

The Importance of Financial Innovation and its Role in Improving the Quality of Banking Services in Algerian Public Banks

أهمية الابتكار المالي ودوره في تحسين جودة الخدمات المصرفية بالبنوك العمومية الجزائرية

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Abstract

This study examines the importance of financial innovation and its role in improving the quality of banking services of the Algerian public banks, where financial innovation was defined as the driving force of the global financial system, Which is mainly based on its design on financial engineering, and which impact on the work of financial institutions, especially the banks where they have benefited from its positive effects, not to mention the impact of crises, as a modern financial tools and innovative work mechanisms based on the use of banking technology, which has improved the quality of banking services.

Keywords : *Financial Innovation, Financial Engineering, Derivatives.*

Jel classification : G210, O310

المخلص

تتناول هذه الدراسة أهمية الابتكار المالي ودوره في تحسين جودة الخدمات المصرفية بالبنوك العمومية الجزائرية، حيث عرف الابتكار المالي على أنه القوة الدافعة للنظام المالي العالمي، الذي يعتمد أساسا في تصميمه على الهندسة المالية، والذي أثر على عمل المؤسسات المالية خاصة البنوك، التي استفادت من آثاره الإيجابية، ناهيك عن تأثيره البالغ خلال الأزمات، وذلك بإيجاد أدوات مالية حديثة، وآليات عمل مبتكرة، تعتمد أساسا على استخدام التكنولوجيا المصرفية، الأمر الذي أدى إلى تحسين جودة الخدمات المصرفية.

الكلمات المفتاحية: الابتكار المالي، الهندسة المالية، المشتقات المالية.

Introduction

Financial innovation is considered as an important necessity for any financial system in any country, in particular, the banking system, due to the importance of financial innovation on banking service quality, which is demonstrated by the experiences of developed countries especially the United States, although its impact on the financial crisis as one of its causes and a solution in the same time, through its various forms, whether the innovative financial products, or mechanisms of modern action.

The basic objective of financial innovation is to fight against the risk of the traditional financial products, however, it has become a means of speculation, which is the impact on the banks' path. Algeria, like other states, is struggling to keep pace with global financial developments through a variety of banking reforms, aiming to implement financial innovation at the level of its banks .

The problematic : based on all of the above , we can ask the following question: **what is the impact of financial innovation on products offered by banks? And what is the effect of financial innovation on the Algerian public banks? "**

The following sub-questions can therefore be formulated :

- What are the effects of financial innovation on banking service quality?
- Financial derivatives are the only face financial innovation of banks?
- What is the reality of financial innovation in the Algerian public banks?

Hypothesis study: to answer the above questions ,we formulate a set of hypotheses as follows:

- Financial innovation contributes to the creation modern financial products with high-quality ;
- Financial derivatives are the only application for financial innovation of banks;
- Algeria is not dealt with derivatives financial because of the religious faith of individuals.

The aims of the study: the study aims to highlight

the concept of modern financial innovation , its applications at the level of the bank and its impact on \ product development. We aim from this study also to identify the reality of financial innovation in the Algerian public banks, and the development of its banking services and financial innovation level.

The importance of the study : the study derives its importance from the importance of financial innovation in the financial institutions and banks, especially Due to the competition witnessed by the banking sector which led to interest in financial innovation and its work to find modern financial products, innovative mechanisms of work, and financial innovation in Algerian public banks between reality and future prospects.

Methodology research : the study was based on the inductive approach using descriptive tool, where the research is divided into:

- The applications of financial innovation on the level of banks.
- Prospects for financial innovation and its effects on banking services in Algerian public banks.

First axis

Applications of financial innovation on the level of banks
Most banks, especially in developed countries, rely on introducing innovative financial products into their products to satisfy customers, achieving a competitive advantage to bring a greatest return, as well as a new working methods increases the quality of the services provided to customers such as electronic payment systems, the securitization of bank, bank governance, the alliance between insurance companies.

According to Tufano: financial innovation is the act of creating and then popularizing new financial

instruments as well as new financial technologies, institutions, and markets. Different reasons have been advanced as to the triggers of innovations, but broadly, they have been described by many as being optimal responses to various basic problems or opportunities, occasioned by incomplete (imperfect) markets that prevent risk shifting or asymmetric information⁽¹⁾.

DeGennaro: defined market imperfection as anything

that interferes with trade. He gave examples as transaction costs, taxes, information asymmetry, and asset indivisibilities. According to him, imperfections cause a rational market participant to deviate from his/her preferred risk level and refrain from holding the market portfolio. However, he claimed that market imperfections also generate business opportunities, that is, institutions or individuals that can lower costs which trace to imperfections have a competitive advantage and can earn economic rents⁽²⁾

First: innovative financial products : the innovative financial products, is mainly in the financial derivatives, The nineties saw, among other things, the emergence of modern credit default swaps and then about a decade later... came the subprime crisis which will undoubtedly leave a permanent trace in the history of derivatives ⁽³⁾.

According to White and Frame : financial innovations can be grouped as ⁽⁴⁾:

- New products (e.g., exchange-traded index funds); new services (e.g., on-line securities trading, internet banking); new 'production' processes (e.g., electronic record keeping for securities, credit scoring).
- New organizational forms (e.g., a new type of electronic exchange for trading securities, internet-only banks).all these reduce the transactions costs and financial risks involved therein.

Financial innovation has at least three principal tasks.

- It should address the challenge of missing markets, such as those for the long-term financing that is required for creating long-lived assets, or for efficient risk sharing by providing appropriate insurance and hedging products
- It should deepen liquidity in existing markets, for example by reducing excessive reliance on a narrow base of depositors for funding.

which will be referred briefly in the following aspects:

The definition of financial derivatives : financial derivatives are defined as: " Tools and means that allow its users a great deal of hedging against risk

and are critical for any financial market in the stage of development and maturity."

Also known as: "contracts to derive value from the value of the assets in question which is the theme of the decade varied between stocks, bonds and commodities and foreign exchange. The derivatives allow the investor gains or losses depending on the performance of the original contract"

From the above, financial derivatives can be defined as: " A hedging instrument whose value is derived from the value of the assets under contract. "

The main types of financial derivatives

The main types of financial derivatives :option contracts, futures contracts, forward contracts and exchange contracts which will be discussed below:

Forward contracts : Forward contract is a deal to purchase or sell the asset at a specified future time for a certain price in the form of one of the parties to the contract status and long to buy the original place of contract at a specified future date for a price was agreed upon the second party agrees to sell short is an original on the same date for the same price, the adjustment of the forward contract at maturity, where the holder of the position of short seller deliver the original holder of the A cash exchange is equal to the rate of delivery.

Exchange contracts: reflecting the contractual commitment between the two parties include exchange of a certain type of cash flow or a particular asset for cash flow or other asset, under the conditions of the implementation of certain agreed upon by the parties in the contract, the main kinds of contracts, interest rate exchange which is an agreement between two parties agree to exchange interest payments and under materials of the most famous exchange fixed interest rates with variable and fixed interest rate swap in which a variable interest rate, and MBA Evidence of currency in that it is an enterprise to borrow in a currency that though they may be in need of coin, such enterprises are one engaged in international trade and accommodation between the enterprise and other enterprise maintains the status of reverse, and elaborate arrangements for the exchange of cash

payment facilities, and it's inconceivable always established with other enterprise needs to match, in this case if you did not find it acceptable to it. The role of other enterprise that tries to cover the market risk.

Option contracts: a contract between two parties that gives its possessor the right to buy or sell the original shop contract on a certain date for a certain price, called the exercise price for addition, out of which there are two types of options and option of buying and selling, as well as American option and European option, American option gives the holder the right to perform the contract up to the date of due to the European option and discharge only at the agreed time.

Future contract : futures contracts known as "legal contracts being arranged in organized markets to confirm a delivery or delivery to the buyer from the seller, in a quantity and quality the agreement was made them out of an investment in a certain time and place in the future, and are all estimates according to market expectations and delivery time".

It is also know as "an agreement between two parties, the seller and the buyer. The seller shall deliver the asset either as a commodity or financial asset at a later date at a price agreed upon at the present time of the contract".

Second : Innovative mechanisms : a group of mechanisms are:

1. Modernization banking service: the term of update banking service defines as "add new features of the service in which their advantages lead to increase demand for these services. "

Also known as: "raising the level of banking services and applying modern techniques in line with global trends in banking management."

The modernization policies of banking service : banking service is updated according to the following methods:

- **Modernization in addition:** according to this policy is adding new services to the existing services, it should be more fulfilling the needs of the customer.

- **Modernization in delete :** this policy will be used

to modernize some of banking services that are allocated to some clients, such as opening sections or units, corporate, bank and customer.

- **Modernization in merge:** according to this policy the modernization is done by combining the advantages of two banking services together and presented as a single service, such as Such as integrating the benefits and advantages of a current account service and saving books and bank cards in one service.

Causes of bank service modernization: The most important justifications for banks to update the banking service are as follow :

- **Globalization banking :** globalization banking has an economic effects on the banking system like:

-The restructuring of the service banking industry: where the work of the banks is expanded , the sources of bank funds and the areas of employment is varied.

-The global banks: completeness is one of the manifestations of banking developments that emerged in Europe, and later in many countries of the world, where banks provide configuration comprehensive banking services to meet the diverse needs of customers.

-Bank Mergers: where most banks have moved towards mergers to provide modern financial services and be able to compete with foreign banks.

-The privatization of banks: In order to increase the competitiveness of banks to face fierce competition created by the increasing flows of capital.

-The need to comply with the decisions of the Basel Committee: With the increasing globalization, banking has become more vulnerable to bank risks and banks have to hedge these risks , it make the standard capital increasing importance since it was approved by the Basel Committee in 1988, It is imperative for banks to adhere to it as a global standard that demonstrates the strength of the bank's financial position..

-The growing crisis in banks: The strong crises facing the banking system are among the most important disadvantages of financial globalization, because of their great impact on the overall national economies.

- The weakness of the ability of central banks to

control monetary policy: where central banks failed to save the national currency and the exchange rate from decline.

-The liberalization of the banking services : which were the main reasons for banks to update services to meet competition and economic effects are mentioned as follows :

-Intense competition: The intensification of competition in the banking sector has emerged mainly as a result of the increasing globalization associated with banking liberalization

-The higher risk of money laundering: financial liberalization has led to increased money laundering operations, as the source of the funds come from illicit activities carried out by the during the hidden economy the most important activities are prohibited weapons and drug trafficking and trafficking in the black market for goods strategy bribes for bank loans and funds derived from corruption and contraband and slave traders, theft, etc.

-Electronic banking service: banking services has evolved due to the development of information technology and communication, as well as the growing role of financial intermediation by the increasing mobility of cash flows and financial leading changes in the banking business, with banks provide electronic banking services were already known through several channels.

2.Electronic payment mechanisms: Electronic payment system is defined as: "a system, which indicates the payments are made electronically, without the use of paper"

Electronic payment has several characteristics:

-Electronic payment is the international that an acceptable to all States in the settlement of transactions.

-Payment will be made through the use of electronic money.

-This method uses the remote transaction settlement;

-Payment will be made, according to two ways: by cash are already provided for that purpose, and payment is by cash discount, or through the clouds

credit cards;

-To support the presence of a banking system that any systems that manage these processes usually are accommodated by banks;

-Electronic payment is done through two types of networks: the network only call on the parties to contract and commercial and financial transactions and advance them; or through a public network is among the many individuals lack a certain links.

Electronic payment parties are as follows :

-The customer: which is the party that can pay electronically for goods and services;

-The seller: which is the party that get and receive electronic batch client;

-Source: a source for electronic payment tool and may be a bank or non-bank institution;

-Organizer: usually the Government departments to organize electronic payment process;

-Room service: electronic funds transfer network between banks.

Electronic payment abuse forms : The abuse forms change with the safety methods used in this area, notably the following:

- Abuse of the cardholder, such as obtaining it from forged documents or using it despite the expiration of its duration ,exceeding the withdrawal limit in collusion with the employee, using the electronic point of sale services to deposit checks without balance .

- Misuse of plastic cards by others in case of theft or loss.

- Creating fake sites to receive financial transactions for the real site .

Electronic payment methods: electronic payment methods offered by banks, which are mainly in plastic cards and smart cards which are considered as a modern innovations :

-Plastic card: It is a plastic card with a magnetic stripe printed on it and a secret number representing the card number, these cards enable the customer to obtain his or her appropriate services in time, space, ease of use, protection against fraud and the maintenance of

personal privacy, These types of cards:

-Credit card: It is a plastic card through which the customer can overdraft within a pre-agreed ceiling as well as the method of payment when the customer pays his purchases of goods and services.

-Card account: allows customer overdrafts and paying full price later.

-Debit: this card allows the bearer to pay his purchases through direct debit from current accounts without getting easier by the source

-Secured credit card: deposit and savings are used to ensure credit card issuer gives to the customer card holder where able to overdraft.

-Prepaid card: this card is based on a certain amount of deposit in the Bank in advance and then gradually be reduced whenever you drag.

-Smart cards: It is a type of magnetic plastic cards, which consists of a piece of accurate or electronically readable electromagnetic tape, and the credit line is reduced by the amount of the transaction through the memory card and therefore does not need the customer to the prior consent of the card issuer processor micro chips can be stored Information processing and transaction completion.

Innovative mechanisms : Financial innovation enabled the creation of mechanisms that contributed to the development of banking including the following:

-Automated teller machine : It is a machine for the bank, which can be deployed in different places either wall or independently and be connected to the computer network of the bank and the customer using plastic cards or plastic cards or smart cards to obtain various services, and the purpose of providing services of withdrawal and deposit in the accounts of the bank's customers, under an automatic arrangement followed by the Bank, where withdrawals and deposits are made under cards designed for this purpose at all times.

-Electronic point of sale : is the machinery that is spreading among enterprises and service of various kinds and their activities, and the customer can use plastic cards or smart. To perform the payment by

deducting from the calculated electronically to pass this card inside the machines connected electronically to PC using a bank and its services: ensure checks and pay the by direct electron transfer from the buyer's account to the merchant account.

-Home banking and office: modern communication techniques banks provided an opportunity to provide new and innovative services to its customers, which include banking, online homework, and is that the personal computer located at home, work or anywhere, and that connects to the computer using the view through a password or pin number or both. The completion of bank operations.

-Mobile banking : today at an accelerated pace, the world is heading steadily towards the use of mobile phones, which requires the development of such mobile phone uses many, as it is possible, by accessing the Internet and related applications, query, or adjustments to the checks and balances. In France, for example 41% of bank customers use their cell phones for their personal accounts, when cannot access the Internet ⁽⁵⁾.

-Telephone banking: also called customer service center (Call Center), and is a sophisticated method to perform banking services provided to customers, serving over 24 hours. In general, no customer can leave a private secret a withdrawal from his transformation, pay bills and invoices are required, and obtain loans, and open documentary credits.

-Digital TV : is a satellite link between the TV at home and a bank account, and can therefore enter through the pin number to the computer. The bank or the Internet, and implementing the required operations and prepare this latest TV channels that have been invented, and that enables banks to interact with customers. Place especially at home, especially in the absence of a computer, and found this technique is especially popular in Britain, Sweden and France.

-Internet Banking: the proliferation of Internet use for banks dealing with customers through domestic banks services, was created based on the Internet instead of headquarters the real estate, and then the customer can easily deal with the Internet Bank in his home, and can speak the bank officer on the screen of

computer is made all the banking transactions.

-Electronic clearing: clearing house settlement of transactions between the banks and making them more precise and less time when banks were in a private room at the bank. And this movement of the central bank representatives that take the time to do a reverse example set off by the clearing house ⁽⁶⁾.

3. Banking governance mode of innovation management: owing to incoming events set back is called corporate governance has significant and positive impact on firm performance, markets and economies. In general, states that the principales and their application.

a. The governance factors of appearance : the reasons for the growing interest in corporate governance, the following factors:

- The transition to a market economy;
- To achieve high and sustained rates of economic growth, and increased cross-border movement of capital.
- The actions of managers control mechanisms are weak, which led to the economic crisis and the crisis of Southeast Asia 1997.

The following elements causes the appearance of corporate governance as a term as management system:

- The separation of ownership and management and control, and increase the awareness of administration officials and stakeholders of the ruling procedures;
- A structure that ensures the achievement of company's goals, and ensure the equitable treatment of all shareholders.

b.The definition of bank governance : bank governance is defined as: "the management and control of the banks in order to achieve its goals and objectives, is the which deal with the sources of capital (shareholders, investors, the founders)." ⁽⁷⁾

As a means of governance from the perspective of banking "to the development of internal structures to banks as to achieve transparency in the performance management, and according to the Basel Committee governance of perspective of banking includes the conduct of banking institutions by their boards of

directors and senior management." ⁽⁸⁾

c. The importance of applying the foundations of governance in banks: Initially, the focus was on applying corporate governance principles, and then moving on to banks as a result of the rapid development of financial markets, financial globalization, the extensive use of information and communication technology, and the diversification of financial products and services provided by banks, Especially after the emergence of financial innovations, which led to the competitive pressures between banks and non-bank institutions, which increased the importance of measurement and management of risk, and therefore came the governance of banking as an innovative business management.

The importance of governance for banks is ⁽⁹⁾

- Optimal financial and operational effectiveness
- The improvement of the entry of foreign capital;
- To improve the evaluation of bank, reduce the cost of capital. -The building increased shareholder value and improve the reputation of the bank and enhance the competitiveness.

The bank's role in promoting the principles of governance: which shows in the following aspects ⁽¹⁰⁾:

- The principles of good governance practices in the banking system, which goes through the two tracks, track first by the monetary authority, generally at the central bank as the responsible organization track second is the banks themselves and the control of the banking system, because the absence of governance means chaos and collapse.
- The competition among the banks created a kind of banking awareness among the public and corporate culture so as to become the quality standard is basis, forcing banks to adopt the principles of governance which is one of the fundamental standards of quality;
- The bank is the principal funder in economy and its governance principles to maintain the rights associated with the private shareholders, depositors;
- Establishment of bank governance principles: transparency, disclosure, justice and responsibility.

Factors for the right application of bank governance: these factors are: ⁽¹¹⁾

-Developing strategic objectives and a set of values and principles Which is known to all employees in the bank ,

- Develop and implement clear policies of the responsibility at the Bank;

- Ensuring the efficiency of board members and their perception of the role assigned to them in the process of governance, which is not subject to any internal or external influences.

- Ensuring appropriate and permanent control of senior management;

- Making effective use of the work done by internal and external auditors and realizing the importance of control ;

- Availability of incentive systems for bank;

- Education and training initiatives to build capacity in bank governance; ⁽¹²⁾

-The development of an effective legal framework defines the rights and obligations of the bank ⁽¹³⁾.

4.Alliance between banks and insurance companies:

Through the strategic alliance between the bank and the insurance company to provide innovative financial products and banking services through channels of high technology and the Internet, as well as the possibility of monetary management to those advanced technologies, which enable parties Alliance (Bank, insurance company):

-This alliance allows the insurance company to provide all customers innovative banking insurance products;

-The bank is in the insurance company providing a wide range of services, such as payment of claims and collection of premiums, and provide detailed financial reports and checks. Deferred payment;

-The insurance company provides access to banking services through the Internet.

-Taking the opportunity by the insurance company because it provides innovative cash management solutions that enable it to introduce many

improvements in operational efficiencies and provide value added services to its customers;

-This alliance enables the bank to focus on local markets by offering innovative financial services and solutions in the banking industry.

5.Securitization as an innovative Banking: It have given many definitions, the securitization of bank, including:

- Securitization of banks known as "The updated innovative financial technology, which helps to mobilize a bank for a group of homogeneous and secured debt assets in the form of a single credit secured debt, and then offered through a specialized facility to subscribe in securities to reduce the risk of delay or default on these debts and ensure the continuous flow of cash."

- also known as the "mechanism, which allows the transfer of financial risks from the bank or financial institution loans to investors through the financial market by issuing securities based on residential mortgages or commercial mortgages. "

The elements on which banking securitization is based ⁽¹⁴⁾:

- Original creditors relationship exists between the creditor and the debtor, as the relationship between lender and borrower Bank;

- The desire of the creditor to get rid of debt securities under his hand, and, on the other hand, replace it.

- The transmitted boiled debt issuance of new bonds in the form of stock, negotiable securities in the capital markets.

- Based on new securities collateral in kind or cash flow forecast;

- An investor who is the individual or institution to buy new bonds, and gets their due dates.

The reasons for the securitization of bank by bank: one of the most important reasons for the securitization of bank by bank :

- Bank accounts for most of the financial assets in the financial market give the opportunity to others to engage in that activity;

- The assets of the guarantor (the mortgage) debt securities in particular bonds; conversion
- Complete direct transfers of securities before the investors without interference from the bank;
- The high efficient management and recruitment of the banks money form which achieves its objectives, which provides them with an opportunity to engage in securitization activities appropriately.
- The use of securitization.
- The ability of banks to promote a young customers, investors, financing securitization thus works in this situation to reduce financing risks for investors and business risk for the bank.
- The role of securitization in the disposal of assets, guarantees in order to benefit this match assets and guarantees, which arranges them for conservation.
- The use of bank assets securitization as an effective mechanism to permit the assembly to form complexes to get higher credit scores when securitization and then obtaining the necessary financing, without boundaries;
- The increasing rates of turnover of financing and investment activities of banks with greater net profit than calling attention of the banks to reconsider their investment plans and their governor's financing and business strategy in order to fit in with the growing competition of banks in the money market.

The role of securitization to improve the banking service quality: the role of securitization and its effects on banking service quality are :

- **Providing liquidity and risk transfer** : the most important motivational reasons for resorting to the securitization process considered an alternative source of Finance and banks In the case of its need for liquidity, its capital is increased, Either by issuing new shares or borrowing by recourse to another bank or by issuing debt securities, Faced with the heavy commitments accompanying banks to use these techniques, securitization provides a new tool to solve financing problems in such a way as to avoid these obligations by accelerating the rights of banks to their debtors and eliminating the risks

related to these rights (risk of non-payment, interest rate changes ...)) By giving it to the securitization institution.

- **Help banks to achieve bank solvency ratio** : Banks are committed to achieving a certain solvency ratio that enables them to carry out their obligations and protect depositors' funds. Capital plays a very important role in banking. The larger the capital, the higher the solvency ratio, which helps the bank to cope with risks and diversifies the confidence of its clients.,

In order to achieve the bank solvency ratio, banks are required to make provisions to counter doubtful debts. This reduces the bank's ability to finance and reduces capital turnover, which results in lower profitability. Thus, securitization of the bank makes it profitable to make it liquid assets. In the public budget, when loans are looted from the bank's budget, the risk is reduced and private funds increase without having to resort to other parties to finance.

- **Accelerate and increase the rate of credit activity** : The Central Bank regulations set limits on the volume of credit granted to banks, limiting and restricting their activity. However, the Bank's use of the securitization mechanism allows it to reduce the volume of credit by relinquishing its asset pool and using the funds recovered in lending to new customers, thus helping to expand the utilization of bank credit and expanding its turnover.

- **Increasing the financial resources of banks:** The nature of the activity of the banks and the subject of their operations are subject to special constraints and requirements which made them the most important establishments engaged in securitization. They perform various tasks that depend on the other parties to complete and execute the securitization transactions. The Bank is providing this service to investors for a fee. This is one of the new areas offered by securitization, Corporation commissioned by the bank after the assignment of the credit management, the latter being the most familiar and that the bank providing the service for the investors for Fees, this is a new area which provided in the securitization process, which belongs to the bank with additional resources.

- **The bank avoids the non-conformity problem:** Non-conformity means that the bank in its activity depends on the achievement of income through the difference between the interest rate on the deposited funds and the interest rate on the borrowed funds, and the match must be between the period of time deposited funds and the duration of loans granted to achieve this difference, especially when it comes to long-term loans that recover the value of these loans without taking into account the requirement of conformity.

- **General risk of securitization on banks:** There are generally two risks to the securitization mechanism for banks: the risk of default on performance or payment, the risk of default on the principal and interest of the debt, which are major risks due to the nature of the credit-based bonds and the debt without real assets, and therefore any shake-up of the debtors and guarantors or one of them will be reversed. On the other hand, bonding with customers' ability to perform and fulfill them exposes them to the risk of default, death, insolvency and bankruptcy. In addition to the exposure of the creditor bank to initiate securitization, as the other party has the right to the lender of that bank in case of termination of the contract compensation, but the amount of compensation is not a priority in the laws of most countries, notably the United States of America, But adds to the general unsecured compensation for the bank principles of securitization.

The second axis: Prospects of financial innovation and its impact on banking services in Algerian public banks

The Algerian banking system has undergone many reforms aimed at developing it, including the development of payment systems and means used at its level, not to mention the securitization of mortgage loans, which is the only way of securitization in Algeria, In addition to consolidating the foundations of governance by various committees and laws.

First : The differences of financial innovation factors across states : Most of the innovations in the financial sector take a place in the cost of technology to countries such as the United States of America, such as: automatic cash dispenser, electronic payment

methods, electronic banks ... This is the main reason for the improvement of the developed countries of their electronic systems, in comparison to developing countries, where there is one obstacle, the cultural barriers between developed and developing countries. The development of these barriers prevents the free use of financial innovation as well as the high costs of simulation and adaptation.

The differences between individuals in these elements prevent the exchange of ideas and reduce the theories of learning, simulation and adaptation, as well as the differences in the language, principles, values and beliefs. These are barriers to the spread of financial innovation from developed to developing countries.

Contrary in developed countries that facilitate the diffusion of financial technology among individuals more effectively, knowing when to transfer financial technology and spreading financial knowledge to take their place easily, similarly affect financial policies and financial reforms.

There are a variety of factors that cause the differences in financial innovation across the countries ⁽¹⁵⁾ :

- **Legal Systems:** the structured organization and law protection of private property rights, contracts, creditor rights are the determinants of financial innovation, to know the due process the state is good for financial innovation must know protects investor rights and strengthen the legal system of contracts focusing on the differences of the most influential legal traditions.

- **Geography:** geography played an important role in the development of production in the state, which leads to the development of enterprises, thus the development of the real economy, which in turn affects the development of the financial systems of countries the financial innovations that what is found in developed countries, unlike developing countries;

- **Openness:** Here is the difference between supporters of openness that supports financial innovation in countries as a result of free trade and the flow of capital leads countries to seek financial innovations to support competition, and there are those who believe that openness does not lead countries to seek

financial innovations for the tendency of interest rates to equal in countries that support openness;

- **Cultural and religious factors:** In countries where religions play an important role, financial innovation is limited in comparison to countries that rely on legal systems. For example, Islamic countries exclude them from trading derivatives in their financial markets.

Second : The evolution of the payment system in Algeria: The payment system in Algeria has passed through many stages, summarized in the following points:

1. Payment system after the independence of Algeria :

Algeria tried to use modern technology in its banking sector after independence. The Algerian banks introduced the electronic money or what is referred to as online banking by the Algerian popular loan, which was the first to launch the debit card from automatic cash dispensers in 1989, In order to give flexibility in dealing with customers and reduce waiting in front of the windows, but the process did not know the success expected for several factors, including :

- The absence of banking culture in a society where it does not deal with the means of payment and prefer dealing in cash;
- The poor response to the use of electronic means of payment, due to lack of confidence, ignorance of these techniques.
- The high cost of installation and maintenance of electronic machinery and equipment for the banks.

2. Payment system during the money and loan law:

The Money and Credit Law included some measures aimed at protecting the users of the means of payment, namely: the risk center, the centralization of the payment lines, the anti-issuance of checks without credit, which encouraged the Bank of Algeria to issue checks in 1994 , but he did not know the great popularity of customers for several reasons, including the following:

- the use of manual methods at the agency level, leading to queues despite the availability of technical means;
- Administrative problems forcing the client to move

to the agency that manages his or her account;

- The scarcity of sending abstracts of accounts and periodic statements to the client's residence;
- Most people do not properly overlook the check, so that the holder can not receive the amount, in addition to the risk of the check without a balance;

The efforts exerted within the framework of modernizing and modernizing the payment system continued. This came within the framework of financial globalization and the transition of Algeria to the market economy, in order to achieve a number of objectives, including:

- Adaptation of payment and settlement systems and legislation to the needs of customers, institutions, departments and individuals to the requirements of an advanced economy based on modern electronic means;
- Reducing settlement times between dealers at the national level and abroad;-Rationalize and improve the procedures for collection of checks and other means of payment systems and financial transfers.
- Develop and replace paper-based payment systems as well as improve the quality of operations and reduce processing time;
- Development of electronic payment methods such as bank cards for withdrawal and payment and the generalization of the use of credit cards among the general public;
- Reducing the costs of managing payment systems and managing liquidity and control over risk management;
- Improving procedures for studying loan portfolios, collecting debts and developing new banking products;
- improving the effectiveness of monetary policy management and controlling the liquidity of the economy;
- As part of the modernization of the payment system and the achievement of the aforementioned objectives, the financial authorities established SATIM (Société Algérienne d'automatisation Interbancaire et de Monétique) which has been tasked with modernizing

the payment system and dissemination of automated cash and work on the generalization of the use of bank cards in the Algerian banking sector.

3. The reality of the payment system after modifications of the Money and Loan Law 90 / 10: In this period, SATIM continued to develop e-banking. It signed a contract with French company Diagram-Edi, a leader in electronic banking and data exchange security, and three Algerian companies Magact Multimedia, Soft Engineering and Research Center Cerist. This was followed in April 2003 by a joint venture called Algeria Online Banking Services (AEBS), which aims to achieve the online banking project in Algeria. However, despite efforts by SATIM to try to create the conditions for successful e-payment and achieve wide spread of automatic dispensers and facilitate withdrawals, however, the immediate withdrawal was weak, for several reasons justified by customers to avoid the use of automated distributor of money, some of them due to the culture prevailing in the community and others are due to the disadvantages related to the way and means of service, including:

- Persistent barricades caused by directors to the telephone network;
- The orientation of the freedom and refrain from showing any information on the financial situation of the customer in front of people in the street.
- Most of these machines are there on the front must be distributed across banks at a time when most stations and points in the region.
- Lack of a culture banking in society.
- The multiplicity of risks associated with providing electronic banking service.

4. The reality of the payment system after the amendment of the Money and Loan Law Order 10-04 amending and supplementing order 03 / 11: The most important emerges of this period are a number of developments in the field of electronic payment ⁽¹⁶⁾:

- The issuance of the foreign Algerian bank in cooperation with a company to cancel the magnetic card under the name of "Naftal Card" granted by the bank to customers in order to facilitate the payment of fuel and various services at petrol stations;

- Issuing the 2000 AD paper and thus the ceiling of the withdrawn funds from the automatic distributor is estimated at 8000 AD this means 40 paper with 2000 AD instead of 40000AD or 40 paper with 1000 AD.

Third : Project of modernization of payment systems in Algeria

1.The reasons of the modernization of payment system in Algeria : The reasons for modernizing the payment system in Algeria are summarized as follows :

- Problems of traditional means of payment: The problems caused by conventional payment methods and their negative impact on customers Manth the modernization of the payment system in Algeria.
- Poor efficiency of payment systems: Payment adjustment systems suffer from a severe weakness of the traditional method of completion of clearing operations and based on the manual method often
- Poor use of technology and censorship: The banking system in Algeria needs to increase the level of investment in modern banking technology, and the application of modern systems and programs, so as to be able to keep pace with competition in the internal and external markets.
- Shortness of the primary and secondary cash market: The banking system needs to have a sophisticated and sophisticated cash market because it is of great importance, through which to secure liquidity and provide payment tools to banks.

2.Mechanism for the modernization of the payment system in Algeria : in order to modernize the electronic payment system, it sets a work program consisting of four groups operating at the level of banks has been established⁽¹⁷⁾:

- **Total Engineering Group :** It ensures the exchange between the banks and clearing center, which is done electronically based on the financial inventory of the check and this using the technique of check image and the beginning checks large amounts, which takes care of all the points related to the development of the check and electronic clearing and relying on electronic props instead of paper.
- **A means of payment Group :** Which analyzes the

types of different traditional payment methods in addition to withdraw from the automatic dispensers and payment of bank card and try to diagnose the pros and cons of this system from the perspective of the Bank of Algeria and commercial banks.

- **Cash group** : This group examines the main rules for the establishment of interbank system on payment and withdrawal by bank card. It also discusses the obstacles faced by cash in Algeria, the types of national and international cards, the type of chips, the bank commission, the market study and the nature of the banks' structure.

- **law Group** : Which deals with incidents of non-payment from the point of view of the law as well as the current situation of the process of unifying the various means of payment from the point of view of texts that are not characterized by national uniformity..

3. The main components of Algeria's payment system modernization project: The modernization of the payment system in Algeria consists of :

- Gross immediate settlement system for large amounts and urgent payment RTGS: a system of gross amounts in real time in which transfers are conducted on a continuous basis and immediately without delay on the basis of total operation after the process ⁽¹⁸⁾.

-Electronic Clearing System ATCI: The electronic clearing system complements the immediate gross settlement system for large amounts and quick payment under the modernization and modernization of the payment system, has been in operation since May 15, 2006, which can be defined as the electronic exchange of information through the Central Bank's clearing house with clearing centers in other banks and to determine the net balances resulting from this process at a specified time ⁽¹⁹⁾

Fourth : Banking services provided by Algerian public banks : Algerian banks have diversified their services. They have started with one service, the deposit, which is doubled. In 1992, about 260 banking services are in the United States. However, the Algerian banks are still offering traditional banking services that do not respond to the developments in the banking

sector at the global level . However, it seeks to provide distinctive banking products and services in order to meet the needs of its customers, within the framework of the legal rules governing its activity, which are described in Order No. 03/11 on the amended cash and loan, especially articles 66 to 68 and article 72 thereof. Products & Services at:

Bank accounts: Algerian public banks provide two main types of bank accounts for their customers namely deposit accounts and savings accounts as follows ⁽²⁰⁾:

a.A deposit account: deposit accounts include the following types of accounts:

Current account: It is open in the national currency and is an on-demand account directed to the category of legal professionals and individuals, where the balance may be owed but by a tribal license from the bank;

Cheque account: it is open in the national currency, a demand account for individuals but its balance is always positive;.

Foreign currency account : it is open in foreign currency, an account on demand that achieves a specific return to the owner according to the conditions of the bank, and does not give the owner a check book, and the balance is always positive;

Convertible Dinar account: An account opened in dinars, for the benefit of every natural or legal person, foreign or resident of Algeria;

Non resident account: It is opened in Algerian dinars, a deposit account on demand for any foreign natural or legal person who is not a resident of Algeria;

Joint account : It is opened in Algerian dinars for the benefit of a number of natural persons and is associated with a solidarity agreement between them..

b.savings accounts: accounts include:

The Fund: It can be either the name of the subscriber or the holder, whose duration varies from bank to bank, generally ranging from three to forty-eight months, which are negotiable and can constitute guarantees for certain types of loans.

Savings book: It is an account opened in dinars for the benefit of adults or minors, and they can save

their surplus money on their own needs on the basis of specific interest by the bank, or without interest according to the wishes of customers, and these savers who have a savings book can make payments and withdraw funds in all the agencies of the bank , So this product avoids the owners of savings books problems and difficulties of transferring funds from place to place;

Term deposits: there are three forms:

Term deposits in dinars: A deposit account in dinars, through which natural and legal persons can deposit excess funds for their needs to a fixed period of variable interest rates according to banking conditions, note that the minimum deposit amount was set at 10,000 dinar for a period of not less than three months;

Term deposits in foreign currency: It is an account dedicated to holders of open-call accounts in foreign currency. It is issued in the same hard currency. The minimum period of employment is one month. It is a deposit that produces returns calculated according to rates determined by the Bank of Algeria. The minimum amount is 762.24 Euros , Or equivalent in other currencies (this is not for all banks);

Term deposits in convertible dinars: account dedicated to open the accounts in convertible dinars, ranging from two to six months of employment terms, a deposit is produced. The returns are calculated according to the rate set by the Bank of Algeria.

2.Bank loans : As well as the services through which public banks receive deposits from the public in accordance with previous formulas and mechanisms, but it also grants various loans for the benefit of its customers, which includes the following forms :

a.Loans of exploitation: Exploitation activities are all operations carried out by enterprises in a short period of time. The characteristics of these activities are constantly being repeated during the production process. Therefore, the loans directed to finance this type of activity are short in terms of duration and rarely exceed 18 months. Loans and other financial instruments, as well as the financial status of the institution, namely: overdrafts, fund facilities, seasonal loans, discount of commercial paper,

advances on public and other transactions ;

b.Loans by signature : The loan by signature or obligation is not to be given to liquid money by the bank to its client, but to the guarantee it provides to enable it to obtain privileges or funds from other parties. In this framework, public banks are granted loans by signing in the following forms: reserve guarantees;

c.Investment loans: before the reforms, investment financing operations were carried out through specialized banks or through the Treasury, because of the characteristics associated with such financing. However, commercial banks could undertake such operations after they become comprehensive banks, providing financing for various investment projects with loans that are commensurate with their nature and specificity;

d.Housing loans: It is a modern financial product designed to help natural persons with fixed incomes build, renovate, expand, buy individual accommodation for a repayment period of 35 years with agreed benefits between the beneficiary and the bank, usually subject to modification and change.

e.Foreign trade operations: theoretically , each bank can carry out operations related to the financing of foreign trade, such as opening documentary credits, documentary collections, etc., but doing so in Algeria requires two basic conditions:

-The Bank must obtain a total license from the Bank of Algeria to conduct such transactions; - Each agency must be individually qualified and licensed by the Bank of Algeria to conduct such transactions..

3.Other services: are

Basic services: Mainly in the following services: preparation of checkbooks, provision of account extracts to customers, providing check bank service, providing checks, transfers, collection of checks and commercial papers at the national and international levels, manual disbursement..

Cash management services : Some public banks in Algeria offer a remote bank service using the Internet, which allows: customers to constantly access and view information from their accounts, to make

transfers between accounts, but they are still limited to open accounts at the bank level, Has not yet taken advantage of remote services such as the request for check books to handle the various banking processes during a fast time, especially after the introduction of a new technology to collect checks between banks (electronic clearing).

Payment cards: A product that allows customers to withdraw their money by using automatic dispensers for banknotes usually outside the bank building, or by using the automated window of the banknotes controlled by SATIM, as well as using a CIB card, which allows customers to withdraw a specified amount of Money from the bank's automatic dispensers, or from the automatic dispensers of the banks that signed this card, namely the six public banks and Algeria Post agencies. This product was started in 2001 under the supervision of SATIM, in addition to issuing VISA cards. ;

Foreign exchange service: by this service, the customer can benefit from the transfer of his money from abroad, either by banks or by Western Union, but it is a service for individuals only.

Bank insurance: Under Ordinance No. 95-07 of 25 January 1995 amending and supplementing Law 06-04 of 20 February 2006, insurance companies operating in Algeria can offer their various insurance products by banks. The banks shall benefit from commissions paid by the insurance companies for collecting the special amounts In this framework, public banks have signed several agreements with insurance companies :

- Agreement between Algerian Enterprise (SAA) and local development Bank (BDL);
- Agreement between the Algerian company for insurance and reinsurance (CAAR) and Algerian company to secure transport (CAAT) and outer Bank of Algeria (BEA);
- Agreement between Algerian Enterprise (SAA) and the Bank of agriculture and rural development (BADR).

As part of its overall strategy, public banks are working to improve their services by providing more banking

services in response to the needs of the market and in response to the aspirations of their customers :

- Cooperating with international organizations issuing international credit cards using the Master card and VISA card and working to expand its use;
- Providing banking services via various modern electronic media such as the Internet and mobile phones;
- Diversification of loans granted especially to individuals.

Accordingly, public banks still suffer from the control of conventional services from deposits, withdrawals and transfers, and loans on the structure of their services, which account for more than 90% of the revenues of these banks. The use of technology is limited as it is limited to the use of automated media and automated processing of some services only, Banks in developed countries account for 40% of sales commissions (securities brokerage, credit card issuance, mutual fund management, etc.).

Fifthly: Obstacles to the development of Algerian public banks:

Among the obstacles that limit the development of the public banking system, we summarize them in a number of elements as follows:

The inability of the banking system to mobilize savings: the economic situation prevailing in Algeria did not allow the creation of conditions for the launch of economic quality, as the banking sector was approximately equal. Among the benefits conferred on the bank deposits and funds directed recruitment, together with the absence of new financial instruments to mobilize savings which can bring and compensate the bank credit, in addition to the absence of savings policy stimulus responsive to the customers due to central planning;

The weakness in risk assessment: The weakness of public banks in assessing risk due to management problems at the level of public institutions and their suffering from the fiscal deficit despite the financial cleansing practiced in their right, in addition to the problems of transparency and credibility that affect the process of risk assessment ;

Constraints of an organizational and legal nature: The legal status of the banks, represented by the public economic institution, determines the nature of their relationship with other economic sectors. However, the matter is different with the state that intervenes in its decisions, in addition to the financial purges and issuance of the public treasury for 20 years in return for the rights of public banks to public financial institutions which affected the form of the banks' budget and its exposure to liquidity risk .

Weak human cost effectiveness: The human factor is one of the main factors in the banking sector. However, the Algerian banks suffer from the instability of the managers and therefore the instability of the decision centers, which negatively affects the banking policies especially the long term, in addition to the poor efficiency of tires at the level of these banks.

Sixth: Prospects for financial innovation at the level of Algerian public banks: this through the following mechanisms:

Diversification and development of banking services: This requires working at several levels, both at government and state level, at the level of the banking system, or at the level of the internal environment of the Bank, which requires diversifying banking services, improving their quality, accuracy and confidentiality of transactions, establishing branches and speed of service performance, To achieve profitability objectives and reduce risks. If public banks are to keep pace with banking development, they must offer a full range of banking services combining traditional and innovative so that they can retain their customers

In this context, new and diverse activities have emerged in Algerian banks, the most important of which are:

- **in the area of pooling savings** : New trends have begun to emerge in the area of savings collection. Some banks, notably the Rural and Rural Development Bank and the Algerian External Bank, have sought to expand the issuance of multi-category savings certificates to suit small and large savers in national currencies and foreign currencies, any time;

-**In the area of investment and financing** : The banks started to invest in new and varied fields, including: financing major national projects, financing small and medium enterprises, financing microcredit projects, entering into innovative financing activities such as leasing, entering into asset securitization in order to provide more liquidity and stimulate the financial market by offering Trading securities equal to the value of lien loans, especially after the Securitization of Loan Law 06-05 on 20 February 2006;

- **In the development of banking services in Algerian banks** : in order to the developments in the Algerian banking arena, the Algerian authorities initiated in 1995 the establishment of a banking and cash processing company through SATIM, a joint stock company between the following Algerian banks: the National Bank of Algeria, the Bank of Agriculture and Rural Development, the Local Development Bank, Algerian National Bank, National Reserve and Reserve Fund, Algerian Popular Loan, National Fund for Agricultural Cooperation.

Where it manufactures the bank card to accelerate the withdrawal according to the standards in force . There are also important projects in this regard, highlighted by the electronic shed project in Sidi Abdellah (west of the capital), which was allocated to the amount of 22 billion dinars, and the aim of the development of new technologies in the media and communication in Algeria through multiple mechanisms in research and development and specialized training.

In 2004, the large-scale payment system project was launched. It is a system of payment between banks where large and urgent amounts exceeding 10 million dinar are transferred. However, the official launch of this system was in 2008 according to the Bank of Algeria..

Extensive use of banking technology: The most important aspects of progress in the provision of banking services, which Algerian banks must keep abreast with is the extensive use of banking technology, in order to achieve speed in the performance of services and reduce bureaucratic burdens and save time, and the main axes that Algerian banks must show in this area:

- Increase investment spending in the field of information and communication technology as the most important tool to confront competition and provide advanced banking services of high quality;
- Accelerate the implementation of the network between the headquarters of each bank and the rest of its branches in order to ensure the fast circulation of customer data and make adjustments on them in addition to the link between the electronic networks of banks and other financial institutions locally and internationally;
- The need to expand the use of electronic money, the circulation of ATM services and the use of bank cards;
- Issuing laws and legislations related to electronic banking operations, ie, the need for flexibility of laws in this field.

The development of bank marketing: Where the field of marketing banking in the Algerian banks :

- Lack of clarity regarding the concept of comprehensive planning for the marketing of banking services;
- Problems related to the level of service performance, due to lack of experience of staff;
- The absence of bases and rules on which the Algerian banks are based in planning the locations of their agencies in the future;
- The need to pay attention to the promotional element, which turns all efforts to real sales, especially if it comes to a new product, the Algerian customer does not go to risk with regard to the financial product;

In order to avoid these deficiencies, Algerian banks should conduct continuous studies of the Algerian banking market, which provides data on several variables, the most important of which are the size of current and prospective customers, the study of competing banks, the structure of their current services and future trends. Reducing central decisions is an impediment to financial innovation.

Internationalization: It is intended to increase the cooperation between the various banking institutions

and countries in these countries in the banking and financial fields, and the effects of the following:

- Increasing number of foreign banks and financial institutions operating in the Algerian banking market;
- The increasing assets of foreign banks in the Algerian banking market;
- Increasing the importance of foreign assets and liabilities operating in public banks;
- The increased volume of financial innovations in the Algerian banking market is increasing, supporting interbank competition and leading to new financial products of high quality.

Activate the merger between banks: To achieve the goal of growth and expansion, Algerian banks must merge with each other to form banking groups, offering a series of high quality integrated banking services that will lead to the growth of the domestic and foreign banking market .

Conclusion

Most of the financial institutions rely on new financial products and innovative work mechanisms to maintain and maintain their income stability and to avoid risk. Therefore, banks have moved in this direction in order to break the deadlock and cope with the economic developments in the world on the one hand, and the intensification of competition on the other hand, through the development of its products and mechanisms of work, where the introduction of financial derivatives as innovative financial products, and work through electronic payment systems and methods, in addition to governance and banking securitization are innovative mechanisms at the level of banking system.

Results research

There are researchers who distinguish between financial innovation and financial engineering, and some of them consider it a single concept, but if we look at the products of each side we find that financial engineering is part of financial innovation as the products of financial engineering are derivatives. However, financial innovation results in financial

derivatives, innovative mechanisms of electronic payment systems and means, interbank and insurance companies, banking securitization, banking governance;

- Financial innovation contributes to improving the quality of banking services by improving its components and performance;
- Derivatives are considered to be one aspect of multiple financial innovation and not the only one;
- There are a number of obstacles that prevent the application of financial innovation in its various aspects in the Algerian banks, which focused only on the electronic payment systems and systems that are working hard to keep up with the developed countries in addition to securitization of mortgage loans as the mechanism adopted by Algeria to eliminate the housing problem, And its work on applying the principles of governance in banks to improve their performance.

Suggestions: The following solutions could be proposed :

- Expanding the base of electronic payment systems and means;
- Flexibility of laws to allow for financial innovations;
- Non-interference of the state in a way that prevents the Algerian banks from doing their work;
- Expanding the use of banking technology;
- Training staff in banks on the performance of modern banking services;
- Open the door to foreign direct investment in the banking field to benefit from their experience and improve the quality of services provided, thus supporting competition between foreign banks and national banks;
- Support the alliance between banks and insurance companies to be able to perform full service and high quality to the customer.

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