BANK INNOVATIONS: THEORETICAL ASPECTS AND IMPLEMENTATION IN THE REPUBLIC OF MOLDOVA

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Abstract

The efficiency of the bank's activity, its competitiveness on market largely depends on implementation of new products, technologies and banking processes. This article relates theoretical key issues in defining bank innovations, as well as describes the process of developing innovative products by commercial banks. The final part of the study describes the main barriers that slow down the successful implementation of financial innovations in the bank sector of the Republic of Moldova. Moreover, there are given some solutions to redress the situation for the efficient implementation of innovations in the domestic financial market. Poor performances in the development of innovations on the Moldovan bank market arise from insufficient knowledge of banks as issuers, investors as buyers of risk and intermediary companies, as well as lack of regulation of the innovation process in bank sector which would clearly explain and regulate the issuance and trading mechanism of some new innovative bank products. The financial market in Moldova also needs a favorable legal, fiscal and accounting system. For the realization of the scientific article, a series of specific methods of research of economical problems, such as logical (analysis and synthesis), systemic, comparative and classification methods, were used as a methodological basis.

Keywords: *Banks, derivatives, economic growth, financial markets, new product development, risk and risk exposure*

1 INTRODUCTION

In a knowledge-based economy, bank innovations represent the priority element for success. These products should comprise product innovations, processes and system innovations in such a way to make the bank correspond to the major requirements with minimum costs, reduced risks and maximum earnings.

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Bank services sector is marked by a pronounced dynamism, the effects of which are felt in their elations of bank institution with clients and competitors. The strong development of innovative banking products is done in parallel with the abandonment of other products, which no longer correspond to the current stage. Banking experts mention that performing banking services are not necessarily profitable, but they contribute to customer loyalty. This, as customers become more exigent and demanding.

2 BANK INNOVATIONS – THEORETICAL KEY ISSUES

At present, one of the key factors in the success of banking activity has become the policy of permanent innovations, which stems from a number of premises (Prosalova, V., Nikitina, A., 2013):

- First of all, relations of banks with their clients are based on partnership principles. This, in particular, means that banks are constantly taking care not only to preserve, but also to increase the capital of their clients by offering new services, which in turn contribute to widening of economic activity, reduction of expenses, development and profitability of activity.
- The second reason for emergence of new banking services comes from the intensification of direct and indirect competition on banking market. In order to survive under market conditions, a wide variety of financial solutions and individualization of bank offers are needed, their implementation in a growing number of banking activities.
- The third is development of expensive banking technologies. Namely, technical-scientific progress, recognized worldwide as an important factor of economic development, is increasingly related to the notion of innovation process. But innovations in banking sphere include not only those of a technical or technological nature, but also the implementation of new forms of business, new methods of market activity, new products and services, new financial instruments. They are characterized by a higher level of technological development, higher consumer consumption than old products.

The efficiency of the bank's activity, its competitiveness on market largely depend on implementation of new products, technologies and banking processes.

In some bibliographic sources, new banking service is highlighted as a service activity or customer assistance in obtaining profits, able to bring additional income in the form of a commission.

The specialized literature contains a definition set of banking innovation concept:

- *Banking innovation* is the final result of bank's innovative activity in form of a new banking product or new business.
- *Banking innovation* represents all new banking products and services; is a synthetic category referring to the purpose and result of bank's activity in the field of new technologies aimed at obtaining additional revenues in the process of creating favorable conditions for formation and placement of resource potential through the implementation of innovations that assists clients in obtaining profit (Lavrusin, O., 2009).
- *Banking innovations* are new or radically modified banking services or products offered to clients as well as modern technologies implemented in banking processes, including information and communication, which allow for an economic or social effect (Prosalova, V., & Nikitina, A., 2013).
- Banking innovations are new banking products and services resulting of bank's activity aimed at obtaining additional profits in the process of creating favorable conditions for training and placing potential of resources through innovations, which help to increase customer profits (Iliadi, G., & Luchian, I., 2005).

New products may appear as result of coordinated and sufficiently formal efforts of specialists' team in the field or may be the solution to solve specific customer problems.

Some bibliographic sources link the emergence of new banking products to two basic premises:

- First, being aware of clients' importance of as source of their welfare, banks tend to show concern for themselves, to increase their capital, to prosper their business. That is why banks offer to customers new products in a tendency to give them the best service and, at the same time, to reduce the level of spending, to expand banking activity, to increase its efficiency. Banking innovations can also become effective tools for attracting new customers.

- Secondly, banking innovations appear as result of competition between bank (ie direct competitors) and other financial institutions (indirect competitors). At the same time, banks are producing new products in tendency to diversify their activity in order to increase its stability and efficiency.

Some literature based on international banking practice, present the following types of banking innovations (Iliadi, G., & Luchian, I., 2005):

- Banking products on new segments: investment in real estate, insurance business, financial leasing, fiduciary operations;
- Innovations in new areas of financial market, such as: market of commercial papers, financial futures, financial options, markets of unlisted securities;
- Management of monetary liquidity and use of new information technologies;
- Financial mediation services aimed at reducing operational expenses and more efficient management of assets and liabilities: deposit certificates, deposit accounts;
- New products on traditional segments of loan market: floating rate instruments, swaps, deep discounts, etc., as well as money market instruments that have characteristics of both capital market and credit market (loans and participation bonds, investment certificates).

According to their economic content, innovations in the banking sphere can be divided into two large groups: technological and product innovations (Iliadi, G., & Luchian, I., 2005).

Technological innovations include, for example, electronic money transfers, bank cards.

Product innovations include new banking products that may be related to new operations and services as well as traditional banking operations during the development or change of their regulation.

Depending on premise of innovations, it can also be a "technological explosion" or "demand challenge", we highlight *supply innovations* and *demand innovations* (Agarcov, S., Kuznetova, E., & Griaznova, M. (2011)).

Classification of bank innovations can be made based on causes of occurrence, dividing them into *reactive* and *strategic*. Reactive innovations refer to bank's provision of a survival-oriented defense strategy and are a reaction to implementation of innovations by competing bank. Strategic innovations are geared towards addressing need for innovative transformations, the basic aim of which is to gain competitive advantages in the future.

In line with innovative potential (Vikulov, V., 2004):

- *Radical (basic) innovations*, which imply the implementation of new principally new types of banking products, the application of new qualitative technologies of realization and offering, the application of absolutely new management methods;
- *Combiners* - the use of several combinations of different existing elements, which are then marketed as an integral product;
- For purpose of *introducing necessary changes and additions* to existing banking product to prolong their life cycle.

Radical innovations are the most valuable, as they usually have the most important effect, introducing something new in principle into financial institution's operating mechanism, but in most cases, innovations in group two and three predominate. The latter do not have a high resonance, but their purpose is to correct and adapt basic transformations already made in the context of changing their own goals.

Depending on possibility of dissemination, we differentiate *limited* and *unlimited product* (Kornilova, E., 2013):

- *The limited banking product* is product, volume and quantity of which is strictly quoted. The volume of the offer is determined by several factors: size of the bank's own capital, volume of consumer demand etc. This product is offered to specific customers (customers).
- *The limited banking product* is product, volume and quantity of offer to which it is not restricted. This product is offered to both bank and potential consumers, whose number is not known precisely. That's why the volume of this product's supply is limited by the size of consumer demand.

New banking product can be unique or mass (Kornilova, E., 2013):

- *The unique banking product* is an individual product. It has characteristics that it highlights among other banking products. This product has a strictly limited circle of consumers. Therefore, it is offered to the specific consumers.
- *The mass banking product* is a product without expressing individual characteristics. It is only highlighted by type of product or financial asset. This product is offered to a large circle of consumers and investors.

Scientists Zavlin and Vasiliev as a complement to above classification criteria highlight the following (Agarcov, S., Kuznetova, E., & Griaznova, M., 2011):

- Degree of intensity - *uniform, weak, mass*;
- Innovation rhythms - fast, slow, quenching, growing, uniform, jumping;
- Proportions - transcontinental, transnational, regional, large, medium, small;
- Efficiency - high, low, medium.

Prigojin according to consistency criterion mentions bank innovations *for replacement, cancellation, restitution, opening and retransmission* (Novoselova, E., 2006).

In some bibliographic sources, it is mentioned that banking innovations can be grouped into eight levels (Vikulov, V., 2004):

- *Zero-level innovations,* which relate to renewal and properties preservation of existing system (replacing some employees of financial institution, of particular objects of technical-material basis for preserving financial institution's functionality at initial level);
- *Innovations of first level,* including quantitative changes introduced into system (widening a financial institution subdivision to improve service or increase production capacity);
- *Second level innovations,* in which system components are merged (structural changes within limits of financial institution, creation of new ones in order to increase functional efficiency);
- *Third-level innovations* - modification of adaptive structural elements, designed to improve the interaction of particular subdivisions of finishing institution, redistribution of functions between them;
- *Fourth level innovations* that preserve initial properties of line structure by making simple, qualitative changes that go beyond limits of adaptive changes (for example, replacing financial institution's information system);
- *Level five innovations,* which provide for maintenance of basic structure of financial institution but for the change of most of system's properties (replacement of collective and middle managers to change qualitative characteristics of financial institution);
- *Level six innovations* - qualitative improvement of financial institution's initial properties, change of system-forming customer sectors serviced by financial institution;
- *Level seven innovations* mean the superlative change in functional properties of financial institution (changing the specialization of financial institution, whole range of offered products, transition to new markets and application of new principles of customer selection and service).

Thus, the classification of banking innovations gives the opportunity to highlight some laws in emergence and realization of innovation processes in financial institutions. The dominance of a certain type of innovation determines the type and orientation of bank's innovative strategy (i.e. it becomes possible to link certain types of innovation to certain types of innovation strategies). In turn, the typology of banking innovations allows to put in place the respective economic and managerial mechanisms, because the latter are determined by the type of implemented innovations and chosen innovation strategy.

In this case, any bank in process of realizing system approach of innovation strategy, examining its innovative activity taking into account principles and aspects of client's acquisition, obtains the possibility of positioning on market, determining forms of promotion and realization of its elaborations and products on market, which deviates from one type of innovation to another.

2.1 Innovative process development in bank sector

The development of new banking products is fully embedded in overall scheme of new product development for financial institutions.

The innovative banking process can be promoted at four levels (Sneider, A., Katman, I., & Topcisvilli, G., 2003).

- At the *first level*, a product with an accentuated principle novelty, as well as the way of its use, is being developed and implemented. For securities markets of industrialized countries this stage for many commodities in banking market has long been overcome. As far as markets of transition countries are concerned, this is a fairly fast pace for simple reason that basic types of banking products are not invented in proper way but are implemented in diffusion processes.
- In the *second level*, product is adapted for sale on different market segments by improving the way they are used. Also, support and contribution products are upgraded, which raises and even changes consumer product qualities. For example, the progress of information and communication technologies has led to market success of banking services provided to remote customers.
- If the possibilities offered by level three are exhausted, it goes to *level three*, where combining different financial products in the form of hybridization and synthesis. For example, lei-denominated deposits but foreign exchange rate interest rates, lending via REPO transactions are innovative third-level products.
- Once some products lose their pre-established functionality, but they get a new functionality, unbound with the former, they fall into category of innovative products of *level four*. For example, after repurchasing at maturity of paper certificates, they lose their original functionality, but if blanks of these financial instruments become samples in museum, they get new functionality.

Basic methods of promoting innovation process in banking product market can be as follows (Iliadi, G., & Luchian, I., 2005):

1. Elaboration of completely new products. These are first level innovations.
2. *Expanding the functionality of existing banking products* - by essence, it is creation of second-degree innovations. As an example, it is possible to use bank cards other than their direct destination (receiving cash from card account, making payments in merchant network) and as a means of identifying clients for other banking operations.
3. Installing financial instruments of another kind, or in other words combining several financial instruments into a single product and creating structured (hybrid) bank products. The simplest example can be convertible bonds, which are options or futures on issuer's shares or other bonds. Another example would be the opening of deposit accounts with floating interest rates, adjustable to other indices (interest rates on interbank markets or exchange rate change rates).
4. *Packaging banking products or combining products for their complex sale,* which provides for sale of wholesale banking products. As an example, the provision of services on securities market together with consultancy services can serve as an example.

In some cases, banks can sell their products to other producers. For example, with the opening of deposit accounts to ensure the life and health of the client.

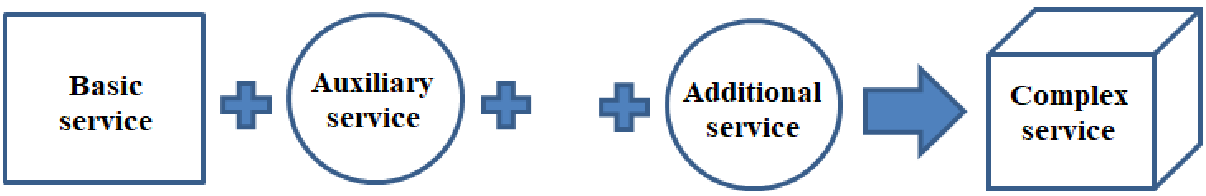

Figure 1. Creation of bank products' functional packages

Source: (Ciobanu, L., 2014)

Some of Moldovan researchers (Ciobanu, L., 2014) examine the process of creating new banking products through banking services. For example, ancillary banking services can be combined with basic services for their complex sale. Thus, *banking services are packed* (Figure 1).

Thus, following the provision of basic services in complex with auxiliary services, banks actually create new complex products tailored to the needs of the clients.

These complex products may include, as shown in Figure 1, in addition to basic and auxiliary products, additional products.

Similarly, these packages can include not only one but also additional and additional services.

It should be noted that the way of offering to existing customer or potential customer who has expressed his intention to procure a particular banking product, additional or interconnected banking products is called *cross-celling.*

In some cases, this technique can be combined with another called *up selling*. It is a sales technique that proposes to increase sales profitability by persuading the customer to purchase more expensive products based on low price difference between normal product and newer versions, but also major advantages that latter can offer. This is possible in case of essential expansion of banking product, including through efficient combination with ancillary products.

Let's take a credit card as an example. If initially when implementing this product, bank collects interest and commissions from any transaction, without giving anything extra, then the situation may change fundamentally in the sense of requesting this product by customers, if transactions in trading units do not be charged, subject to the relatively rapid refund of credit and information about bank account situation through the Internet (Ciobanu, L., 2014).

Complex banking products should not be confused with *hybrid banking products*, which are preferably obtained by attaching financial instruments of another kind to securities or, in other words, combining some financial instruments into a single product and creating structured bank products (Iliadi, G., & Luchian, I., 2005).

The simplest example of such banking products is classical term deposit, in which options are put in place by granting some additional rights to account holder - to automatically extend the account term, to fill the deposit amount and / or to withdraw money means and so on.

In the context, synthetic financial instruments, those created artificially, should be indicated, using a certain collection of other assets, which are combined, giving comparable possibilities to replicated instrument (Ciobanu, L., 2014).

An example of a synthetic banking product can serve an indexed deposit. For example, it could be opening of deposit accounts with floating interest rates, adjustable to other indices (trained in capital markets, commodity markets and exchange rate fluctuation rates). If the value of underlying instrument for the period of deposit holding changes in favorable direction, depositor receives a higher interest rate at the end of term because it is increased at the growth rate of underlying asset value. If, however, market value of underlying asset moves in the reverse direction, depositor will receive at the end of the period a minimum interest rate that corresponds to spot rate. In any case, the repayment of amount initially deposited by investor is guaranteed (Antonet, O., 2008).

Unlike hybrid products, structured products obtained by merging basic and auxiliary services are usually demountable, as often customer may refuse to use ancillary banking services.

Exceptions are made when the use of basic service is conditioned by use of secondary service. However, such practices occur relatively rarely and are usually used when technical and technological services are not separable (for example, when offering multi-function cards) or when new banking services are offered as secondary, in addition to other basic products, which, in their turn, are already interning for customers. In other words, there are specific practices to promote some bank services little used by clients but in the opinion of the bank's admission it could have a high strategic potential.

An example would be to offer deposit accounts with increased interest rates provided a card account is opened in the bank.

As a rule, ancillary banking services serve to *improve and broaden the functionality of basic services* (Ciobanu, L., 2014).

For example, if the bank deposit (basic product), that is opened to client (the physical person) is filled with a bank card (ancillary product) to whose account the interest on deposit is transferred, then basic commodity convenience for client is substantially increased they do not have to present themselves to bank for interest collection, if the bank's ATMs are available, as well as possibility of using card as a basic tool. Bank, in turn, gets the opportunity to optimize the technological processes of customer service and to reduce operating expenses to its service.

On the other hand, ancillary banking products may in certain circumstances create functionality that is primarily of interest to bank customers, which attracts interest in entire banking product package.

In the context, it may be mentioned that some banks offer packages of banking products whose structure is formed in stairs or levels because latter are supplemented with other ancillary products in the package created from basic services and auxiliary services.

Conventionally, basic services directly related to basic services can be called *Level I* and, those related to Level I, respectively, *Level II* auxiliary products as shown in Figure 2.

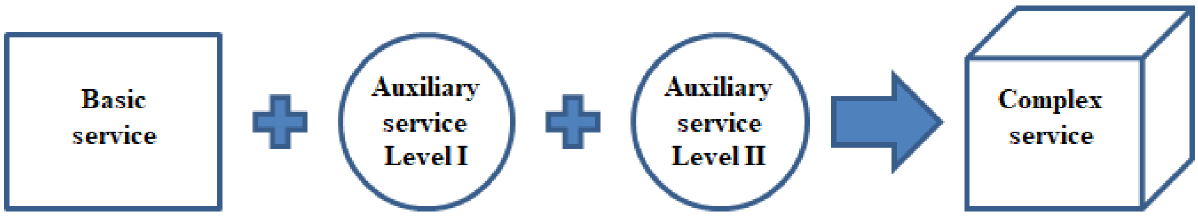

Figure 2. Creation of bank products' functional packages from basic and auxiliary services

Source: (Ciobanu, L., 2014).

For example, in the case of issuing a credit card to customer, the bank must first agree to open a credit line, which in fact is basic service, and service via credit card, it is a set of ancillary services (level I), which can be complemented by Internet banking services, mobile banking information services and so on (Level II) (Ciobanu, L., 2014).

In some cases, ancillary services and additional services are merged into a single package of services, they can lose their status and become basic in the case of their full integration, being used equally in connection with the use of basic services, and partly, depending on customer preferences. Private banking services are an eloquent case.

3 IMPLREMENTATION OF BANK INNOVATIONS IN REPUBLIC OF MOLDOVA

According to the Global Competitiveness Report 2016-2017, the Republic of Moldova is ranked on the 100th place out of 138 countries, as regarding the innovation index, the results are more dramatic - the 133th position. It is crucial to increase the innovation capacity of the Moldovan economy, and the bank sector creates favorable prerequisites for this.

In Moldova, banks are increasingly developing the technical and electronic possibilities in order to better communicate with clients. At present, commercial banks provide individuals and businesses with various remote communication services, including Internet banking, electronic financial information systems, SMS notification, Electronic Extracts. However, local banks still have much to do with innovation, both in terms of investment size and implementation. Thus, until innovation has recently been considered to develop in a linear fashion, from research to marketing, then communication about the existence and need for innovative products and services now plays a strategic role. And this is an important aspect that banks in Moldova should emphasize, dissemination of innovation products to population and business environment through advertising, official web pages, specialized magazines, etc., so that innovations successfully penetrate the market.

However, there are some barriers that slow down the successful implementation of financial innovations in the bank sector of the Republic of Moldova, and these are the following:

1. **Technological and technical barriers:** It must be recognized that in Moldova the banks fail to implement the latest technologies applied in industrialized countries. The difference in implementation time is nearly 10-

15 years. At the same time, the innovation process on the banking market in the above-mentioned countries and the international one stands still. For this reason, a solution would be the cooperation between the banks in Moldova, the participation in international banking alliances, which would reduce the costs and increase the efficiency in the management of the clients. It is also to mention a great constraint of innovative development in domestic banks is the lack of population's large-scale access to the Internet sources, the low level of trust in electronic services and products in terms of their reliability and low demand. Another problem is the reliability of electronic channels. The increase of users connected to the e-banking system, also the ones that are not too advanced in IT, has led to an increase in the number of thefts of electronic financial resources from banks' customers. Through online banking, frequent network attacks from credit institutions' websites and servers are occurring, as well as attempts to illegally obtain personal information from e-banking service users, passwords, secret keys, analogies electronic signature, PIN, etc.

2. **Lack of bank culture:** Banks practically do not promote their image on the market. Moreover, the last bank scandals related to shareholders' origin, as well as bad relationships among bank management and shareholders, have fueled people's distrust in bank system.
3. **Lack of knowledge and practical skills of the bank personnel:** Modern innovative banking products are relatively complicated from the technical point of view. At the same time, the level of professional training of bankers tends to decrease. Often, banks hire staff for front-office sub-offices without the I-st degree higher financial studies. It is also to mention the specific psychological climate within financial institutions, which determines a negligent attitude towards the sale of bank products by bank staff, which ultimately causes the admission of various errors. Also, bureaucracy issues within financial institutions can also be mentioned. Some banks change so often the range and terms of sale of their products, so that their employees do not even manage to know them entirely, which affects the quality of customer service.

To develop a favorable climate for implementation of innovations, the financial market in Moldova needs the support on behalf of the National Bank of Moldova, as well as a favorable legal, fiscal and accounting system. In this respect, domestic financial institutions face the difficulties of low ratings of financial services, currency risk, shadow economy and lack of funds. Also, bank representatives still perceive some innovations too risky because there is no specialized culture.

The solutions to attract and effectively implement innovations in the domestic financial market could be (Timus, V., & Luchian, I., 2008):

- Stimulation of investment in IT and know-how, new financial products;
- Intensifying state regulation, while maintaining the principle of neutrality vis-à-vis the competitiveness of participants in the financial market and technologies;
- Increase of staff qualification, actions taken by the management on stimulation and motivation of employees, enrollment of young specialists, organization of internships and exchange of experience, etc.;
- Tightening of risk control within financial institutions.

One of the instruments that could represent the innovative products on the Moldovan bank market is the one that transfers the credit risk. For example, if an institution has a claim on a company and wishes to protect itself against the default risk, it can transfer this risk to another credit institution.

Areas where innovations could be introduced are those that are experiencing significant increases in economic activity and need investment funds such as telecommunication companies or supermarket networks.

4 CONCLUSIONS

The efficiency of the bank's activity, its competitiveness on market largely depend on implementation of new products, technologies and banking processes. New products appear as result of coordinated and sufficiently formal efforts of specialists' team in the field or may be the solution to solve specific customer problems. At the same time, banks create new complex products tailored to the needs of the clients.

In the Republic of Moldova, poor performances in the development of innovations on the bank market arise from insufficient knowledge of banks as issuers, investors as buyers of risk and intermediary companies, as well as lack of regulation of the innovation process in bank sector which would clearly explain and regulate the issuance and trading mechanism of some new innovative bank products.

In order to solve the stated problems, a set of measures must be adopted, which can be divided into several groups:

- development of the legal basis for regulating operations with some new bank innovative products, for example credit derivatives;
- creating new methods and reviewing the existing bank risk assessment methods;
- creating the system of requirements for participants for risky innovative bank products, as well as the mechanism for control over their execution;
- Stimulation of investment in IT and know-how, new financial products;
- Increase of staff qualification, actions taken by the management on stimulation and motivation of employees, enrollment of young specialists, organization of internships and exchange of experience, etc.

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