## Research on Product Innovation Management of China's Commercial Banks in the Era of Big Data

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#### **Abstract**

With the advent of the era of big data, mobile Internet, cloud computing, blockchain and other information technologies are gradually integrated into the development of the financial field. With the integration of financial technology, the level of financial services has been improved, and the demand for financial services has increased. The competition faced by commercial banks is also more intense. At the same time, product innovation management directly affects the quality of product innovation, the quality and efficiency of business management and market competitiveness of commercial banks. Therefore, the financial product innovation management of commercial banks is extremely important. This paper analyzes the current situation and problems of product innovation and management of commercial banks, constructs product innovation management mechanism, puts forward relatively reasonable product innovation management ideas, processes and modes, promotes and improves the performance evaluation system of product innovation management, product utility post evaluation and risk control mechanism, and provides reference for improving the product innovation ability of commercial banks.

## **Keywords**

Big data, Commercial bank, Product innovation management.

#### 1. Introduction

The application of big data in the financial field has brought broad prospects for the future of the financial industry. Commercial banks have also made full use of the advantages of big data to expand market share, among which online payment, mobile banking and financing mode are the most rapidly developing. Financial science and technology has brought new ideas and new vitality to traditional finance. At the same time, it has also brought new competition and triggered a new round of commercial bank revolution. The traditional commercial banks have many problems, such as lack of product innovation ability, inadequate product innovation management, and lack of scientific product innovation management mechanism. Big data technology provides technical foundation and propaganda channel for bank financial product innovation and its management mode. How to strengthen its own financial product innovation management ability and build a scientific and effective product innovation management mechanism is becoming more and more important.

## 2. Organization The development status of product innovation management in China's commercial banks

In recent years, with the continuous development of financial technology and the intensification of banking competition, China's commercial banks have carried out a large number of financial innovation in the product aspect, and made certain progress, and gradually improve the ability to adapt to the domestic and international financial environment.

# 2.1 The organizational structure is constructed to meet the demands of product innovation management

At present, the internal structure of China's commercial banks is composed of decision-making organs, executive agencies and supervision institutions. In addition, a special product innovation management

committee has been set up. Its function is to be responsible for the overall management of relevant business conditions and products. Through discussion and coordination, the connection between front, middle and back office is constantly strengthened, so as to coordinate the product layout of the whole bank.

## 2.2 Relatively perfect product system

At present, China's commercial banks have initially established a relatively perfect product innovation system, so that product innovation can be classified management. In terms of function, it basically covers the demands of consumers, which will play a positive role in improving the service ability and customer experience of commercial banks.

## 2.3 We have set up a product innovation mechanism and management method to adapt to market changes

Commercial banks basically have their own set of product innovation mechanism and management methods, so that innovation management can show the pertinence and differentiation. In recent years, through the planning management of product innovation, business innovation has been greatly promoted, which has played a more and more obvious role. At the head office level of commercial banks, the rules and regulations of product innovation management have been constructed, which is of great benefit to strengthen the level of product innovation and enhance the ability of rapid response to market demand.

#### 2.4 More systematic product construction

Commercial banks have launched their own marketable new products on the market, making the product construction more systematic. Banks gradually improve the product functions, by optimizing the functions of innovative products that have been listed, so that they can more adapt to the changing needs of the market. Through timely adjustment and improvement of the product system, as well as focusing on the optimal combination of innovative products, such as Bank of communications launched etc preferential products, industrial and Commercial Bank of China launched e-Loan products, Bank of China launched foreign exchange treasure products, etc.

## 3. Problems in product innovation management of China's commercial banks

Due to the inherent inertia of enterprise management mechanism and process, the slow progress of informatization work, and the lack of market inspection of product innovation, some problems have arisen in the product innovation management of commercial banks.

#### 3.1 The product innovation system is not reasonable enough

It can be seen from the above discussion that although commercial banks have developed product innovation mechanisms and methods, they lack standardized product innovation planning and unified development arrangements. At the same time, the product innovation management system is not centralized, and there is a continuous lack of targeted new products and financial services, and the efficiency of product innovation is at a low level.

#### 3.2 Poor communication of product innovation management information

There is a gap in the understanding of product innovation management among the relevant functional departments of the bank. The degree of resource sharing is far lower than that of the same industry. There is no effective communication and communication between departments. Information asymmetry occurs from time to time. However, due to different data and information platforms, it is difficult for banks to systematically support the real needs of product innovation management practice Yes.

#### 3.3 Product innovation level and quality still need to be improved

China's commercial banks started relatively late, the level of product innovation of commercial banks is obviously insufficient, only focusing on the improvement of quantity, ignoring the improvement of quality. The mutual reference between the major banks has led to serious similarities in their

products, no corresponding innovation, and inaccurate grasp of customer demand, without the formation of distinctive features.

### 3.4 Follow up tracking and risk control of product innovation need to be strengthened

At present, the product innovation of commercial banks has paid more attention to product development than product maintenance, and the continuous improvement of innovative products has not been well implemented. After commercial banks put innovative products into the market, they did not carry out strict follow-up work, resulting in frequent complaints endangering the interests of customers.

## 4. Design of product innovation management mode for commercial banks

Due to the inherent inertia of enterprise management mechanism and process, the slow progress of informatization work, and the lack of market inspection of product innovation, some problems have arisen in the product innovation management of commercial banks.

#### 4.1 Product innovation management framework system of commercial banks

State owned commercial banks should be based on their own resource advantages, combined with the development trend of financial industry and customer demand in the era of big data, conduct indepth analysis of product innovation system, so as to carry out product innovation work in a planned, targeted and organized way, take big data as a tool, take organizational structure, corporate culture and information platform as support, and improve the system and internal management Process, product planning, product research and development, product promotion, product evaluation and other process stages are effectively standardized, and complete risk prevention system is provided.

## 4.1.1 Supporting level

Organization and culture. Organizational structure and corporate culture are the strong support of bank product innovation. On the one hand, scientific and reasonable organizational structure can form good cooperation among various internal functional departments, on the other hand, it can also make employees in the appropriate positions, so that personnel and posts are appropriate.

Information platform. The rapid development of financial technology in the era of big data provides a good support for banks to carry out product innovation. Using big data information to establish high-line information support platform, integrate market and bank internal information, and form benign information interaction with public platform and cooperation institutions, so as to provide technical support for product innovation of state-owned banks.

## 4.1.2 Operational level

Product planning. On the basis of full market research, product planning should deeply subdivide the demand and demand trend of customer groups, so as to clarify the market positioning and target customers of products, and point out the direction for targeted research and development of products and subsequent product marketing.

Product development. Product R & D is a complex system engineering, which includes several processes, such as the idea proposal, the project approval, the project evaluation, the product development, and the product operation. There is a close logical relationship between the processes.

Product pricing. According to the general process of pricing innovative products in China's commercial banks, commercial banks should price their assets, liabilities, settlement and other products in order to achieve the purpose of driving profits by innovative products.

Product promotion. After the strict demonstration within the bank, the product will enter the stage of listing and promotion. Generally, it can be used in the form of pilot. After the successful operation of the pilot area, this successful mode can be quickly copied to other regions.

Product evaluation. After the product is put into the market, it is necessary to understand the market reflection of the product, evaluate the income brought by the product, improve the existing problems, and seriously summarize the good aspects, so as to accumulate experience for the next product innovation.

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#### 4.1.3 Security level

Product risk control. There are certain risks in bank product innovation, so we must keep a cautious attitude in product research and development, and transfer and decentralize the bank's risk. With the deepening of economic globalization, banks are faced with more and more risk factors, and product innovation itself is a kind of risk behavior, so we should take full measures to prevent risks.

#### 4.2 Product innovation management workflow of commercial banks

## 4.2.1 Establishing information feedback mechanism

Customers are the users, Experiencers and feedbacks of financial products, and they enjoy the financial services provided by commercial banks. As a front-line marketing department, business development department is also the link between customers and product R & D department, which is the key to effective transmission of demand information. The product R & D department carries out new product research and development according to the demand information proposed by the business development department. When the product is put into use and customers enjoy financial services again, the product inspection is carried out, and it is transmitted to the product R & D department along the path of Business Development Department, so as to further optimize and upgrade products and improve product functions.

Therefore, product innovation requires commercial banks to establish an information feedback mechanism of customer business development department product innovation department to timely communicate and exchange product demand, and keep information transmission timely and unimpeded.

### 4.2.2 Data analysis using Internet big data

The internal information transmission of commercial banks mainly depends on the customized internal network, using internal mail, intranet communication and other software and hardware to achieve business processing and data transmission. On the basis of intranet management, commercial banks should make full use of Internet big data for data analysis and processing. They can customize data analysis software suitable for their own business development needs in software companies, and collect, process and analyze Internet information through their own information technology departments. At the same time, the product R & D department can timely understand the innovation information of peers and network financial products with the help of Internet platform, and the products developed and launched by competitors before themselves will seize the market share and win the customer resources.

## 5. Supporting measures

#### 5.1 Set up special product R & D team and clarify responsibility division

First of all, commercial banks should have their own product R & D team, clear division of responsibilities, and allocate corresponding product R & D team personnel according to business needs and scale. The product R & mainly composed of information technology personnel, taking account of customer manager and risk management personnel, so that the professional knowledge of each department can be organically combined and the division of labor and cooperation can be achieved.

#### 5.2 Improve network system security verification to ensure customer information security

In the process of product innovation, commercial banks should optimize the network system in time, repair the loopholes in time, and ensure the integrity of information transmission. Seal the main information or privacy information in the process of customer transaction.

#### 5.3 Establish multi department risk linkage mechanism to deal with sudden risks

Commercial banks have their own internal control and legal compliance departments and risk management departments. However, in the process of product innovation, business departments, information technology departments, risk management departments and internal control and legal compliance departments should jointly carry out risk assessment, formulate and monitor the

operational risks, legal risks, moral risks and reputation risks that may arise from the products and formulate complete risks Disposal plan and response measures to provide a safe internal environment for product innovation.

#### 6. Conclusion

To sum up, under the background of big data era, the market competition of the financial industry is becoming increasingly fierce, and the competitors are also increasing. There are many deficiencies in the current product innovation management, but the current development trend is also an important opportunity for the development and innovation of traditional commercial banks. Therefore, in the face of opportunities and competition, traditional commercial banks should strengthen the use of big data and establish a product innovation management mode with complete process and cycle. In the process of product innovation management, banks should always ensure security, so we should establish a product R & mp; D team with the Ministry of information technology as the core, improve network security management, and establish a multi department risk linkage mechanism as a supporting guarantee mechanism to ensure the safety and compliance of the whole process of Bank product innovation management while meeting the changing industry development and market demand And smooth circulation.

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