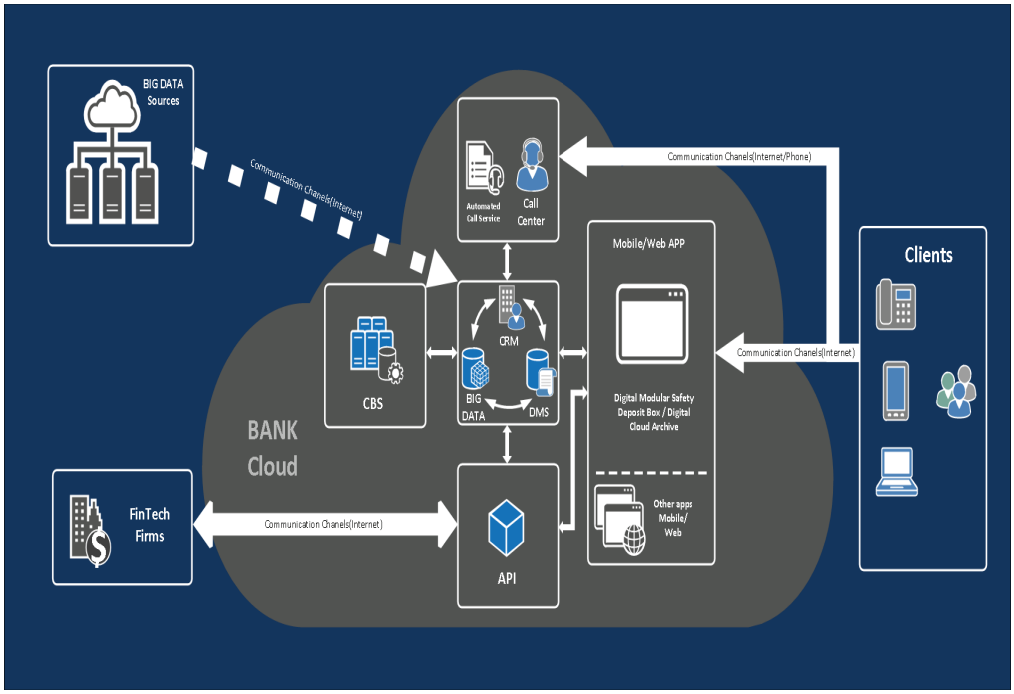


Figure 5 - Block scheme of online (cloud) digital modular bank safety deposit box (Authors 2018)

If everything was done in proposed way it could be said that the client becomes the actual owner of stored digital records, even in the financial part that determines their value.

5. DOCUMENT MANAGEMENT SYSTEM FOR SMALL AND MEDIUM ENTERPRISES

Basically, this proposal of service of document management system for small and medium enterprises (SME) is based on a solution similar to previous proposal of the online digital modular deposit box. Difference is only in the offered Internet application that would be available on the bank Web site. That would allow that in the "cloud" version the bank offers to small and medium enterprises that for them performs services that provides a good document management system (DMS). The principle solution, described in the case of a online digital modular safety box, remains almost the same and applicable also for this type of service.

The economic basis for such service is clear. Small and medium enterprises, in order to create good and quality DMS, should to invest quite a lot of money (Duvnjak 2018), to engage some IT firm to maintain such a system or to employ at least one adequate professional for that purpose. All that are additional expenditures which could be a big problem for small firms. Also, sales policy of DMS technology is based mainly on the number of licenses. As well as

in similar sales of information systems, much greater price is when a small number of copies is used for a small number of users, than when is case of a large number of users and a large number of copies. Therefore, for small and medium enterprises this price is quite high and mainly unacceptable.

For these reasons it is proposed introduction of this banking service, service of providing DMS services to small and medium enterprises. The bank must certainly to realize good and quality DMS for their own purposes. During introduction and realization of DMS a certain number of people from the IT side and also from completely business side will be well trained in working with that system. They can represent a good core for forming of a department that would deal with the providing of DMS services within the bank and externally, as an additional service to clients, in this case legal entities, small and medium enterprises.

Potential clients of this service could be also lawyers, public notaries, and those companies that have and use a lot of documentation in their work. Then, it could be also be companies that join with other companies in order to perform common projects. In such cases, it would be convenient for them to rent together a digital safe with an appropriate DMS application with necessary certificate, legally recognized, used for purpose to store documentation related to planning, execution and monitoring of projects. Such, an accurate, legally supported insight into the flow of the project would be enabled. Also, the process of evidention of errors, delays and other anomalies, which would result in poorly guided projects would be substantially easier. All that would have a solid legal basis and thereby would be avoided eventually lengthy and exhausting legal disputes.

CONCLUSION

With appearance of mobile portable devices, smartphones and mobile personal computers, there were created new opportunities and new needs of people and clients of banks, and thus were created conditions for introducing new banking services. Five proposals for introduction of new services that banks could provide in the future to the clients were proposed and described in this article. It is evident that some services that banks were provided in the past and from what banks had significant financial benefits (such as payment operations) due to appearance of competition, primarily in the form of smaller but technologically advanced so-called Fitech firms (e.g. PayPal), increasingly become less financially effective. Similar situation is also with ATMs, and also with providing of small credit line services, where the Internet based companies are selling goods via the Internet already issue their electronic payment cards and allow payment on instalments. All that reduces the profit of the banks that are accustomed to the usual, regular, classic way of working and operation.

It is clear that, in order to survive, banks will have to find additional services and products that they could provide to their clients. In that they will be based on that to offer and realize those services where they can be in advantage in relation to competition considering their position on the market, trained personnel and already acquired customer confidence.

Because of mentioned reasons, in this paper was given and described proposal of five new services that could help to increase quality of bank services to a higher level, to increase satisfaction of clients and also to improve financial effects for bank. The common for all proposals is that they are based on using digital information and mobile technologies and cloud technologies. Also, access in all proposed services is such that is intended to satisfy needs of clients, and is not intended to achieve profit through expensive services. The goal is to achieve a reasonable price of services in order to obtain in quantity of users and achieved secondary profit by gaining client confidence. Based on that, the clients would expand list of services that would ask from their bank what would increase financial effects for the bank. For example, the PhotoLoan application provides possibility for banks to connect their clients legal entities with clients physical persons, and to provide satisfaction with concluded and performed business for both of them. That creates real basses for preserving their clients and

sets out perspectives for expanding the number of clients based on good recommendations. Also, application for management with limits of clients provides high comfort and satisfaction to the clients in work with their accounts and transactions. That would certainly result in preserving existing and possibility to increase total number of clients, and in increasing of financial effects in operation of bank. With the introduction of a digital modular safely box and with its extension on the provision of DMS services, it is almost certain that companies, that would accept this kind of services, would transit with great part of their work on using services of the concrete bank. Providing of consulting and marketing services generally, and also for new introduced banking products, will also increase reputation of bank and can bring more benefits retroactively than it would seem at first glance.

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