MINISTRY OF EDUCATION AND SCIENCE OF UKRAINE
V.N. KARAZIN KHARKIV NATIONAL UNIVERSITY

Karazin Banking Institute

Department:	Banking Business and Financial Technologies
Specialty:	072 Finance, Banking, Insurance and Stock Market
Educational program:	Financial Technologies and Banking Management
Group:	AF-23M full-time mode of study

QUALIFYING MASTER'S THESIS

on the topic:

EXPANSION THE RANGE OF BANKING SERVICES TO INDIVIDUAL CLIENTS AS IMPLEMENTATION DIRECTION OF CREDIT POLICY

higher education student Wu Zhigang

The qualifying master's thesis was accepted for defense by the decision of the Department of Banking Business and Financial Technologies

Protocol No. 4 dated 25.11.2024.
Head of Department
Doctor of Economics, Professor

________________ **Galyna AZARENKOVA**

Scientific Adviser
Doctors of Economics, Professor

Borys SAMORODOV

Kharkiv - 2024

MINISTRY OF EDUCATION AND SCIENCE OF UKRAINE
V.N. Karazin Kharkiv National University

Faculty **Karazin Banking Institute**
Department **Banking Business and Financial Technologies**
Level of higher education **Second (master's) level**
Specialty **072 «Finance, Banking, Insurance and Banking Management»**
Educational program **Financial Technologies and Banking Management**

APPROVED
Head of the Department
of Banking Business and Financial Technologies
Doctor of Economics, Professor

_____________ Galyna Azarenkova
« 25 « September 2024

TASK
FOR THE QUALIFYING MASTER'S THESIS
of Wu Zhigang

1.Topic of the work «EXPANSION THE RANGE OF BANKING SERVICES TO INDIVIDUAL CLIENTS AS IMPLEMENTATION DIRECTION OF CREDIT POLICY»

Scientific adviser Doctors of Economics, Professor Borys Samorodov
(surname, first name, patronymic, academic degree, academic title)

Approved by order of the university dated September 17, 2024 No. 4601-5/1025

2. Deadline for the student to submit the work November 18th

3. List of issues to be developed:
Chapter 1 provides an overview of the background, significance, and research methods of bank service expansion, with a focus on the driving factors and practical challenges of bank service expansion;
Chapter 2 analyzes the current situation of bank service expansion, explores the support and challenges of credit policies for bank service expansion, and analyzes the needs of individual customers and the response of bank services;
Chapter 3 proposes strategies for optimizing credit policies and innovating service models, combined with technological progress and policy adjustments, and looks forward to the future trends and development directions of bank service expansion.

4. Work plan

No.	Name of work stages
1	The choice of the topic of the qualifying master's thesis
2	Approval of the plan and tasks of the qualifying master's thesis
3	Completion of a qualifying master's thesis
4	Submission of the qualifying master's thesis to the scientific adviser
5	Signature of the qualified master's thesis by the scientific adviser
6	Submission of a qualifying master's thesis to the department to check for borrowings from other documents
7	Admission by the head of the department to the defense of a qualifying master's thesis
8	Defense of a qualifying master's thesis

5. Date of the task issue September 25th, 2024

Student

Wu Zhi Gang

signature

Wu ZHIGANG
initials, surname

Scientific Adviser

signature

Borys SAMORODOV
initials, surname

ABSTRACT
ON QUALIFICATION MASTER'S WORK
« EXPANSION THE RANGE OF BANKING SERVICES TO INDIVIDUAL CLIENTS AS IMPLEMENTATION DIRECTION OF CREDIT POLICY» OF
Wu Zhi Gang

Qualification Master's Work contains 101 pages, 8 tables, 12 figures, 83 references and 1 appendix.

Object of research is the process of banking service expansion and its integration with financial technologies to meet the changing demands of individual clients.

Subject of research is the theoretical, methodological, and practical aspects of optimizing banking credit policies and implementing innovative service models to enhance the scope and quality of banking services.

Purpose of qualification master's work is theoretical generalization and practical development of recommendations to improve banking service expansion through digital transformation, intelligent credit policy optimization, and customer-focused innovations.

Tasks of qualification master's work are:

- to analyze the current state and trends of banking service expansion;
- to identify the role of credit policies in supporting service innovations and overcoming challenges;
- to explore the influence of financial technologies such as big data, artificial intelligence, and blockchain on banking services;
- to examine successful domestic and international cases of banking service expansion, including micro-level analysis;
- to propose strategic recommendations for optimizing banking credit policies to promote service expansion;
- to forecast future trends in banking service expansion based on market research data.

According to results of the research, banking service expansion is increasingly driven by technological advancements, with a strong emphasis on individual customer needs, intelligent credit risk assessment, and flexible, personalized financial products. Financial technologies like big data and AI are vital for enhancing service efficiency and scalability, as seen in the practices of leading institutions such as WeBank and Ant Group.

The obtained results can be used in the strategic planning and policy-making of banks seeking to enhance their service portfolios, improve customer satisfaction, and maintain competitive advantages in the digital age. The findings also provide practical insights for policymakers and financial technology firms aiming to foster innovation and inclusivity in the banking sector.

KEY WORDS: BANK SERVICE EXPANSION; CREDIT POLICY; FINANCIAL TECHNOLOGY; INTELLIGENT SERVICES; PERSONALIZED FINANCE; WEIZHONG BANK

CONTENT

INTRODUCTION

Modern problems in the development of the banking system revolve around the increasing complexity of customer demands, rapid technological advancements, and the need for financial inclusivity. These challenges require the expansion of banking services to cater to diverse individual client needs while ensuring efficiency and sustainability. Traditional banking models often fall short in addressing these demands due to their reliance on static credit policies and limited integration of financial technologies. This gap underscores the necessity of research into the expansion of banking services, particularly focusing on optimizing credit policies and leveraging financial technologies.

The significance of this problem indicates that innovative solutions in banking service delivery are essential for enhancing customer satisfaction, financial accessibility, and competitiveness in the digital era. In this connection, the study of issues related to the expansion of banking services through digital transformation, intelligent credit policies, and customer-centric approaches acquires special importance. This focus determines the relevance of the chosen topic and the feasibility of conducting research to contribute to this evolving field.

The theoretical basis of the work is the scientific contributions of domestic and foreign researchers, including works on digital banking, credit policy optimization, and financial technology integration. Scholars such as Philip Kotler, Thomas Davenport, and domestic experts like Weijian Shan have laid important foundations in related fields. However, paying tribute to these contributions, it should be noted that issues surrounding the integration of credit policies with modern financial technologies and their application in individual client services remain insufficiently researched.

This gap emphasizes the importance of exploring innovative strategies for banking service expansion, as detailed in Section 3 of this work. Key aspects such as leveraging big data for credit evaluation, implementing AI-driven service models, and adopting embedded finance systems provide a comprehensive framework for addressing this issue. The importance of this question determined the choice of the topic and shaped the goal, tasks, logic, and content of the research.

The purpose of this work is to generalize the theoretical foundations of banking service organization, reveal the current practices in expanding service offerings, and identify ways to enhance this process through systematic evaluation and innovative recommendations.

To achieve the set goal, the following tasks are solved in the work:

- the role of credit policies in supporting banking service expansion was investigated;
- the relationship between financial technology integration and service efficiency was justified;
- the process of banking service digitization and its impact on customer satisfaction was considered;
- the innovative service models such as embedded finance and social banking were explored;
- the current state of individual client demands in banking services was analyzed;
- recommendations for optimizing credit policies and service strategies were suggested.

The object of the research is the process of expanding banking services, focusing on the integration of credit policies and financial technologies to improve individual client satisfaction and accessibility.

The subject of research is the theoretical, methodological, and practical aspects of banking service delivery, particularly in optimizing credit risk assessment, financial product customization, and leveraging technological innovations.

A number of general scientific and special research methods were used in the work, namely:

- Logical generalization and analysis: applied to identify trends in banking service expansion and customer demands ;

- System approach: used to evaluate the integration of credit policies and financial technology in service delivery models ;
- Economic analysis: employed to analyze the cost-effectiveness of various innovative banking services ;
- Mathematical statistics: utilized for forecasting trends in banking service expansion over the next five years ;
- Theories of optimal solutions: applied to develop recommendations for improving credit policies and service efficiency ;
- Formalization and modeling: to create a visual model of customer-centric credit policy optimization .

The scientific novelty of the qualifying master's work consists in:

1. The development of an integrated framework for using financial technologies to optimize banking credit policies.

2. Substantiating the feasibility of embedding financial services into non-financial platforms to increase service accessibility.

3. Proposing a customer-centric model for service delivery that aligns credit policies with individual customer needs.

4. Providing methodological recommendations for implementing digital banking strategies to achieve long-term growth and efficiency.

The information base of the research includes data from credible sources such as the China Banking Regulatory Commission, the World Bank, Ant Group's reports, and other statistical sources. These data support the analysis and provide evidence for the proposed strategies, ensuring the research's relevance and practical applicability.

CHAPTER 1
BACKGROUND AND RESEARCH SIGNIFICANCE OF BANKING SERVICE EXPANSION

1.1 Definition and Classification of Banking Services

Banking services have traditionally been defined as a variety of financial products and services provided by banks to individual and corporate customers, including but not limited to deposits, loans, payment settlements, foreign exchange transactions, and wealth management. The core function of these services is to facilitate the flow of funds, risk management, and effective allocation of resources through the intermediary role of banks. Traditional banking services mainly focus on providing credit products and managing deposits, and mostly rely on physical branches and face-to-face customer interaction **Помилка! Джерело посилання не знайдено.**.

With the advancement of technology and changes in customer demands, the banking industry has undergone tremendous transformation, especially driven by digitalization and financial technology. Traditional banking services are developing towards more diversified, personalized, and intelligent directions. The traditional banking service model, where banks provide services to customers through branches or phone calls, is gradually being replaced by a service model based on online platforms. This transformation is not only reflected in the changes in service channels, but more importantly, the content of banking services and customer needs have undergone fundamental changes.

In the traditional model, the core content of banking services includes deposits, loans, payments, settlements, and wealth management. Among them, deposits and loans are the main business of banks, which provide customers with financial services such as savings and loans by absorbing deposits, forming the foundation of banking business. In addition, banks also provide customers with services such as fund transfer and settlement through payment and settlement services, supporting the normal operation of the social economy **Помилка! Джерело посилання не знайдено.**. B anks generally rely on physical branches and counter services when providing these services, and customers usually need to be present in person to handle business, which makes the bank's services subject to certain geographical and time limitations.

In recent years, the traditional model of banking services has undergone significant transformation, especially with the development of Internet technology and financial technology, banks have begun to develop from traditional physical outlets and thesis-based transactions to electronic, digital and intelligent. New service models such as digital banking, mobile banking and Internet banking emerged as the times require. Banks began to provide customers with financial services anytime and anywhere through mobile applications, online platforms, automated equipment and other means **Помилка! Джерело посилання не знайдено.**. This transformation not only i mproves service efficiency, but also reduces operating costs, enabling banks to provide convenient services to a wider customer base.

Digital transformation makes banking services more personalized and customized. Through technologies such as big data analysis and artificial intelligence, banks can provide customers with accurate credit evaluations, personalized loan products, and investment advice. For example, based on customers' credit records, income levels, and consumption habits, banks can launch loan products that meet individual needs and simplify the approval process on the basis of thesisless operations, greatly improving customers' experience and satisfaction **Помилка! Джерело п осилання не знайдено.**.

The rise of Internet finance has further promoted the transformation of banking services. The scope of traditional banking services is gradually expanding, and in addition to basic deposits and loans, more innovative financial products and services are constantly emerging. P2P lending platforms, third-party payment platforms, crowdfunding platforms, etc. have all provided strong market competition pressure and technological innovation impetus for the banking industry. Under this background, banks have to accelerate their own transformation and innovation, gradually integrate their own businesses with Internet finance, and promote the development of banking services from traditional financial models to more intelligent and convenient directions.

The development of financial technology has also made banking services no longer limited to a single loan and deposit business, and the types of products and services are more diverse **Помилка! Джерело посилання не знайдено.**. Innovative s ervice models such as intelligent wealth management, blockchain technology applications, and robot advisors are becoming new growth points for banks. Traditional banks not only rely on physical branches, but also begin to provide various cross-border financial services to individual customers through digital channels, from wealth management to insurance, from loans to payment settlements, and more.

The transformation of banking services is not only reflected in the updating of service channels and technological means, but more importantly, banks are beginning to pay attention to the personalized needs of individual customers **Помилка! Д жерело посилання не знайдено.**. With the diversification of customer groups and the increasing demand for financial services from consumers, banks need to provide more diversified products and services. For example, in terms of personal wealth management, banks are no longer just providing simple savings and loan products, but have also launched comprehensive services covering investment and wealth management, risk management, tax planning, and more. In addition, with the rise of consumer finance, banks have gradually introduced innovative products such as consumer credit and installment payments to meet consumers' needs for flexibility and convenience.

The personalized trend of banking services has been further developed under the promotion of Internet financial platform and big data technology. Banks can accurately provide customized financial products to customers by analyzing their financial behavior, income status, and consumption habits.

The traditional definition and transformation process of banking services reflect the profound changes experienced by the banking industry in response to market changes and changes in customer demand. From traditional deposit and loan services to today's digital banking and intelligent services, the scope and forms of banking services have greatly expanded **Помилка! Джерело посилання не знайдено.** . With t he advancement of technology, the banking industry has not only improved service efficiency, but also made services more diversified and personalized.

This transformation not only brings new development opportunities for banks themselves, but also provides more convenient and rich financial services for individual customers. However, banks also face a series of challenges in the process of digital transformation. How to solve these challenges and further promote innovation in banking services will be the key to the future development of the banking industry.

In this context, this thesis will delve into the impact of bank service expansion on individual customers, particularly how to optimize the bank's credit policies to promote further personalization and diversification of bank services, thereby providing more accurate financial products and services for individual customers.

Next, we will explore the main types of banking services and their current situation of expanding to individual customers.

The types and contents of banking services continue to evolve with economic development, technological progress, and changes in market demand. Under the framework of traditional banking services, banks mainly provide basic financial services such as deposits, loans, payment settlement, and wealth management. However, with the complexity of financial markets, the diversification of individual customer needs, and the rapid development of technology, the types of services provided by banks have gradually expanded towards more personalized, customized, and digitized directions.

The first one is in terms of deposit services.

Traditional deposit services are one of the most fundamental businesses of banks. Banks provide customers with savings and fund management services by accepting deposits. According to different types of deposits, they can be mainly divided into current deposits, fixed deposits, and savings deposits. These deposit products are characterized by stability, safety, and strong liquidity, which can meet the short-term savings needs of individual customers.

With the changes in market demand, bank deposit services have also undergone corresponding changes **Помилка! Джерело посилання не знайдено.**. For example, i n order to attract more customers' capital inflows, banks began to launch fixed deposit products with higher interest rates and online deposit services in cooperation with Internet financial platforms. Especially in the context of mobile payments and electronic banking, traditional bank deposit services are gradually developing towards online and intelligent directions. Customers can easily manage their deposits through channels such as mobile apps and online banking.

However, it should also be noted that banks face some challenges in expanding their deposit services to individual customers. Due to the rapid development of financial technology, non bank financial institutions (such as Alipay, WeChat payment, etc.) are providing convenient electronic payment and wealth management products, and some traditional deposit businesses are facing the loss of market share. And with the advancement of interest rate marketization, the interest rate advantage of traditional deposits is gradually decreasing, and banks need to maintain competitiveness through other innovative deposit products.

The second aspect is loan services.

Loan services have always been an important component of banking business, including personal housing loans, consumer loans, car loans, education loans, etc **Помилка! Джерело посилання не знайдено.** . Banks meet the funding needs of i ndividual customers through loan services, while also creating a source of profit for themselves. Traditional loan services typically rely on face-to-face customer evaluations and thesis contracts, which have strong geographical limitations and cumbersome operations.

With the expansion of banking services, the variety of loan products has become more and more diversified, especially after the rise of Internet finance, the demand of individual customers for loan products has changed significantly. Banks not only provide traditional housing mortgage loans, but also launch unsecured consumer loans, credit loans, etc. through the Internet financial platform. These loan products usually have lower thresholds, convenient approval processes, and more flexible repayment methods, which are particularly suitable for the funding needs of young people and small and micro business owners.

However, the expansion of bank loan services also faces many challenges.

Loan risk management has become a key issue that banks must pay close attention to. With the increasing variety of loan products, banks need more precise credit evaluation mechanisms to ensure the safety of loans **Помилка! Джерело посилання не знайдено.** . At the same time, non-traditional financial institutions are rapidly occupying market share through flexible loan models, which poses a great threat to traditional bank loan business.

The third aspect is payment and settlement services.

Payment and settlement services are one of the most basic functions of banks, traditionally achieved through methods such as bank counters, ATM machines, checks, and remittances for fund transfer and settlement. However, with the popularity of mobile payments and the rise of cross-border e-commerce, payment settlement services are undergoing unprecedented changes. Banks not only need to provide traditional transfer and remittance services, but also need to meet the convenient payment needs of individual customers through digital payment methods.

The emergence of mobile payments, QR code payments, and various third-party payment tools has increased the competitive pressure on traditional banks in the field of payment and settlement services. In response to this challenge, banks have launched mobile payment platforms, electronic wallets, and cross-border payment services to enhance the convenience and accessibility of payment services **Помилка! Джерело посилання не знайдено.**.

But there are two issues that need to be noted. First, the penetration of financial technology companies and Internet giants into the payment market makes banks face the compression of market share. Secondly, with the highly digitized payment industry, network security issues have become increasingly complex. Banks need to strengthen the security protection of their payment systems to prevent user data leakage and financial fraud incidents.

The fourth aspect is wealth management services.

Wealth management services are a relatively advanced service provided by banks to individual customers, mainly including personal financial planning, asset allocation, insurance services, investment advisors, etc. Traditionally, banks' wealth management services have mainly targeted high net worth clients, providing personalized asset management solutions through a team of professional financial advisors. With the gradual opening of the financial market, wealth management services have gradually expanded to the low-end customer group, especially through the Internet and mobile devices, so that more ordinary individual customers can enjoy professional wealth management services **Помилка! Джерело посилання не з найдено.**.

Banks have gradually lowered the threshold for wealth management services through digital means. For example, based on big data and artificial intelligence technology, banks can provide customers with more accurate investment advice and risk management solutions. In addition, banks also provide diversified wealth management options for individual customers with different risk tolerance and investment needs through the launch of intelligent investment advisors, wealth management products, fund sales, and other methods.

However, it should also be noted that there is a serious problem of homogenization in wealth management products in the market, and banks need to continuously innovate their products and enhance their differentiated competitiveness in services. In addition, there are differences in individual customers' understanding and acceptance of wealth management. Banks need to improve customers' financial literacy and wealth management awareness through education and marketing methods.

The fifth aspect is insurance services.

With the increasing diversification of financial products, banks have begun to provide insurance products to individual customers, including life insurance, health insurance, property insurance, etc. Traditional banks collaborate with insurance companies to launch a range of insurance products to meet the protection needs of individual customers in terms of health, property, and accidents **Помилка! Джерело п осилання не знайдено.**.

In recent years, with the rapid development of the insurance market, banks' insurance business has been continuously expanding. Many banks have launched diversified insurance products covering life insurance, health insurance, car insurance, etc. through their own brands or partnerships with third-party insurance companies. In addition, banks also provide individual customers with more convenient insurance purchase, claims and consulting services through digital platforms, further increasing the popularity of insurance products.

The challenges faced by banks in expanding their insurance services cannot be ignored. Firstly, the cooperation model between banks and insurance companies needs to be closer to ensure service continuity and improve customer experience. Secondly, the market competition for insurance products is fierce, and banks need to attract more individual customers to purchase insurance products through innovative product design and marketing methods.

Table 1.1

Comparison of Traditional and Modern Classification of Banking Services

Traditional banking services	Modern banking services
Deposit service	**Deposit service (digital)**
Current deposit	Online deposit platform
Fixed deposit	Mobile fixed deposit
Savings deposits	Digital currency deposit
Loan Services	**Loan Services (Intelligent)**
Personal housing loan	Unsecured loans (credit score)
Consumer loans	Consumer loan (approved through APP)
Corporate loans	Mobile bank loan (intelligent approval)
Payment and settlement services	**Payment and settlement services (digital)**
Bank remittance	Mobile payment (Alipay, WeChat payment, etc.)
Electronic transfer	Instant cross-border payment service
Cheque service	QR code payment (QR code receipt)
Wealth management services	**Wealth management services (intelligent)**
financial products	Intelligent investment advisory services
Investment Consulting	Asset allocation plan based on big data
Insurance Services	**Insurance services (digital)**

Traditional life insurance	Internet insurance platform (online insurance)
property insurance	Online insurance claims and management

The diversification and personalized development of banking service types enable banks to meet the needs of different individual customers, especially in the fields of mobile payments, consumer credit, wealth management, and innovation, which promotes the continuous expansion of banking business **Помилка! Джерело посилання не знайдено.**. However, with the rise of Internet finance and financial technology, banks are facing increasing competitive pressure in the process of service expansion. How to address these challenges through technological innovation, optimizing service processes, and enhancing customer experience will be the key to the future development of banks.

In order to better demonstrate the evolution and development of banking services, the following compares and analyzes the classification of traditional banking services and modern banking services through charts.

As can be seen from the table, traditional banking services usually rely on bank outlets and counter operations, while modern banking services have undergone in-depth transformation through digital platforms and Internet technology.

Traditional deposit services mainly rely on physical branches and passbook management, while modern banks provide more convenient deposit services through online platforms and mobile banking. Customers can deposit, transfer or view account balances at any time through mobile apps. Traditional loans usually rely on a cumbersome thesis-based approval process, and the approval time is relatively long; Modern banks can quickly approve loans through technologies such as big data and artificial intelligence, and even achieve unsecured credit loans and automated loan approvals **Помилка! Джерело посилання не знайдено.** .

Traditional payment and settlement services rely on bank counters, wire transfers, and checks, while modern payments achieve instant payment through mobile payment and QR code payment platforms, greatly improving the convenience and efficiency of transactions. Traditional wealth management services are provided by bank specialists for high net worth clients, while modern banks offer personalized wealth management solutions through intelligent investment advisory and big data analysis, and even introduce investment portfolios based on algorithm recommendations, lowering the threshold for wealth management.

In addition, traditional insurance services are mainly provided through bank counters and wealth managers, while modern insurance services are provided through Internet insurance platforms, where customers can purchase insurance, settle claims and manage policies online.

1.2 Relationship between Credit Policy and Banking Services

Credit policy, as one of the macroeconomic regulation policies formulated by the state and financial institutions to manage economic activities, control financial risks, and promote social and economic development, occupies a core position in banking services **Помилка! Джерело посилання не знайдено.**. The main goal of credit p olicy is to optimize resource allocation, maintain economic stability, and promote sustainable development by adjusting the loan interest rates, credit scale, and loan conditions of banks. Under the traditional credit policy framework, the main focus is on banks' financing support for enterprises and government departments, while credit services for individual customers are relatively limited.

The objectives of traditional credit policies can be summarized as follows.

Stabilizing the financial system and economic environment: The primary goal of traditional credit policies is to ensure the stability of the financial system and avoid economic foam and financial crises caused by excessive credit expansion. By adjusting the loan amount and interest rate of banks, credit policies can effectively manage the money supply, stabilize key economic indicators such as inflation rate and unemployment rate **Помилка! Джерело посилання не знайдено.**.

Control the scale and liquidity of bank credit: In order to prevent excessive expansion of bank credit, traditional credit policies usually set certain credit growth targets, requiring banks to adjust their lending scale according to the economic situation **Помилка! Джерело посилання не знайдено.**.

Promote economic structural adjustment: Through targeted credit policies, promote the flow of financial resources to key industries or regions supported by the state.

Preventing financial risks: Traditional credit policies also focus on reducing systemic risks in the financial system through reasonable constraints on bank credit activities **Помилка! Джерело посилання не знайдено.**. By controlling the risk of b ank credit assets, ensuring that banks can maintain an appropriate capital adequacy ratio, and avoiding the breakage of the banking system's funding chain due to excessive credit risk.

The structure of traditional credit policies usually consists of multiple levels and components, mainly including five aspects.

Monetary policy tools: Monetary policy is a core component of traditional credit policy, mainly influencing banks' credit behavior through controlling interest rates, adjusting reserve requirements, and other means **Помилка! Джерело посилання не з найдено.**.

Bank credit management: Bank credit policy is another important component of traditional credit policy, referring to the specific operational strategies and control measures adopted by banks in the credit process **Помилка! Джерело посилання не з найдено.**. Traditional bank credit policies mainly adjust credit allocation by determining loan interest rates, setting loan approval standards, and controlling the total amount of loans. Especially in different economic environments, the credit allocation structure of banks will be adjusted to cope with market demand and risk changes.

Capital adequacy ratio regulation: Capital adequacy ratio is an important indicator for measuring a bank's ability to resist risks. The traditional credit policy ensures that banks have sufficient capital reserves to cope with non-performing loans and systemic risks through the requirement of capital adequacy ratio **Помилка! Д жерело посилання не знайдено.** .

Credit access and risk control: An important aspect of traditional credit policies is the management of credit access, which involves the screening and evaluation of bank loan customers **Помилка! Джерело посилання не знайдено.**. Banks usually s creen out customers with good credit status and strong repayment ability based on strict credit approval standards and risk assessment models. These standards and models often focus on factors such as the customer's financial condition, the value of collateral, and industry prospects.

National policy credit support: In the traditional credit policy system, the government often provides financing support to specific industries or groups through policy banks or government special funds.

In addition, the implementation of traditional credit policies has had a significant impact on banking services. It mainly affects the bank's service to individual customers in the following four aspects.

Loan interest rates and credit evaluation standards: Traditional credit policies affect the conditions under which banks provide loans to individual customers by setting bank loan interest rates and credit evaluation standards.

Credit scale and market competition: Traditional credit policies typically set an upper limit on the total amount that banks can lend, forcing them to choose from limited loan funds. This allows banks to allocate less resources to individual customer services while providing financing to businesses and government departments.

Allocation of financial resources: Traditional credit policies often focus on macroeconomic regulation, especially when supporting financing in specific industries or fields, banks may overlook the needs of individual customer groups.

Table 1.2

Summary of Traditional Credit Policy Related Content

The goal of credit policy	The Structure of Credit Policy	The impact of credit policy
Stable financial system and economic environment	Monetary policy tools	Loan interest rates and credit evaluation standards
Control the scale and liquidity of bank credit	Bank credit management	Credit Scale and Market Competition
Promote economic structural adjustment	Capital adequacy ratio regulation	Allocation of financial resources
Preventing financial risks	Credit Access and Risk Control	Limitations of Innovation in Banking Business
	National policy credit support	

Limitations of banking business innovation: Due to the strict regulations of traditional credit policies, banks have limited space for innovation in credit products and personalized services. The credit evaluation of individual customers usually relies on a relatively single credit rating model and financial information, and banks respond slowly to personalized needs such as small, short-term, and unsecured loans.

Overall, although traditional credit policies provide a stable framework for the operation of banks, they to some extent constrain the individualization and scalability of banking services, especially when targeting low-income groups, small and micro enterprises, and young customer groups. The limitations of traditional credit policies often make banks more inclined to concentrate resources on serving large enterprises and government related projects, neglecting the attention to individual customer groups **Помилка! Джерело посилання не знайдено.**.

Therefore, in actively and prudently promoting credit policy reform, especially in expanding to the growing individual customer base, banks must adapt sensitively to the changes in credit policies under the current new economic situation, constantly explore and practice more flexible, diverse, innovative and pragmatic credit service solutions, in order to better meet the personalized needs of customers and improve the quality and efficiency of financial services.

In addition, credit policy plays a crucial role in macroeconomic regulation. It is not only an important tool to guide the direction of the economy, but also an indispensable key supporting force and strategic cornerstone for expanding and deepening the scope of banking services.

Especially in providing banking services to individual customer groups, adjustments to credit policies can directly affect the service content, scope, and mode of banks.

With the development of the social economy, the needs of individual customer groups are constantly changing, and banks face more complex market environments and policy requirements when providing services to this group. In this context, how credit policies can support the expansion of banking services, especially in the application of individual customer groups, has become a key issue in the innovation and transformation of banking business.

Modern credit policies are not limited to traditional functions such as adjusting loan interest rates and controlling credit scale, but are gradually shifting their focus to promoting the inclusiveness of financial services, especially expanding services to individual customer groups. Normally, credit policies support the expansion of banking services through the following four aspects.

Lowering the credit threshold and expanding the scope of services.

With the continuous development of the economy, the financial needs of individual customer groups are increasing, especially low-income groups, young groups, and small and micro business owners. In order to meet this demand, credit policies are gradually adjusting towards lowering credit thresholds and expanding credit coverage.

Encourage innovative credit products and services.

Traditional banking services are often limited to large loans, long-term loans, and financing for businesses, while individual customers have more diverse needs. Modern credit policies emphasize financial innovation, especially personalized services for individual customer groups. In this context, banks have begun to launch more innovative credit products that meet the needs of individual customers, such as unsecured small loans, consumer loans, mortgage loans, education loans, etc **Помилка! Джерело посилання не знайдено.**. These loan products can reach more individual customer groups, especially those with incomplete credit records and lack of traditional guarantees.

Promote digital transformation and improve service efficiency.

The support of credit policies is also reflected in promoting the digital transformation of banks. Digital transformation can effectively reduce the operating costs of banks and provide more convenient financial services for individual customers **Помилка! Джерело посилання не знайдено.**.

The promotion of inclusive financial policies.

With the gradual promotion of inclusive finance policies, credit policies have played a positive role in supporting banks to provide credit services to low-income groups, small and micro business owners, and other groups **Помилка! Джерело посилання не знайдено.**. The government encourages banks to provide financial products to underserved groups through subsidies and policy incentives for inclusive finance. The inclusive finance policy reduces the credit risk of banks through measures such as tax incentives, loan interest rate discounts, and risk compensation, thereby encouraging banks to increase financial support for individual customer groups.

At the same time, it must be recognized that the adjustment of credit policies is not only reflected in macro interest rates and credit scale management, but also through specific policy tools to promote the expansion of bank services among individual customer groups. The following are specific applications of several credit policies for expanding services to individual customer groups.

The promotion of consumer credit.

Consumer credit is one of the important financial services provided by banks to individual customers **Помилка! Джерело посилання не знайдено.** . With the c hanges in consumption patterns, credit policies have played an important role in encouraging banks to expand consumer credit services. Through policy incentives, banks can provide more flexible consumer credit products, such as credit cards, installment payments, unsecured personal loans, etc., to meet consumers' immediate consumption needs.

The popularization of personal housing loans.

Personal housing loans are one of the most common banking services among individual customer groups. The government and central bank have implemented preferential housing loan policies to encourage banks to increase their support for home loans. Through these policies, banks can provide housing loans to more individual customers, especially young people who are first-time homebuyers, while controlling risks **Помилка! Джерело посилання не знайдено.** .

Credit support for small and micro business owners and individual businesses.

Small and micro business owners and individual businesses are important components of the individual customer group. Traditional credit policies often favor credit support for large enterprises and projects, while neglecting these individual customer groups. To this end, the government has introduced a series of credit policies to help banks better serve small and micro business owners and individual businesses by simplifying loan approval processes, reducing loan interest rates, and providing special funding support.

Promotion of digital financial products.

With the advancement of technology, digital financial products have gradually become an important means for banks to expand their services to individual customers. In terms of policy, the country continuously encourages the development and innovation of financial technology and has introduced a series of regulations to promote the healthy development of digital finance. For example, the government supports cooperation between fintech companies and banks through policies to promote the popularization of products such as mobile payments, online loans, and digital wallets. In the process of launching these digital products, banks have gradually relaxed loan conditions for individual customers, using technologies such as big data and artificial intelligence to evaluate customer credit, thereby reducing credit risks and improving service efficiency **Помилка! Джерело посилання не знайдено.** .

Table 1.3

Specific support for credit policies

Support aspect	concrete measure	Target customer group
Lowering the credit threshold	Reduce credit interest rates and mortgage requirements	More individuals, especially high-risk groups
Inclusive financial support	Provide subsidies, guarantees, and risk sharing mechanisms	Underserved customers such as low-income groups and small and micro enterprises
Financial Innovation Incentives	Using technology tools such as big data and artificial intelligence for credit evaluation and loan approval	Promote the expansion of digital financial products to individual customers
Policy subsidies and tax incentives	Provide policy subsidies and tax incentives	Specific groups, reducing bank loan risks, incentivizing the provision of customized services

In the long run, the adjustment of credit policies not only promotes the expansion of banking services, but also drives the inclusive development of the entire financial system. With the continuous optimization and adjustment of credit policies, banks can not only increase their own business income but also enhance the stability and inclusiveness of the financial system in providing services to individual customers. With the support of credit policies, banks can not only provide financial services to a wider range of individual customer groups, but also meet the increasingly diverse needs of customers through innovative financial products and services.

Credit policy specifically supports the expansion of banking services, especially in the application of individual customer groups, through the following aspects.

Overall, credit policies provide strong policy support for the expansion of banking services by lowering credit thresholds, encouraging financial innovation, and promoting digital transformation. Especially when facing individual customer groups, the adjustment and support of credit policies enable banks to provide customized, convenient, and digital financial services to more individual customers, which helps promote the sustainable development of the social economy.

In terms of implementation, the process of implementing credit policies is a complex, multi-level, and interactive process that ultimately affects the behavior of banks in serving different customer groups, especially individual customer groups, through the formulation of policy objectives, the selection and execution of tools. The entire process requires coordination from multiple parties, including government departments, central banks, commercial banks, and relevant regulatory agencies.

The implementation process of credit policy can be roughly divided into five main steps.

Fig 1.1 Schematic diagram of the implementation process of credit policy

Step 1: Setting Policy Objectives

The implementation of credit policy begins with the government or central bank setting policy goals based on the current economic situation. These goals typically involve controlling inflation, stabilizing economic growth, promoting employment, and improving the accessibility of financial services. The clarity of goals provides direction for the selection and implementation of subsequent policy tools.

Step 2: Choose appropriate policy tools

According to the set goals, the government or central bank will choose corresponding policy tools to intervene. Traditional credit policy tools include interest rate adjustments, reserve requirement ratio adjustments, refinancing and rediscounting policies, etc. In recent years, with the development of financial technology, innovative financial tools such as inclusive finance loans and green finance policies have gradually become part of credit policies.

Step 3: Bank Response and Policy Implementation

Once policy objectives and tools are determined, central banks and regulatory agencies will guide banks' credit behavior. Banks adjust their loan interest rates, loan limits, and customer screening criteria based on these policies, thereby affecting the types of credit products, loan approval speed, and conditions. The response of banks is not only the implementation of policies, but also the adaptation to changes in market demand.

Step 4: Innovation of Financial Products and Expansion of Services

With the promotion of credit policies, banks have begun to innovate financial products based on policy requirements and market demand, especially credit products for individual customers. These innovations may manifest as unsecured loans, consumer loans, personal housing loans, inclusive finance loans, etc., aimed at lowering traditional credit barriers and improving service coverage and accessibility.

Step 5: Flow of Credit Funds and Actual Effects

By innovating credit products and services, banks channel credit funds to various individual customer groups, including low-income groups, young consumers, and small and micro business owners. This process not only helps to enhance the inclusiveness of banking services, but also promotes the overall development of the social economy and further consolidates the effectiveness of policies.

1.3 Current Research Status at Home and Abroad

The relationship between bank service expansion and credit policy has become an important research direction in the field of finance in recent years. With the development of the global economy, especially in the context of rapid financial innovation and technological advancement, the scope of banking services continues to expand, and the customer base involved has gradually extended from traditional large enterprises to small and micro enterprises and individual customers **Помилка! Джерело посилання не знайдено.**.

In this context, the role and impact of credit policies have gradually become a hot research topic. Domestic and foreign scholars have conducted extensive research in this area, achieving results at different levels, but there are also certain research shortcomings.

Internationally, research on the relationship between bank service expansion and credit policy mainly focuses on four aspects.

The first aspect is the theoretical framework for expanding banking services.

Early research mainly focused on the expansion of traditional banking services and financial products. As early as the 1990s, Gilbert and Wheelock pointed out that banks can gain advantages in a fiercely competitive market environment by expanding their product range and service targets. This theoretical framework emphasizes the necessity of expanding banking services, especially when facing diversified customer demands, banks need to innovate to broaden their service scope **Помилка! Джерело посилання не знайдено.**.

After entering the 21st century, scholars gradually paid attention to the impact of financial innovation and technological progress on the expansion of banking services. Merton and Miller pointed out in their article "Financial Innovation and Banking Services" that the emergence of financial technology (FinTech) has changed the service mode of traditional banks, making banking services not limited to credit and deposits, but also including various new services such as payments, wealth management, insurance, etc **Помилка! Джерело посилання не знайдено.** . With t he rapid development of financial technologies such as electronic banking and mobile payments, the path and methods of expanding banking services have undergone fundamental changes.

The second aspect is the impact of credit policies on the expansion of banking services

Many scholars have studied how credit policies affect banks' credit decisions and the selection of service recipients. Especially in the service of individual customer groups, foreign research focuses on the impact of government credit incentive policies on bank behavior. Barth and Caprio proposed that the government can effectively guide banks to increase loans to individual customers and promote financial inclusion by adjusting interest rates, credit scale, and loan guarantee policies **Помилка! Джерело п осилання не знайдено.** .

The third aspect is the expansion path of individual customer service.

In terms of expanding individual customer service, scholars have explored how banks can expand service coverage without reducing risks. Johnson and Rutherford proposed that by establishing a flexible credit scoring model, banks can effectively assess the credit risk of individual customers, thereby expanding their service targets and reducing credit risk. In addition, technological advancements have made financial services for individual customers more diversified, such as unsecured small loans, installment payments, education loans, etc **Помилка! Джерело посилання не з найдено.**.

The fourth aspect is the combination of financial technology and credit policy.

With the rapid development of technologies such as big data and artificial intelligence, many scholars have begun to explore how to use technological means to support the expansion of banking services. Especially through digital means, banks can quickly assess the credit status of individual customers and provide more personalized services. Zhang et al. pointed out in their article "Fintech and Banking Service Expansion" that fintech can help banks accurately evaluate individual customers' credit through data analysis and machine learning algorithms, and provide tailored credit products. This study suggests that the combination of credit policy and technological innovation can generate positive synergies in supporting the expansion of banking services **Помилка! Джерело посилання не знайдено.**.

In China, research on the relationship between bank service expansion and credit policy has also made some progress, which can be summarized into four aspects.

The diversification of banking services and the financial needs of individual customers.

Domestic scholars' research on the expansion of banking services initially focused on extending and upgrading traditional banking businesses. Professor Wang Bo believes that with the development of the market economy, banks need to continuously innovate financial products and services according to changes in market demand, especially to meet the growing financial needs of individual customer groups. In recent years, with the continuous growth of the Chinese consumer market, the financial needs of individual customers have become increasingly diversified. Banks not only provide deposit and loan services, but also gradually introduce products such as wealth management, insurance, and funds **Помилка! Джерело посилання не з найдено.**.

The guiding role of credit policy in banking services.

Domestic scholars have also extensively explored the relationship between credit policies and the expansion of banking services. Professor Yao Yong's research found that in the process of adjusting credit policies, the People's Bank of China has adopted various measures to encourage banks to provide credit support to individual customers, especially in the real estate market and consumer finance sectors **Помилка! Д жерело посилання не знайдено.**. For example, the central bank has promoted the expansion of banks' personal housing loan business by adjusting personal housing loan interest rates, down payment ratios, and other measures.

In addition, in recent years, the Chinese government has actively promoted inclusive finance policies, encouraging banks to provide more financial support to small and micro enterprises and low-income groups. The implementation of inclusive finance policies has promoted the expansion of banking services, especially through measures such as reducing loan interest rates and risk sharing, allowing banks to expand their service scope to individual customer groups.

The driving role of financial technology in expanding banking services.

Domestic scholars are also very concerned about the role of financial technology in promoting the expansion of banking services. Dr. Zhang Xiaohong proposed that the development of financial technology has not only promoted the expansion of banking services to individual customer groups, but also changed the traditional operation mode of banks. Especially through digital means, banks can more accurately assess the credit status of individual customers and provide personalized financial products and services **Помилка! Джерело посилання не знайдено.**. With the rapid development of I nternet finance, more individual customers can access banking services through online channels. Especially among young people, mobile payment and Internet loans and other products have gradually become the main forms of financial services.

Risk control in the expansion of banking services.

Table 1.4

Research directions at home and abroad

Domestic	Abroad
Diversification of Banking Services and Financial Needs of Individual Customers	Theoretical Framework for Banking Service Expansion
The Guiding Role of Credit Policy in Banking Services	The impact of credit policy on the expansion of banking services
The role of financial technology in promoting the expansion of banking services	Expansion Path of Individual Customer Service
Risk Control in the Expansion of Banking Services	The combination of financial technology and credit policy

How to effectively control credit risk in the process of expanding banking services has always been an important issue of concern for domestic scholars. Professor Wang Lan believes that when banks expand their services to individual customer groups, especially small and micro business owners and low-income groups, how to reduce the bank's credit risk through accurate credit assessment and risk sharing mechanisms is an important prerequisite for achieving bank service expansion. He proposed that credit policies should focus on managing credit risks and encourage banks to reduce risks in the process of service expansion through risk compensation funds, credit insurance, and other means **Помилка! Джерело посилання не знайдено.**.

In addition, we should also note that there has been some progress in domestic and foreign research on the relationship between bank service expansion and credit policy, but at the same time, there are also some issues that have not been taken into account.

Firstly, there is insufficient research on the integration of financial technology applications and credit policies

Current research mainly focuses on how financial technology can promote innovation and expansion of banking services, especially in the application of retail banking business. However, there is still a lack of research on how to organically integrate financial technology with credit policies **Помилка! Джерело посилання не знайдено.** . Although some literature has explored the application of financial technology in credit evaluation, most research has mainly focused on technical aspects and lacks evaluation of the effectiveness of credit policies combined with these technologies. Especially how to achieve precise credit evaluation through financial technology and adapt to national credit policies to achieve precise expansion of banking services is still an urgent topic that needs to be explored in depth.

Secondly, the impact of regional differences on the expansion of banking services has not been fully studied

Regional differences are an important factor in the expansion of banking services, especially in a country like China with significant geographical and economic disparities. Although existing research has proposed the impact of regional economic disparities on the expansion of banking services, most studies focus on macro level analysis and lack empirical research on the expansion paths of banking services in different regions. Especially in rural areas and small and medium-sized cities, how banks can effectively expand their services in these areas remains a question worthy of further exploration.

Thirdly, there is a lack of customized services for individual customer groups

With the increasingly diversified demand for financial services among individual customer groups, the expansion direction of banking services is gradually shifting from traditional large enterprises to individual customers. Although research has explored the financial needs of individual customer groups, research on how to provide customized and differentiated banking services based on individual customer characteristics is still weak **Помилка! Джерело посилання не знайдено.**. E specially with the support of credit policies, how banks can meet the needs of individual customers at different levels through market segmentation and personalized services remains a key issue to be addressed.

Fourthly, the research on risk control mechanisms in the expansion of banking services is weak

In the process of expanding banking services, especially to individual customer groups, risk control has always been a difficult issue. Although some risk management models have been proposed in previous studies, such as credit scoring and credit insurance methods, these studies have mostly focused on risk control in traditional banking business, lacking understanding of how banks can respond to individual customer group risks in the process of service expansion, especially how to design more effective risk control systems within the framework of following national credit policies.

Fifth, there is insufficient research on the interaction effects between macroeconomic policies and the expansion of banking services

Existing literature mostly focuses on the impact of a single credit policy on the expansion of banking services, while there is relatively little exploration of the interactive effects of macroeconomic policies and credit policies on the expansion of banking services. How to comprehensively consider the coordinated role between macroeconomic policies and bank credit policies to promote more effective expansion of bank services to individual customer groups is an important direction that has been overlooked in current research.

Based on these shortcomings, this thesis will consider further innovative research from five aspects.

Research on the integration of financial technology and credit policy: The focus is on how to combine financial technology with credit policy to promote the expansion of banking services to individual customer groups.

Focusing on regional differentiation in banking service expansion strategy: Combining with the actual situation in China, we will deeply explore the special needs and challenges of individual customers in different regions and types in banking service expansion.

Combining customized banking services with credit policies: This thesis will delve into how to implement precise marketing among individual customer groups, and design personalized financial products based on credit policies.

Innovative Risk Management Framework for Banks: This thesis will propose a new risk management framework that combines credit policy with bank service expansion. Especially in the context of inclusive finance, how to balance risk and service expansion is one of the research innovations of this thesis.

A comprehensive study on macroeconomic policies and the expansion of banking services: This thesis will investigate the dual impact of macroeconomic policies and credit policies on the expansion of banking services, especially how to promote the popularization and personalization of banking services under the joint action of multiple factors such as monetary policy and fiscal policy.

By filling these research gaps, this thesis can not only provide new contributions to academic research on the expansion of banking services, but also provide forward-looking references and innovative solutions for the practical operation of the banking industry.

CHAPTER 2
ANALYSIS OF THE CURRENT SITUATION AND CHALLENGES OF BANKING SERVICE EXPANSION

2.1 Current Status and Trends of Banking Service Expansion

In recent years, the expansion of banking services has entered a new stage of development, especially under the promotion of digital transformation and Internet finance, how to effectively expand the service content of individual customers has become an important issue in the financial industry **Помилка! Джерело посилання не знайдено.**. Bank services have not only expanded from traditional deposit and loan businesses to a wider range of financial products and services, but with technological advancements, especially the application of emerging technologies such as big data, artificial intelligence, and blockchain, banks can provide more personalized and precise financial services.

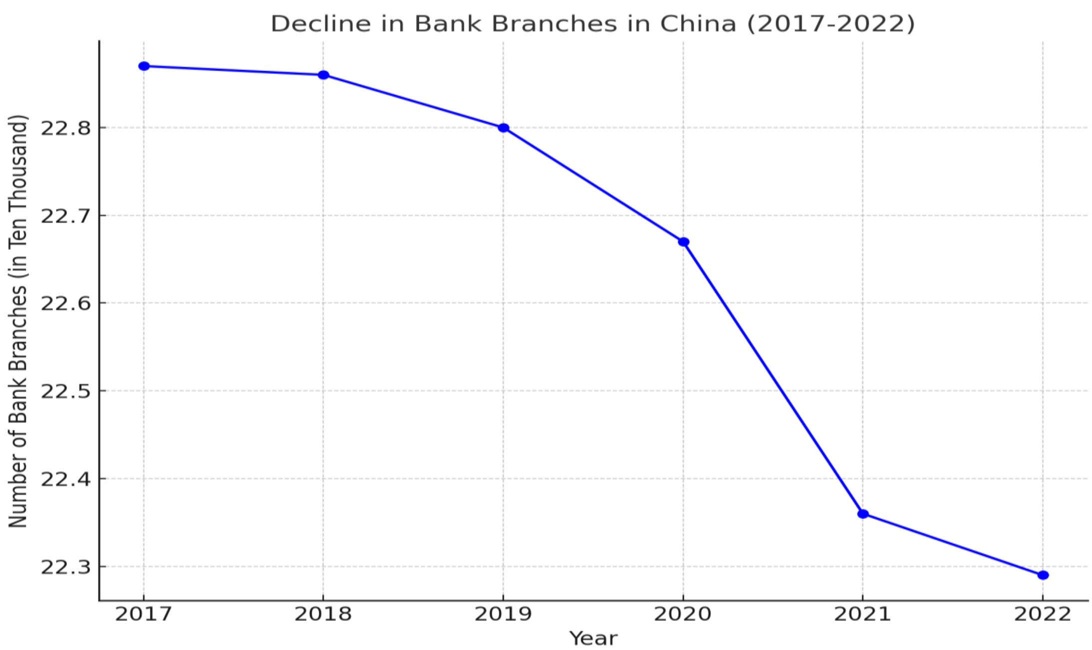

Fig 2.1 Decline in Bank Branches in China (2017-2022)

Source: Infoq Research Center

In the past decade, digital transformation has become an undeniable trend in the banking industry. The traditional service modes of banks, such as counter business, telephone banking, ATM, etc., are gradually replaced by digital services such as the Internet, mobile payment, intelligent customer service, etc **Помилка! Джерело п осилання не знайдено.**. Digital transformation is not only a necessity for banks to improve service efficiency, but also an inevitable choice to adapt to changes in consumer demand and enhance market competitiveness.

Since 2017, the number of bank branches in China has been declining. Prove that the user's offline business has been shifting to digital business.

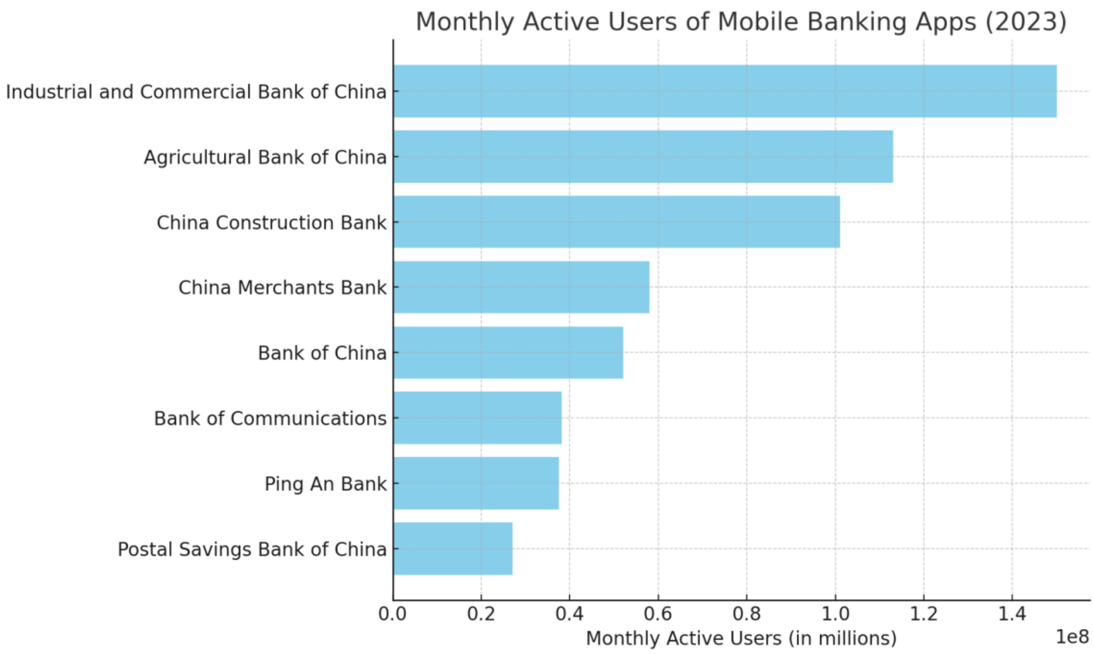

Fig 2.2 Monthly Active Users of Mobile Banking Apps (2023)

Source: analysys. cn

With the popularization of mobile Internet and the widespread use of smart phones, banks began to expand from traditional offline channels to online channels. Major banks have launched mobile banking APP, and the Internet financial platform is also connected with the banking system, forming a cross platform payment and financial service network **Помилка! Джерело посилання не знайдено.**. For e xample, large banks such as Industrial and Commercial Bank of China and China

Construction Bank have achieved comprehensive digitalization from traditional deposit and loan businesses to credit cards, wealth management products, and investment services through online platforms. Banks can monitor customers' financial needs in real-time through these platforms and provide personalized services through precise data analysis.

As of 2023, the cumulative number of mobile banking users in major banks in China has exceeded 600 million.

Digital transformation not only optimizes the service processes of banks, reduces costs, but also greatly improves service coverage and customer experience. Internet banks, especially some emerging online banks, have become independent of the traditional network layout and focus on providing low-cost and efficient services through online channels **Помилка! Джерело посилання не знайдено.** . The s ervices provided by these banks are usually more in line with the needs of the younger generation of customers, such as convenient payments, cross-border payments, customized wealth management, etc.

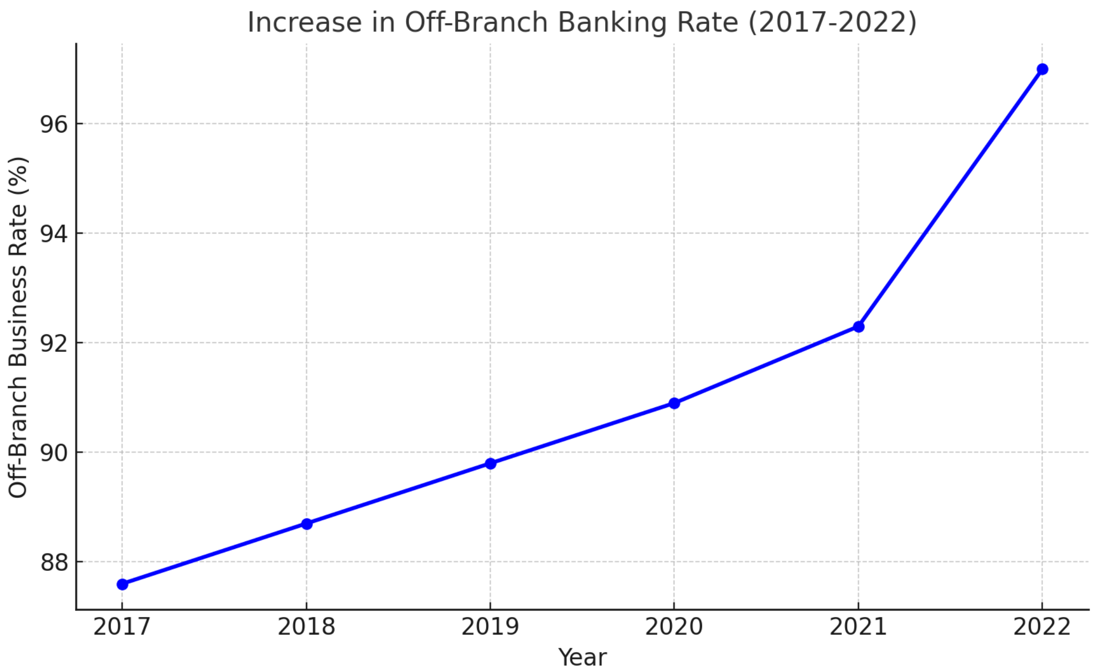

Fig 2.3 Increase in Off-Branch Banking Rate (2017-2022)

Source: Infoq Research Center

The off counter business rate of banks has been steadily increasing from 2017 to 2022. This steady growth reflects the increasing shift in the way customers interact with banks, towards digital and remote banking services rather than face-to-face banking services.

The key factors driving this trend are the rapid development and adoption of mobile banking platforms, online banking services, and automated systems that allow customers to perform most banking functions without accessing physical banks. In particular, the COVID-19 has accelerated this change, because people seek safer and more convenient financial management methods while avoiding hospital contact. The epidemic has also prompted many banks to strengthen their online services and mobile applications, further encouraging customers to stay away from traditional banking methods.

The key factors driving this trend are the rapid development and adoption of mobile banking platforms, online banking services, and automated systems that allow customers to perform most banking functions without accessing physical banks. In particular, the COVID-19 has accelerated this change, because people seek safer and more convenient financial management methods while avoiding hospital contact. The epidemic has also prompted many banks to strengthen their online services and mobile applications, further encouraging customers to stay away from traditional banking methods.

In addition to digital banking, other factors such as the widespread availability of ATMs and third-party payment platforms, as well as improved financial technology solutions, make it easier for customers to conduct banking transactions outside of traditional banking locations. Due to the improvement of convenience and the acceleration of transaction processing time, these developments have increased customer satisfaction.

This not only shows that the banking industry is undergoing digital transformation, but also recognizes that consumer preferences are constantly changing.

The rise of Internet finance is an important driving force for the expansion of banking services. Through big data, cloud computing, artificial intelligence and other technologies, Internet finance has broken the space-time constraints of traditional banking services, enabling banks to provide more personalized services [36]. This trend is particularly prominent in personal banking, especially in areas such as payments, loans, and wealth management.

With the rise of WeChat payment, Alipay and other Internet payment platforms, the payment business model of traditional banks has undergone profound changes. In the past, personal payments mainly relied on cash, checks, and bank cards, but now mobile payments have become the mainstream payment method. Major banks have also actively cooperated with the Internet financial platform, and launched more convenient payment products through the cooperation between banks and third-party payment institutions.

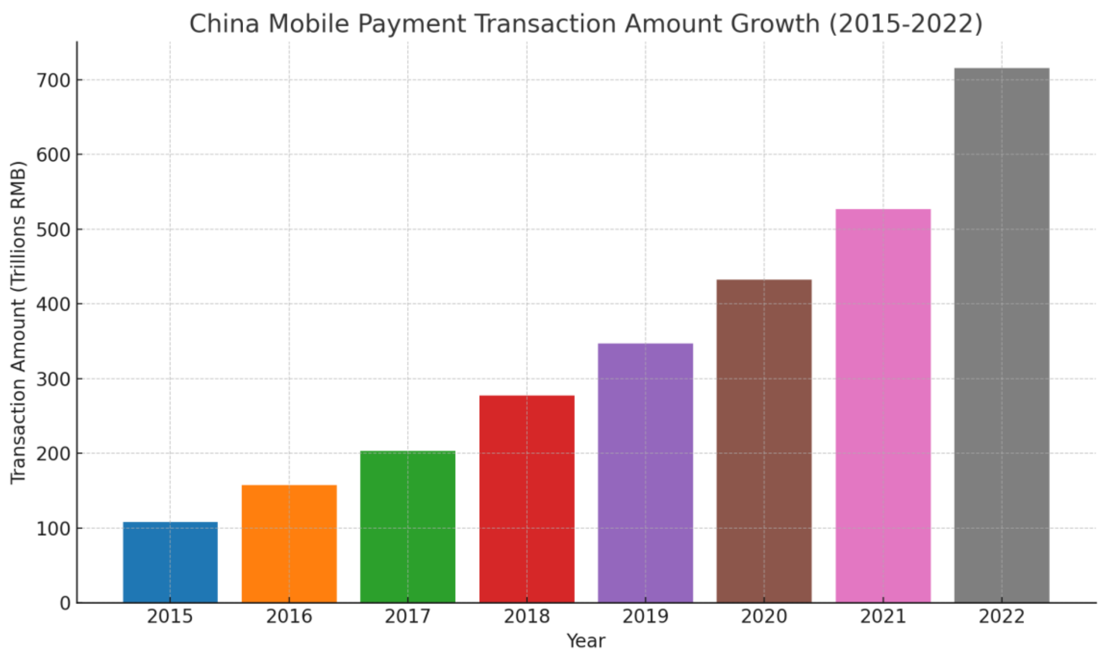

Fig 2.3 China Mobile Payment Transaction Amount Growth (2015-2022)

Source: Infoq Research Center

As of 2022, China's mobile payment transaction volume has reached 715 trillion yuan.

In addition, Internet loan business is another important area of bank service expansion **Помилка! Джерело посилання не знайдено.**. With the development of I nternet finance, banks can quickly obtain and analyze the credit data of individual customers through big data and artificial intelligence technology, so as to provide credit services for more low-income groups.

The data on the market size of China's online loan industry from 2018 to 2023 shows a continuous upward trend in market growth. Starting from RMB 12.59 trillion in 2018, the market has steadily expanded and reached RMB 24.85 trillion by 2023, a significant increase of over RMB 12 trillion during this period. This growth reflects the increasing popularity of digital financial services, as consumers and businesses increasingly turn to online lending platforms to meet their financial needs.

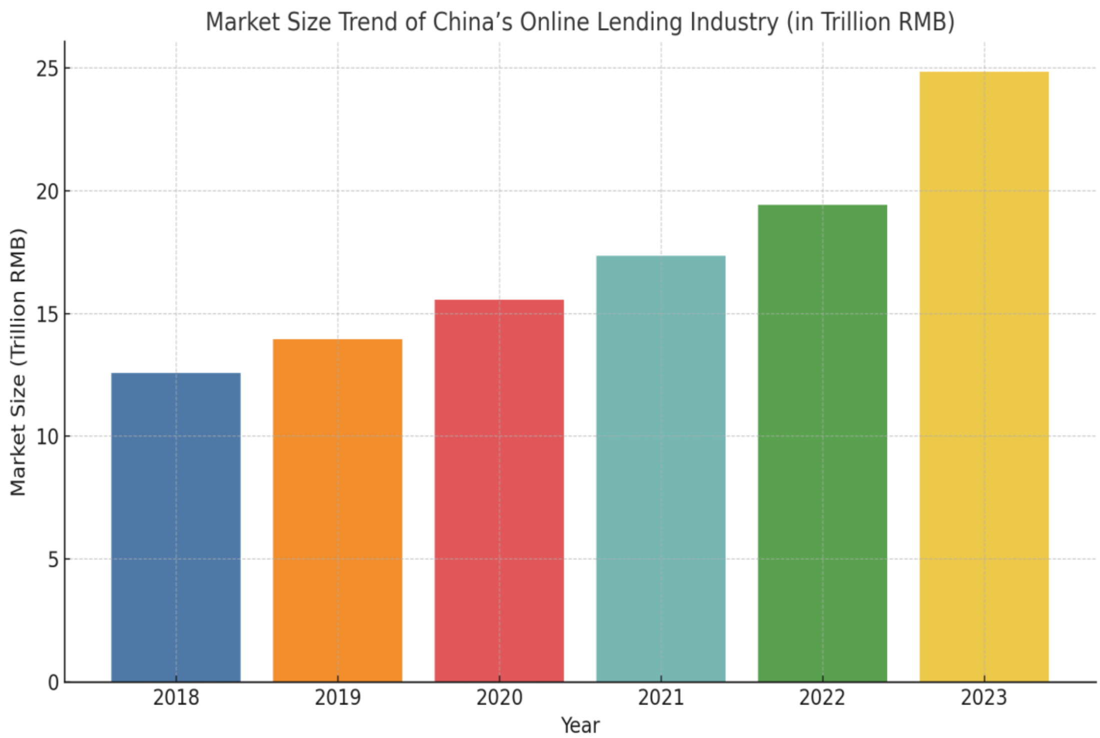

Fig 2.4 Market Size Trend of China’s Online Lending Industry (in Trillion RMB)

Source: Zhiyanzhan Industry Research Institute

The most significant growth occurred between 2022 and 2023, with a market size surge of 5.44 trillion yuan, indicating that accelerated growth may be driven by further digitization, regulatory changes, or broader economic factors affecting consumer and corporate lending behavior. Overall, online lending is becoming an increasingly important part of China's financial ecosystem, and this trend is expected to continue as the industry adapts to new technologies and constantly changing market demands.

In addition, with the complexity of financial products and the diversification of customer demands, banks are gradually expanding their services in the field of wealth management **Помилка! Джерело посилання не знайдено.**. In the past, wealth m anagement business was mainly aimed at high net worth customers.

Today, many banks provide intelligent investment advisory services to ordinary individual customers through Internet platforms. Intelligent investment advisors use artificial intelligence and machine learning algorithms to analyze clients' financial conditions, investment goals, and risk preferences, in order to recommend customized investment plans for clients. Through this innovation, banks are able to expand their wealth management services from high net worth clients to the general customer base, promoting the popularization and intelligence of banking business.

Meanwhile, with the continuous advancement of technology and the upgrading of customer demands, the personalization and customization of banking services have become an important direction for the expansion of banking business. Traditional banking services are mostly standardized products and processes, which cannot meet the personalized needs of individual customers.

Modern banking services place greater emphasis on customer experience and customized services, using data mining and artificial intelligence to accurately match customer needs and provide tailored products and services.

Banks use big data analysis technology to deeply mine customer behavior, preferences, transaction history, and other information, in order to finely classify customers and provide differentiated financial products for different customer groups.

In the past, banks' credit products were mainly approved based on a standardized credit evaluation system, and customers could only choose loan products with different interest rates and maturities **Помилка! Джерело посилання не знайдено.**. However, w ith the diversification of customer demands, banks have begun to offer more personalized credit products.

With the development of Internet finance, the cooperation between banks and other industries is getting closer and closer. For example, in the process of buying a car or property, banks can cooperate with car finance companies and real estate companies to provide comprehensive financial services such as loans and insurance, greatly enhancing the stickiness and diversity of bank services.

2.2 Support and Challenges of Credit Policy for Bank Service Expansion

The expansion of banking services, especially to individual customer groups, cannot be achieved without effective credit policy support. Credit policy plays a key role in the modern financial system, not only affecting banks' credit business, but also directly promoting innovation and diversification of bank products and services. Especially with the rapid development of financial technology, the flexibility and innovation of credit policies have gradually become one of the core elements of bank service expansion.

Next, this thesis will delve into the role of current credit policies in supporting the expansion of banking services, with a focus on analyzing how they strike a balance between risk management and customer demand.

Credit policy is a series of credit management systems and rules formulated by banks based on national economic policies, market conditions, and their own development needs. Its core function is to guide banks on how to evaluate borrowers' credit status, determine loan amounts and interest rates, and set loan terms. By implementing credit policies, banks can effectively manage credit risks and ensure the stability and sustainability of loan activities.

In terms of supporting the expansion of banking services, the current credit policy mainly works through the following channels.

Promoting diversification of individual customer credit services: With the rise of digital finance, banks can provide diversified financial services to different types of individual customers by optimizing credit policies **Помилка! Джерело посилання не знайдено.**. For example, in personal consumer loans, credit card services, mortgage loans, etc., banks can provide flexible financial products based on customers' credit status and needs. These services not only meet the personalized needs of customers, but also promote the expansion of the bank's customer base.

Strengthening the construction of credit evaluation system: Banks have improved the accuracy and efficiency of their credit evaluation system by introducing big data, artificial intelligence, and machine learning technologies **Помилка! Джерело посилання не знайдено.** . These technologies enable banks to comprehensively understand customers' credit history, repayment ability, consumption behavior, etc. in a shorter period of time, thereby making more scientific loan decisions. Credit policies provide framework support for the application of these technologies by establishing corresponding standards and rules, which helps banks improve service quality and reduce risks.

Promoting financial inclusiveness: With the promotion of financial inclusiveness policies by the government, credit policies are gradually opening up to small and medium-sized enterprises and low-income groups. Banks provide loan services to more individual customers through credit scoring, loan guarantees, and other means. This not only expands the service targets of banks, but also further enhances the popularity of social financial services **Помилка! Джерело посилання не знайдено.**.

Optimizing risk management mechanisms: Traditional credit policies mainly rely on static information such as financial statements and bank credit history to assess customer credit risk. However, with the advancement of financial technology, banks have gradually introduced dynamic credit evaluation models based on multidimensional data such as behavioral data, social network analysis, and customer profiles **Помилка! Джерело посилання не знайдено.**. Credit policies provide policy basis and implementation standards for these new risk management methods in this process, helping banks better identify and control loan risks.

In addition, the specific support of credit policies for the expansion of banking services also needs to be thoroughly understood.

The first is to promote innovation in financial products.

Banks often need to design new financial products to meet the needs of different customer groups when expanding their individual customer service offerings. The credit policy provides a basic guarantee for the innovation of bank products by clarifying the risk tolerance and credit review standards of loan products.

The second is to support the landing of Internet financial services.

With the development of Internet finance, many banks began to provide loans to customers through online platforms. The evaluation criteria of traditional credit policies often rely on customers' financial statements and credit history, while online platforms can conduct credit scoring through real-time customer behavior data. The adjustment of credit policy enables banks to combine the traditional loan review process with the innovative services of Internet finance, so as to better meet the needs of individual customers.

The third is to enhance the capability of cross-border financial services.

In the context of globalization, more and more banks are expanding into cross-border financial services. Credit policies provide banks with a basic framework for cross-border business operations, ensuring that banks can adjust their credit approval processes and service content according to local laws, regulations, and market conditions in different countries and regions. By improving credit policies, banks can provide more flexible financial products and services for cross-border customers, promoting the growth of international business.

The fourth is to strengthen customer credit evaluation and pricing capabilities.

Table 2.1

The role and specific support of credit policy

The role of credit policy	Specific support for credit policies
Promote the diversification of individual customer credit services	Promote innovation in financial products
Strengthen the construction of credit evaluation system	Support the landing of Internet financial services
Promote financial inclusiveness	Enhance the capability of cross-border financial services
Optimize risk control mechanism	Strengthen customer credit evaluation and pricing capabilities

Credit policy plays a role in pricing and assessing risks in the expansion of banking services. In the service expansion of individual customers, banks need to accurately assess customers' repayment ability and credit risk, and determine appropriate loan amounts and interest rates through credit scoring. The current credit policy standardizes evaluation criteria and pricing models, enabling banks to expand their service scope while ensuring controllable credit risks.

However, it should also be noted that credit policies have indeed played a supportive role in expanding bank services, but in the actual implementation process, banks still have some difficulties to overcome.

The difficulty of credit evaluation has increased: With the expansion of bank services, especially for low-income groups, rural areas, and small and micro enterprises, traditional credit evaluation methods often cannot fully reflect the credit status of these customers.

Difficulty in risk control: With the expansion of service targets, the types and scale of credit risks faced by banks are also increasing. Banks need to develop corresponding credit strategies and risk control measures based on different customer groups.

Compliance issues and regulatory pressure: The implementation of credit policies requires strict compliance with national and regional laws and regulations. However, with the introduction of Internet finance, big data and other technologies, banks' credit policies and business processes are constantly changing. How to find a balance between innovation and compliance has become a difficult problem for banks.

It should be noted that in addition to the issues mentioned above, there are more challenges for individual customer businesses, such as credit assessment, risk control, and compliance issues.

These challenges not only involve traditional credit approval processes, but also the impact of emerging technologies and policy changes on banking operations.

Credit evaluation is an important part of bank credit decision-making, especially for individual customers.

Traditional credit evaluation mainly relies on customers' financial status, repayment history, and other static information to assess credit risk **Помилка! Джерело посилання не знайдено.**. However, with the advancement of Internet finance and digital transformation, the target of bank service expansion has begun to expand from traditional large enterprises and institutions to a wide range of individual customers, especially low-income groups, young groups, small and micro enterprises, which makes credit evaluation face new challenges.

For individual customers such as low-income groups, rural areas, or young people who have just entered society, traditional credit evaluation models are often difficult to effectively cover. These customers may not have a fixed source of income, a long credit history, or comprehensive financial records, making it difficult for banks to obtain sufficient credit data when evaluating their creditworthiness. Especially in emerging markets and developing countries, many consumers do not have traditional credit records, and credit evaluation models may become ineffective or unable to provide accurate credit evaluations, leading to significant risks for banks when expanding their individual customer base.

With the development of big data technology, more and more banks are trying to use non-traditional credit data such as behavioral data and social network data to assist credit evaluation. For example, banks can assess a customer's credit risk by analyzing their shopping habits, social media activities, and other data.

However, this approach faces issues such as data privacy protection and data security in practical operation, and the quality and accuracy of data are often difficult to guarantee. In many countries and regions, a well-established data sharing mechanism has not yet been established, and banks may be subject to regulatory restrictions when using this data, resulting in inaccurate and unstable credit evaluation results **Помилка! Джерело посилання не знайдено.**.

Another important issue that banks face when expanding individual customer services is how to effectively control credit risks. The implementation of credit policies not only requires evaluating the credit status of customers, but also providing financing support to customers under the premise of controllable risks. Banks need to balance risk and return, ensuring that they avoid the accumulation of credit risk while promoting service expansion.

When banking services expand to individual customer groups, their customer structure becomes more diverse. This means that banks must adopt more flexible and diversified risk diversification strategies. In traditional large enterprise loans, banks usually rely on a single large loan, while in individual customer loans, due to the small loan amount of each customer, the risk diversification is strong. However, the credit default risk of individual customer groups may be higher, especially during economic fluctuations or changes in customer financial conditions. Banks may face rapid concentration of credit risk, posing significant challenges to risk control **Помилка! Джерело посилання не знайдено.**.

Unlike corporate clients, individual clients' loan behavior is often more dispersed, and the debtor's background is complex, making the post loan management tasks of banks more arduous. In the process of individual customer loans, banks not only need to dynamically monitor customers' credit behavior, but also need to make timely adjustments to customers' life changes, consumption behavior, income changes, etc. This requires banks to have more sophisticated risk monitoring capabilities and efficient risk response mechanisms.

With the rise of Internet financial platforms, banks began to provide loans to customers through third-party platforms. However, due to characteristics such as information asymmetry and widespread customer distribution, these platforms face more complex challenges in risk management. When banks provide loans through the Internet platform, they often lack a comprehensive understanding of the platform customers, and the customer information provided by the platform may be inaccurate or incomplete, further increasing the difficulty of credit evaluation and risk control.

Compliance is a legal and regulatory requirement that must be strictly followed in the process of expanding banking services. With the development of financial technology and the advancement of financial innovation, banks must ensure compliance with national and regional laws and regulations while expanding their services, in order to avoid the expansion of financial risks.

Regulatory policies in the financial industry are often influenced by macroeconomic changes, political factors, and international financial market dynamics. In some countries, especially developing countries, regulatory policies and legal frameworks for the financial industry are not yet perfect, and banks may face significant regulatory uncertainty when expanding individual customer services **Помилка! Джерело посилання не знайдено.**.

In the context of the application of technologies such as big data and artificial intelligence, banks need to process a large amount of customer data. How to ensure the personal privacy and data security of customers when using this data for credit evaluation is an important compliance issue faced by banks. Many countries and regions have strict legal provisions for the protection of personal information, such as the EU General Data Protection Regulation (GDPR), which requires banks to strictly comply with data protection laws when collecting, storing, and using customer data.

With the advancement of globalization, more and more banks are expanding their cross-border financial business. The expansion of cross-border loans, foreign exchange transactions, and overseas investments has made banks face more complex compliance issues **Помилка! Джерело посилання не знайдено.**. Different c ountries have different laws and regulations regarding cross-border loans and foreign exchange management. When providing cross-border financial services, banks must ensure compliance with regulatory requirements of each country, otherwise they may face compliance risks and legal responsibilities.

Table 2.2

Difficulties and challenges for individual customers

Credit evaluation	Risk Management	Compliance issues
Insufficient data and asymmetry issues	Risk diversification and concentration issues	Uncertainty of regulatory requirements
Difficulties in Utilizing Non Traditional Credit Data	The complexity of post loan management	Compliance requirements for data privacy protection
The Accuracy of Credit Evaluation Models	Difficulties in risk management of Internet financial platform	Cross border business compliance issues

For individual customers, the challenges and risks faced in the process of expanding banking services are mainly reflected in credit assessment, risk control, and compliance issues. The traditional credit evaluation methods can no longer fully meet the needs of emerging markets and individual customer groups, while emerging technologies and data have brought new credit evaluation tools and risk management models, but at the same time, they have also brought problems such as immature technology, inaccurate data, and compliance risks **Помилка! Джерело посилання не знайдено.**.

Banks need to find a balance between technological innovation, risk management, and compliance management to ensure the smooth expansion of banking services and avoid potential risks.

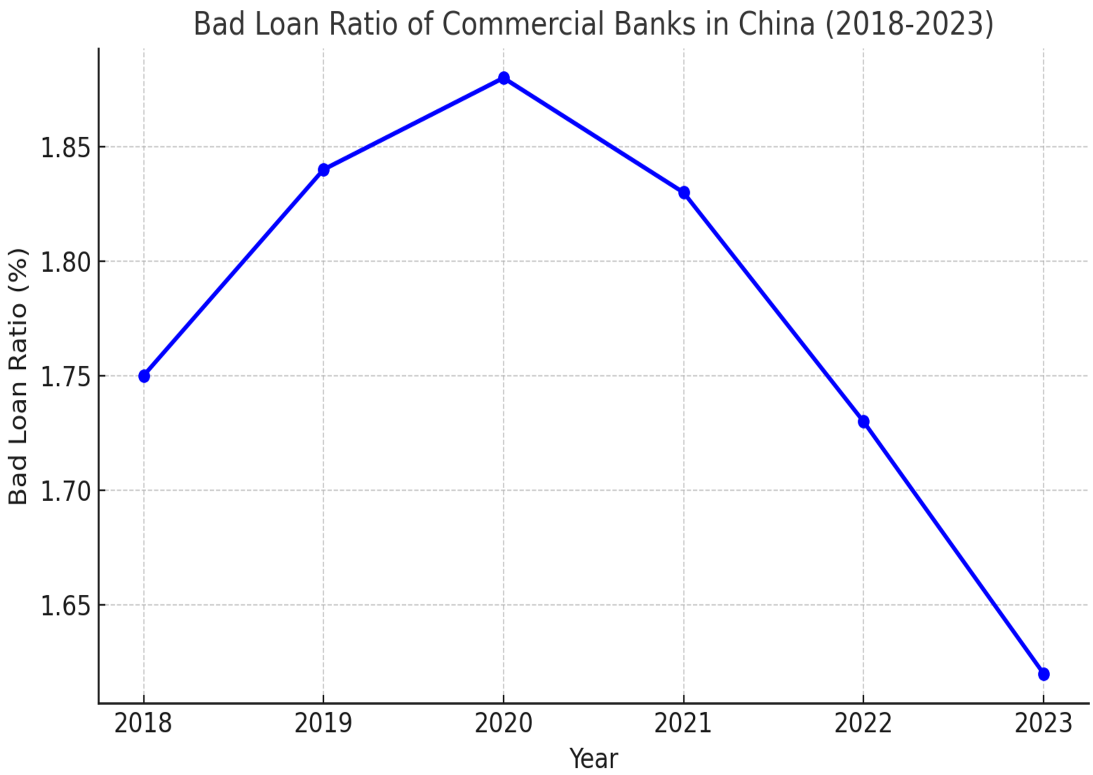

Fig 2.5 Bad Loan Ratio of Commercial Banks in China (2018-2023)

Source: Zhiyanzhan Industry Research Institute

From 2018 to the first half of 2023, the balance of non-performing loans in China continued to grow, with non-performing loans increasing first and then decreasing. According to data, as of the first half of 2023, the non-performing loan ratio of commercial banks in China was 1.62%, the lowest in nearly five years.

The growth in 2020 was due to the impact of the pandemic, while the subsequent decrease in non-performing loans can be attributed to better economic recovery, stricter credit controls, and improved loan recovery processes after the pandemic.

In short, this trend proves that various measures taken by Chinese banks in the face of various challenges in digital transformation have certain effects.

2.3 Analysis of Individual Customer Needs

With the rapid development of financial technology, the banking service needs of individual customers have undergone profound changes, especially in areas such as consumer credit and personal finance.

Modern banking services not only need to meet traditional basic needs such as savings and payments, but also need to adapt to the diverse, convenient, and personalized needs of individual customers in financial products. Therefore, the innovation and application of financial technology products have played a crucial role in promoting the expansion of banking services.

Next, we will continue to focus on analyzing individual customers' needs for expanding banking services, and explore how financial technology products can drive the transformation and upgrading of banking services.

Consumer credit, as one of the important financial services provided by banks, has gradually become a driving force for growth in the banking industry in recent years. Especially under the influence of digital transformation and Internet finance, the application, approval and issuance process of consumer credit has become more convenient and efficient **Помилка! Джерело посилання не знайдено.**.

With the improvement of living standards and changes in consumer attitudes, individual customers' demand for consumer credit is gradually increasing. Especially for the younger generation of customers, they are more inclined to meet their immediate consumption needs through consumer credit, rather than waiting until they accumulate enough savings.

The data on China's consumer credit balance from 2010 to 2023 shows that there has been a significant and stable growth in China's consumer credit balance over the past 13 years. Starting from 7.5 trillion yuan in 2010, the balance has been increasing significantly every year, reaching 57.94 trillion yuan by 2023. The largest growth occurred between 2010 and 2015, with the balance increasing from 7.5 trillion yuan to 19 trillion yuan, almost doubling. After 2015, the growth rate slowed down slightly but remained stable. In the following years, especially from 2018 to 2023, the growth rate became even slower. This growth indicates that the demand for consumer loans is constantly increasing, and consumers have a high demand for consumer credit products with low interest rates, fast approval, and flexible repayment.

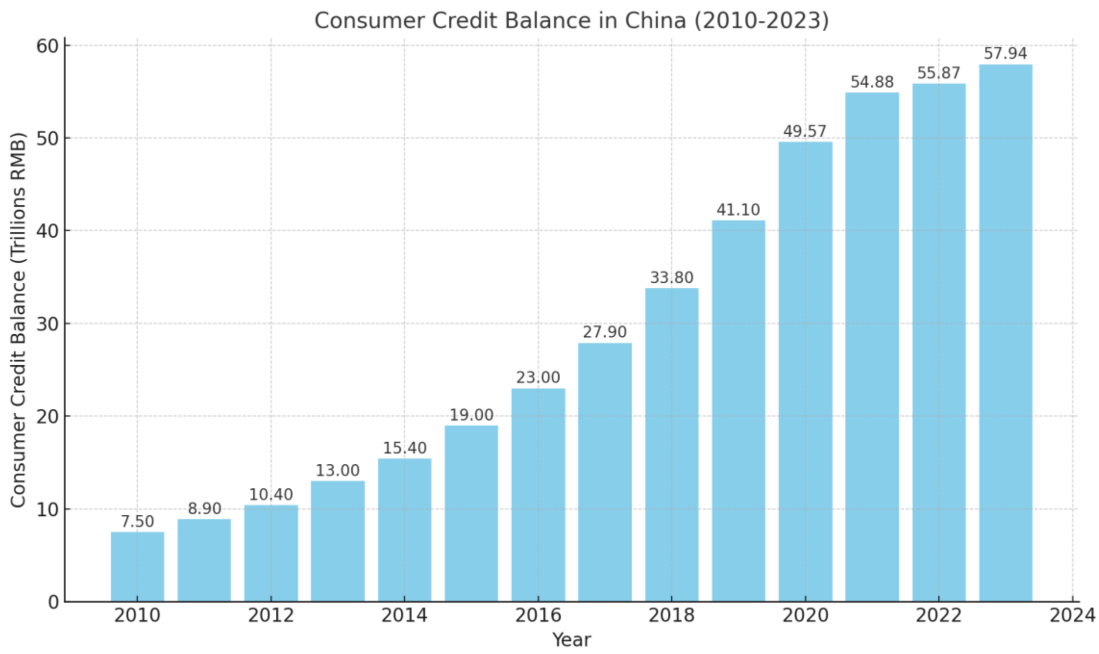

Fig 2.6 Consumer Credit Balance in China (2010-2023)

Source: Collaborative Industry Consulting

Faced with this demand, banks are leveraging financial technology to optimize consumer credit products using technologies such as big data and artificial intelligence. For example, using big data to analyze customer consumption behavior and combining it with credit scoring models for loan approval reduces approval cycles and improves the accuracy of risk control. In addition, banks also provide consumer credit services through online channels, such as applying for consumer loans through mobile banking apps. Customers only need to provide basic credit information and income proof, and the approval process is convenient and fast **Помилка! Джерело посилання не з найдено.** .

Meanwhile, personal wealth management products have gradually become an important area for bank service expansion in recent years. With the accumulation of individual customer wealth and the increasing demand for financial management, traditional financial products such as savings and fixed deposits can no longer meet customers' diversified needs for wealth appreciation. Therefore, banks need to meet the needs of individual customers in fund management, asset allocation, risk control, and other aspects through innovative wealth management products **Помилка! Джерело посилання не знайдено.** .

As of 2023, a total of 228 banking institutions and 31 wealth management companies in China have issued 31100 new wealth management products, raising a total of 157.08 trillion yuan in funds. As of the end of 2023, there are a total of 258 banking institutions and 31 wealth management companies with existing wealth management products nationwide, with 39800 products in existence, an increase of 14.86% from the beginning of the year.

Table 2.3

Existence of various institutional wealth management products by the end of 2023

Institution type	Number of institutions	Number of surviving products	Existing scale (in trillions of RMB)
Total market volume	289	39829	267954
Large banks	6	750	6211
Joint stock bank	10	706	4533
City Commercial Bank	103	9246	21836
Rural financial institutions	127	7791	9865
Wealth management company	31	19354	224670
Other institutions	12	1982	839

Source: Banking Wealth Management Custody Center

In the current digital era, customers usually hope to obtain more personalized and customized wealth management services through banks. Especially in a low interest rate environment, customers have a more urgent demand for low-risk and stable returns financial products. At the same time, more and more customers put forward higher requirements for the diversity and flexibility of investment products, especially the emergence of Internet financial management platform, which makes customers pay more attention to the balance of risk and return when choosing financial products.

To meet the financial needs of individual customers, banks have launched diversified wealth management products. For example, Internet based intelligent investment advisory services analyze customers' risk preferences and investment objectives through algorithms, and recommend personalized financial portfolios. Banks also utilize financial technology to achieve automated management of wealth management products, allowing customers to view and adjust their investment groups at any time **Помилка! Джерело посилання не знайдено.**. In addition, banks also p rovide financial education and consulting services through social media and online platforms to help customers enhance their financial knowledge and decision-making abilities.

In addition to consumer credit and personal wealth management products, other financial technology products have also played a positive role in promoting innovation and expansion of banking services. These products include but are not limited to smart payments, digital currencies, blockchain applications, smart insurance, and more.

With the development of mobile payments and digital currencies, individual customers have an increasing demand for fast and secure payment tools. Banks offer a more convenient payment experience by launching intelligent payment platforms that combine technologies such as QR codes and NFC.

The smart insurance products jointly launched by banks and insurance companies are also changing the landscape of the traditional insurance industry. The application of blockchain technology makes the insurance claims process more transparent and convenient, reduces fraud risks, and improves claims efficiency **Помилка! Джерело посилання не знайдено.**. In addition, banks provide p ersonalized insurance products and services to customers through big data analysis of their health data, consumption habits, etc.

In addition, it should be noted that the continuous development and application of financial technology products have promoted banks to expand their services at multiple levels.

The first is to improve the convenience and accessibility of services. Financial technology has made banking services no longer limited to physical branches, and individual customers can access banking services anytime, anywhere through mobile banking apps, online platforms, and other channels. Especially for customers in rural and remote areas, fintech has greatly lowered the threshold for them to enjoy banking services.

The second is to enhance the personalization and precision of services. Through the application of big data and artificial intelligence, banks can provide personalized financial services based on customer behavior data, preferences, credit records, etc. Customers can obtain loan products, financial solutions, and insurance plans that better meet their needs, thereby improving the accuracy of services and customer satisfaction.

The third is to enhance the competitiveness of banks. The application of financial technology has helped banks improve service efficiency and customer experience, thereby enhancing their market competitiveness. Especially in the fiercely competitive financial market, banks can better meet customer needs and win their favor through innovative financial technology products **Помилка! Джерело посилання не з найдено.**.

Overall, individual customers have increasingly diverse demands for expanding banking services, especially in areas such as consumer credit and personal finance. The innovation and application of financial technology products have driven the transformation and upgrading of banking services.

Through financial technology, banks can not only improve the convenience, personalization, and accuracy of their services, but also enhance their competitive advantages.

However, it should also be noted that banks still face challenges in terms of technological innovation, regulatory policies, and customer privacy protection in the process of service expansion, and need to find a balance between service innovation and compliance.

And the most important thing is to adjust the service process according to individual customer needs.

The following flowchart illustrates the core steps of banks adjusting their service processes based on individual customer needs, particularly in areas such as consumer credit, personal finance, and mobile payments.

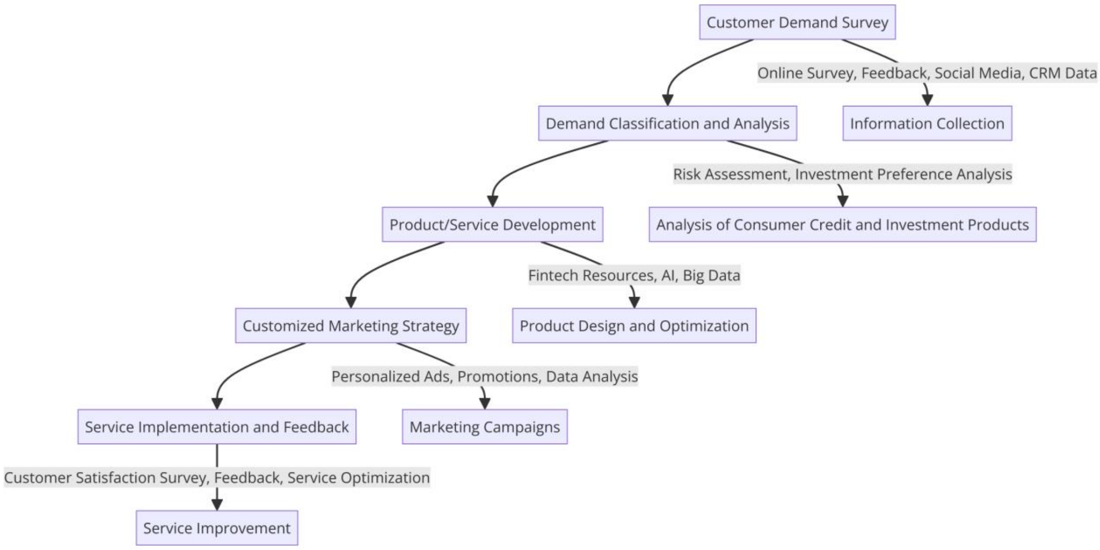

Fig 2.7 Individual customer demand adjustment service process

1. Customer demand research

Banks can collect individual customer demand information through multiple channels. These channels include online surveys, customer feedback, social media analysis, and customer behavior data collected through the bank's CRM system. The key to this stage is to ensure the accuracy and comprehensiveness of the information.

2. Requirement classification and analysis

After collecting customer demand information, the bank needs to classify the demand. For consumer credit demand, banks will conduct risk assessments based on customers' income, consumption habits, and other data, and provide products that are in line with customers' financial conditions. For wealth management products, banks will analyze customers' investment preferences and risk tolerance and recommend different types of wealth management products.

3. Product/Service Development

Banks need to design and optimize products based on demand analysis and existing financial technology resources. For example, launching personalized consumer credit products, online wealth management platforms, intelligent investment advisors and other financial technology products. Banks will improve product accuracy and customer experience through innovative technologies such as big data and artificial intelligence.

4. Customized marketing strategy

According to customer needs, banks need to develop personalized marketing strategies. For example, through customer profiling technology, banks can push advertisements and product recommendations that meet customer needs. At the same time, banks will also combine big data analysis to provide personalized promotional activities or promotions for customers.

5. Service implementation and feedback

After delivering products and services to customers, banks can track service effectiveness through real-time monitoring and feedback mechanisms. Customer satisfaction surveys, after-sales service feedback, and customer satisfaction indicators will provide a basis for banks to improve their services. Through these feedbacks, banks can further optimize their service processes and products, and enhance long-term customer satisfaction.

This flowchart illustrates how banks continuously optimize their financial services by understanding individual customer needs, providing customized services, and based on customer feedback. Through this cyclical process, banks can more effectively expand market share, enhance customer stickiness, and improve personalized and specialized services. The application of financial technology has played a crucial driving role in this process, especially in product development, customer management, and service optimization.

CHAPTER 3
STRATEGIES AND FUTURE DEVELOPMENT TRENDS FOR PROMOTING THE EXPANSION OF BANKING SERVICES

3.1 Optimize credit policies to support the expansion of bank services

Optimizing credit policies is a crucial step in the process of expanding banking services. The traditional credit evaluation system and credit approval process often rely too much on a single credit scoring model and standardized loan products, making it difficult to meet the increasingly diverse needs of individual customers.

In order to better support the expansion of banking services, especially to individual customer groups, banks must reform their credit policy formulation by adopting more flexible credit scoring models and personalized loan products. Next, we will continue to explore strategies for optimizing credit policies from three aspects.

The first strategy is to adopt a more flexible credit scoring model.

The traditional credit scoring model mainly relies on credit history and financial condition to evaluate the borrower's credit risk. Although this rating model can to some extent reflect the borrower's repayment ability, it cannot effectively capture the borrower's other potential repayment abilities and risks **Помилка! Джерело посилання не знайдено.**. Therefore, banks can adopt more flexible credit scoring models.

Multi dimensional credit scoring: Traditional credit scoring models focus on static data, while new scoring models can introduce more dynamic data, such as customer consumption behavior, social network information, payment history, etc **Помилка! Джерело посилання не знайдено.**. For example, by utilizing customers' s hopping records, payment history, loan repayment behavior, and other data on e-commerce platforms, it is possible to more comprehensively evaluate customers' repayment ability and borrowing risks.

Big data-driven credit scoring: Big data technology can help banks extract customer behavior patterns from massive amounts of non-traditional data, enabling more accurate credit evaluations. Through big data analysis, banks can identify details that traditional scoring models may overlook, thereby reducing default risk.

Behavioral credit score: Behavioral credit score is a credit evaluation method based on borrower's daily behavior data. Compared to traditional credit evaluations, behavioral credit scores can reflect customers' credit changes in real time and more accurately predict their future borrowing and repayment abilities.

The second strategy is to launch more personalized loan products.

With the diversification of consumer demands, individual customers' demand for banking products has become more personalized. Traditional standardized loan products may not be able to meet the specific needs of different customers, so banks should provide more flexible and customized loan products to enhance customer satisfaction and loyalty.

Customize loan products based on customer credit ratings: For customers with different credit levels, banks can provide differentiated loan products based on their credit evaluation results **Помилка! Джерело посилання не знайдено.** . For e xample, for customers with good credit, banks can offer lower interest rates and longer repayment terms; For customers with poor credit, banks can provide short-term loans with higher amounts and reduce the bank's risk by setting different risk assurance measures.

Flexible repayment methods: Personalized loan products can include flexible repayment methods such as equal principal, equal principal and interest, early repayment, installment payment, etc. Borrowers can freely choose the most suitable repayment method based on their personal economic situation.

Customized consumer credit products: Banks can design specialized consumer credit products for different consumer groups such as young people, white-collar workers, or the elderly. For example, offering small short-term consumer loans to young people, education or car loans to white-collar workers, and medical expense loans to the elderly. These customized loan products can better meet the financial needs of different customers.

Joint credit products: Banks can cooperate with enterprises in other industries to launch joint credit products. For example, banks can jointly launch consumer loan products with e-commerce platforms, and customers can directly pay for goods through loans provided by banks when shopping; Alternatively, banks can collaborate with travel companies to launch installment payment services for tourism. This cross industry collaborative loan product can more accurately match customers' consumption needs.

The third strategy is refined risk control.

In order to optimize credit policies while ensuring risk control for banks, they need to finely manage their credit risks. This requires banks to pay attention to risk management and prevention in the process of optimizing credit policies.

Establish a real-time risk monitoring system: After the issuance of credit products, banks should establish a real-time risk monitoring system to track customers' repayment status, credit changes, etc. in a timely manner, and intervene in advance when potential risks are discovered.

Multi dimensional risk control measures: Banks can reduce potential credit risks through multi-dimensional risk control measures. For example, loan recovery can be guaranteed by combining customer asset collateral, guarantor system, repayment insurance, and other means. In addition, banks can also utilize data from external credit rating agencies and combine it with internal data to form a comprehensive risk assessment system.

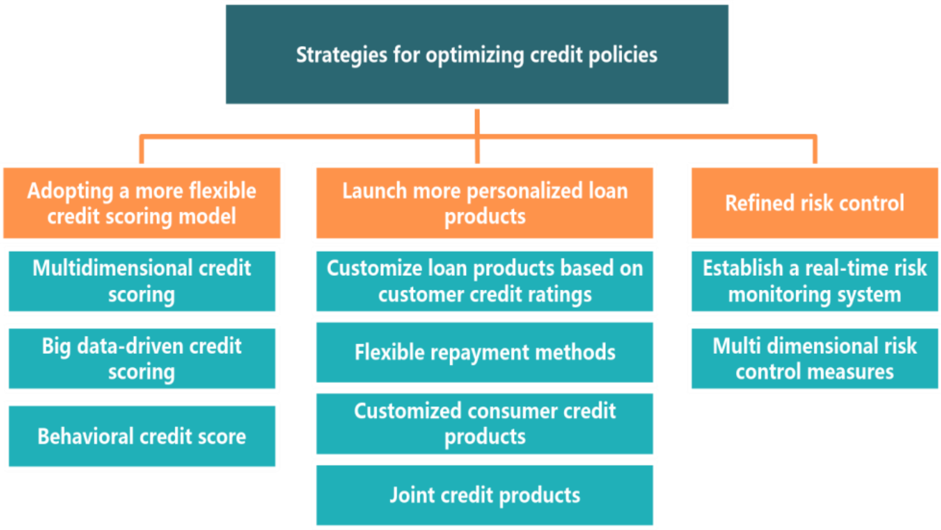

Fig 3.1 Strategies for optimizing credit policies

By optimizing credit scoring models, launching personalized loan products, and implementing refined risk control, banks can ensure their own profitability and risk control while expanding their services. With the continuous development of financial technology, especially the widespread application of technologies such as big data and artificial intelligence, banks will be able to more accurately evaluate the credit status and needs of individual customers, thereby providing customers with more flexible and customized financial services.

In addition, with the rapid advancement of technology, utilizing big data and artificial intelligence to improve the credit evaluation system is also a very important development trend.

With the rapid advancement of technology, especially the widespread application of big data and artificial intelligence (AI), the operational methods and technological means of banks in the field of credit evaluation have been revolutionized.

These technologies make credit evaluation more accurate and efficient, and can effectively solve many limitations in traditional credit evaluation systems, such as one-sided dependence on customer information, lagging data updates, and insufficient risk prediction capabilities.

By combining big data and artificial intelligence, banks can achieve more dimensional data collection, analysis, and decision-making in their credit evaluation system, thereby better supporting the expansion of banking services, especially in the application of individual customer groups **Помилка! Джерело посилання не з найдено.** .

The combination of big data and artificial intelligence enables banks to more accurately understand and predict customers' credit risks, further improving the quality of individual customer services.

Big data technology can collect and integrate customer behavior data from multiple channels, including social networks, payment history, consumption habits, geographic location, etc. Compared to traditional credit scoring methods, traditional credit evaluation mainly relies on customers' financial behavior, while big data technology can evaluate based on more comprehensive and real-time data, reducing the limitations of credit evaluation.

Artificial intelligence can provide more efficient and intelligent decision support in credit evaluation through technologies such as machine learning, deep learning, and natural language processing **Помилка! Джерело посилання не знайдено.**. The a pplication of artificial intelligence technology can help banks extract potential credit information from big data and establish risk models based on various customer characteristics.

Machine learning models: Through machine learning algorithms, banks can train more accurate credit scoring models based on customers' historical credit data and non-traditional behavioral data. These models can automatically learn and adjust, and as the amount of data increases, their accuracy and predictive ability will continue to improve.

Deep learning technology: Deep learning is a technology in the field of artificial intelligence that can discover potential patterns from large amounts of unstructured data, especially in the application of natural language processing. It can help banks mine valuable credit information from customers' social media comments, email communications, online chat records, and other information.

Automated credit decision-making: By applying artificial intelligence technology to the credit approval process, banks can achieve automation in credit decision-making. Artificial intelligence can automatically evaluate and classify credit risk based on detailed information and historical data provided by customers, and generate loan decisions automatically. This process greatly shortens the approval cycle and avoids human interference, improving efficiency.

The advantages of combining big data and artificial intelligence in the credit evaluation system are reflected in the following aspects.

Real time and dynamic evaluation: The combination of big data and artificial intelligence enables banks to conduct credit evaluations on a real-time and dynamic basis. Banks can update customers' credit scores in a timely manner based on their latest transaction data, social network behavior, and credit changes, reflecting real-time changes in customers' credit **Помилка! Джерело посилання не знайдено.**.

Accuracy and Personalization: Compared to traditional credit evaluation systems, big data and artificial intelligence can provide more accurate personalized evaluations for each customer.

Table 3.1

Comparison of loan approval processes

Approval process	Traditional approval process	Optimized approval process
Customer information collection	Mainly collect customer information through thesis materials and bank history records.	Real time collection of multi-dimensional data from customers through digital platforms, including financial records, social behavior, consumption habits, etc.
Credit scoring model	Based on traditional credit scoring models such as FICO scores, with a focus on financial history.	Introduce more complex credit scoring models that comprehensively consider behavioral data, social media information, online transaction history, and other factors.
Data analysis	Data analysis mainly relies on traditional static analysis tools.	Using big data analysis technology to dynamically analyze customer behavior and financial data, and update credit scores in real-time.
Approval cycle	The approval cycle is relatively long, usually taking several days to a week.	The approval cycle has been greatly shortened, and automated audits can be completed within minutes, with real-time feedback on some processes.
Customization of loan products	The loan products are relatively single and difficult to flexibly adjust according to customer needs.	Provide highly personalized loan products, customized according to customer needs, credit status, and repayment ability.
risk management	Mainly relying on manual review may lead to missed reviews or human bias.	Real time risk assessment through AI and machine learning models, automatic identification of potential high-risk customers, and reduction of human error.
Compliance review	Mainly relying on manual review, with low compliance and possible errors.	Through an intelligent compliance review system, it automatically connects with laws and regulations to ensure compliance.

Reduce credit risk: Through the joint application of big data and artificial intelligence, banks can obtain a more comprehensive customer profile and better identify potential high-risk customers.

Improving efficiency: Big data and artificial intelligence can greatly improve the efficiency of credit evaluation. The automated evaluation process enables banks to process large amounts of credit data in a short period of time, avoiding complex steps and human errors in manual approval, and improving the efficiency of the approval process.

By combining big data and artificial intelligence, banks can improve the shortcomings of traditional credit evaluation systems and achieve more accurate, personalized, and efficient credit evaluations.

This technological advancement not only helps banks improve service quality and expand their service scope, but also brings competitive advantages to banks in fierce market competition **Помилка! Джерело посилання не знайдено.**.

Taking loan business as an example, the following is a comparison chart between the traditional loan approval process and the loan approval process optimized using relevant technologies.

In terms of customer information collection, the traditional approval process relies on thesis materials provided by customers and the bank's historical credit records, while the optimized process can collect customer credit information in real-time from multiple channels through a digital platform.

These channels include customers' bank accounts, third-party platforms, and consumer behavior data. Banks can obtain more comprehensive and accurate customer information through this.

In terms of credit scoring models, traditional credit scoring models mainly score customers based on their credit card history, loan records, and other financial information, which has significant limitations. In the optimized process, the bank adopts a more complex multi-dimensional credit scoring model, which integrates customers' social network activities, online consumption behavior, payment habits, etc., and can provide a more comprehensive credit profile.

In terms of data analysis, in traditional approval processes, banks rely on static analysis tools for credit scoring, which often cannot update customers' credit status in real time. In the optimized process, through big data analysis technology, banks can update and dynamically analyze customers' credit in real time, making the evaluation more accurate and efficient.

In terms of approval cycle: Traditional approval processes require a lot of manual intervention, resulting in longer approval cycles that typically take several days to a week. In the optimized process, through technologies such as automated auditing and machine learning, banks can complete approvals within minutes, greatly improving efficiency.

In terms of customized loan products, traditional loan products are usually standardized, while in the optimized process, banks can customize loan products based on customers' credit status and needs.

In terms of risk management, traditional risk management methods rely on manual review, which may have certain errors and omissions. The optimized process, with the help of machine learning and artificial intelligence, can identify high-risk customers in real time, predict default risks, and automatically adjust credit limits and interest rates, effectively reducing risks.

In terms of compliance review, traditional compliance review processes often rely on manual inspection, which carries risks of subjectivity and omission. In the optimized process, compliance review is automated through an intelligent system to ensure that every step complies with the latest regulatory requirements and reduces compliance risks.

Overall, by utilizing new technologies to optimize credit policies, banks can not only improve approval efficiency and reduce risks, but also provide more personalized financial products based on individual customer needs.

In addition, the approval process combining big data and artificial intelligence technology can comprehensively and dynamically evaluate customers' credit status, thereby better supporting the expansion of banking services.

This innovation not only improves the service quality of banks, but also promotes the development of financial technology, bringing new development opportunities to the banking industry.

3.2 Case Study, Innovative Banking Service Expansion Model

With the continuous advancement of financial technology, the expansion of banking services is no longer limited to traditional financial products and services. Banks are not only diversifying their service offerings, but also innovating their service models to adapt to changes in customer needs.

In recent years, emerging service models such as social banking, embedded finance, and intelligent financial services have achieved significant results both domestically and internationally.

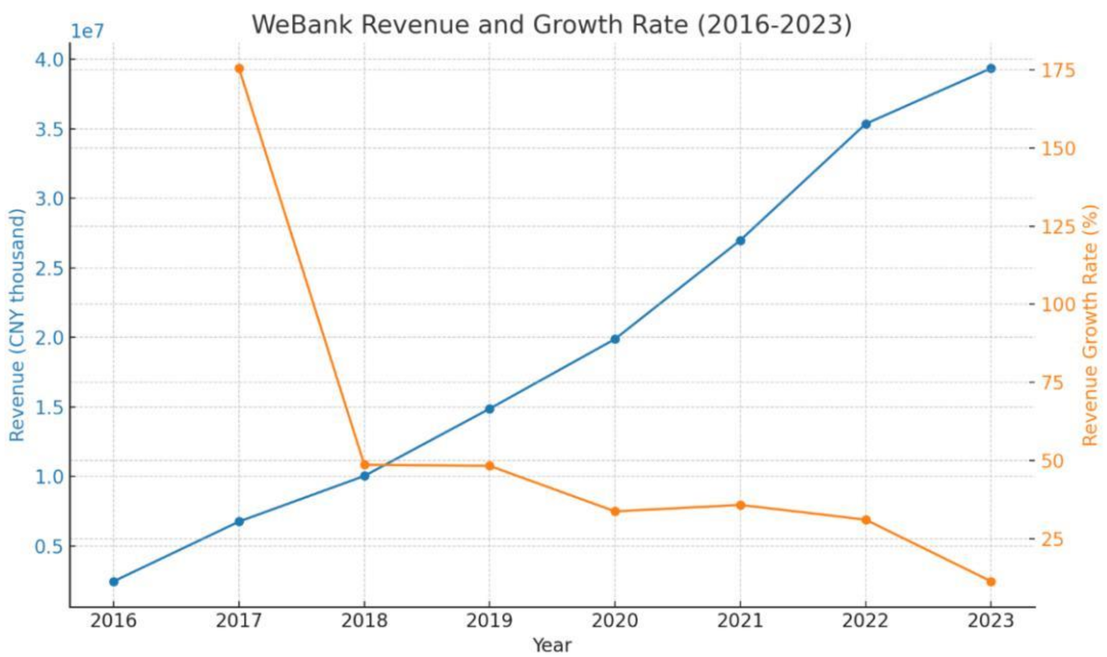

Fig 3.2 Revenue and Growth Rate of WeBank (2016-2023)

Source: Announcement from WeBank

Social Banking refers to banks establishing closer interactive relationships with customers through social platforms and tools, integrating social elements to enhance customer experience and meet diverse needs. Social banking not only provides basic financial services, but also enhances user engagement and stickiness through social media, mobile payments, and social interaction **Помилка! Джерело посилання не з**

найдено. .

WeBank is one of the leading Internet banks in China. It was founded by Tencent in 2014 and is the first Internet bank in China to obtain a banking license **Помилка! Джерело посилання не знайдено.**. As a typical digital bank, WeBank has made bold attempts in service innovation and business models. By highly relying on big data, artificial intelligence, and financial technology, it has successfully expanded financial services for individual customers and stood out in the fiercely competitive banking industry.

The successful expansion of WeBank is primarily due to its resolute promotion of digital transformation, breaking through the business framework of traditional banks, creatively utilizing advanced technologies such as financial technology and data analysis, and creating an efficient, flexible, and highly personalized service platform. Unlike traditional banks that rely on physical outlets, WeBank relies entirely on the Internet platform to interact and provide services to users through Tencent's social platforms (such as WeChat, QQ) and payment tools (such as Tencent Payment). It has successfully attracted a large number of individual customers through innovative business models in the following areas:

No physical branches, low-cost operation: The operation of WeBank does not rely on traditional physical branches, but provides comprehensive banking services through online platforms. The "no physical branch" model of banking business significantly reduces operating costs, thereby providing more competitive financial products in terms of business pricing.

Deep integration of Internet plus+finance: WeBank makes full use of Tencent's ecosystem to embed financial services into users' daily life through integration with Tencent's WeChat, QQ and other social platforms. This "Internet plus+Finance" model helps WeBank quickly access to a huge user base, and reduces the cost of customer acquisition **Помилка! Джерело посилання не знайдено.**.

WeBank fully utilizes advanced technologies such as big data, artificial intelligence (AI), and machine learning to optimize customer service processes and risk management systems. Especially in the field of personalized financial services, WeBank's innovation can be said to be at the forefront of the industry:

Big data analysis: WeBank has established a comprehensive customer profile through in-depth mining and analysis of users' transaction behavior, social media data, consumption records, etc. Based on these data, WeBank can accurately identify the financial needs of individual customers and provide customized financial services, such as microcredit, consumer finance, etc.

Artificial intelligence driven credit evaluation and risk control system: WeBank utilizes artificial intelligence and big data technology to accurately evaluate customers' credit status and construct a credit scoring model based on behavioral data. This intelligent risk control system greatly reduces the efficiency bottleneck of traditional banks relying on manual review, while also reducing the risk of bad debts.

Intelligent customer service system: WeBank has also developed an intelligent customer service system that can provide 24-hour service and intelligent consultation and problem-solving solutions for customers. This service method not only greatly improves customer satisfaction, but also reduces labor costs.

Fig 3.3 Weilidai Loan Total Trend (2017-2023)

Source: Announcement on Relevant Business of WeBank

WeBank has also made a lot of attempts in financial product innovation, especially in the fields of consumer finance and small loans, and its innovative services have gained widespread attention and recognition in the market.

Micro loan: Micro loan launched by WeBank is one of its core consumer finance products, providing fast and small credit loan services to a wide range of low-income groups and small and medium-sized business owners **Помилка! Джерело посилання не знайдено.**. Compared with the traditional bank loan process, Microloan relies on big data technology to quickly complete the application, approval, and loan disbursement processes, and does not require customers to provide the cumbersome information required by traditional banks. This convenient service method greatly reduces the threshold for low credit customers to obtain loans and enhances the inclusiveness of services.

The bar chart shows that from 2017 to 2023, the total amount of micro loans has shown a significant upward trend. In 2017, the total loan amount was 47.706 billion yuan, and by 2023, it has increased to 414.507 billion yuan. This means an increase of about 8.7 times over a six-year period. The most significant growth occurred between 2017 and 2018, more than doubling. This rapid growth continues every year, with particularly high growth in 2022 and 2023.

This trend reflects the increasing popularity and demand for small loans, which are typically driven by digital platforms such as Weilidai. The increase in loan volume can be attributed to broader market acceptance, improved credit evaluation models, and the convenience of users obtaining credit. This also indicates that China's small loan platforms continue to play a more prominent role in personal financing.

Tencent Credit Payment: WeBank has also launched Tencent Credit Payment products, providing users with installment payment services for consumption. When shopping on e-commerce platforms such as Taobao and JD.com, users can choose "Tencent Credit Payment" from WeBank for installment payments without providing guarantees or credit cards. This product provides users with real-time credit evaluations through big data and artificial intelligence, and offers flexible installment plans based on the evaluation results.

At the same time, WeBank not only relies on the advantages of its own platform, but also gradually builds an ecosystem centered on financial technology through cooperation with other enterprises. Through cross-border cooperation, WeBank has broken through the limitations of traditional banking services and provided comprehensive financial services.

Linkage with Tencent's other businesses: WeBank deeply integrates with Tencent's payment platform, social media, cloud computing, and other businesses, enabling its financial services to reach a wider user base. Users can conveniently conduct cross-border payments, wealth management, loans, and other operations through the payment and financial services provided by WeBank on social platforms such as WeChat and QQ. This cross platform service integration enables WeBank to leverage Tencent's vast user base to quickly acquire customers.

Collaboration with e-commerce platforms: WeBank also collaborates with e-commerce platforms such as JD.com and Taobao to provide financial support to platform users. Through cooperation with e-commerce platforms, WeBank has not only gained a large number of online customer resources, but also provided financial services that meet the needs of e-commerce platforms, such as consumer loans, installment payments, credit payments, etc.

In addition, WeBank not only focuses on profitability expansion, but also upholds the social responsibility of inclusive finance, actively expanding the breadth and depth of services, and serving a wider range of groups. By lowering the financial threshold, WeBank enables more people to access financial services, including small and micro enterprises and low-income groups that are difficult for traditional banks to cover.

Serving small and micro enterprises: WeBank focuses on providing loan services for small and micro enterprises through the "Micro Enterprise Loan" platform. Compared to traditional banks, WeBank can more quickly assess the credit risk of small and micro enterprises, provide timely financial support, and solve the problems of difficult and expensive financing for small and micro enterprises **Помилка! Джерело посилання не знайдено.**.

Inclusive finance practice: WeBank pays special attention to low-income and unbanked groups, providing them with flexible and convenient financial services through innovative financial products and accurate risk assessments. Through the implementation of inclusive finance, WeBank has not only enhanced its sense of social responsibility, but also gained more social recognition.

The successful expansion of WeBank is driven by its deep layout in innovative business models, utilizing big data and artificial intelligence technologies, cross-border cooperation, inclusive finance, and other areas. By leveraging Tencent's powerful ecosystem, WeBank has achieved a completely different business model from traditional banks and successfully attracted a large number of individual customers, especially in the fields of consumer finance and small loans, achieving significant results.

The successful experience of WeBank provides valuable reference for other financial institutions, demonstrating how financial technology can change the business architecture and service methods of traditional banks.

This innovative banking service expansion model not only enhances customer experience and satisfaction, but also helps banks stand firm in fierce market competition, providing important insights for the further development of the banking industry in the future.

In addition to the innovative model of social banking, embedded finance also needs to be understood. Embedded Finance refers to the integration of financial services into non-financial products or services, providing a seamless financial experience through collaboration with other industries. This model greatly reduces the threshold for financial services and enhances their accessibility and convenience **Помилка! Джерело посилання не знайдено.** . Embedded finance not only includes t raditional financial services such as payments, loans, and insurance, but also encompasses functions such as investment and wealth management.

Ant Group's "Ant Financial" under Alibaba is a very typical example.

Ant Financial has expanded its financial services in e-commerce, payment, credit, insurance, wealth management and other fields through the Alipay platform, creating a financial service platform deeply embedded in consumers' daily life **Помилка! Джерело посилання не знайдено.** .

For example, when users purchase goods on Taobao, they can directly choose Ant Huabei installment payment or purchase a short-term small loan called "Jiebei". This mode not only improves the user experience, but also promotes the popularization of financial products.

The most typical example of Ant Financial's "embedded finance" model is its Alipay platform. As one of the largest mobile payment platforms in the world, Alipay not only provides traditional payment functions, but also embeds financial services such as financing, lending and insurance, forming a multi-level and multi-dimensional financial ecosystem. This ecosystem is based on Ant Financial's powerful data analysis capabilities, which can provide personalized financial products and services based on users' consumption behavior, credit history, and social network data.

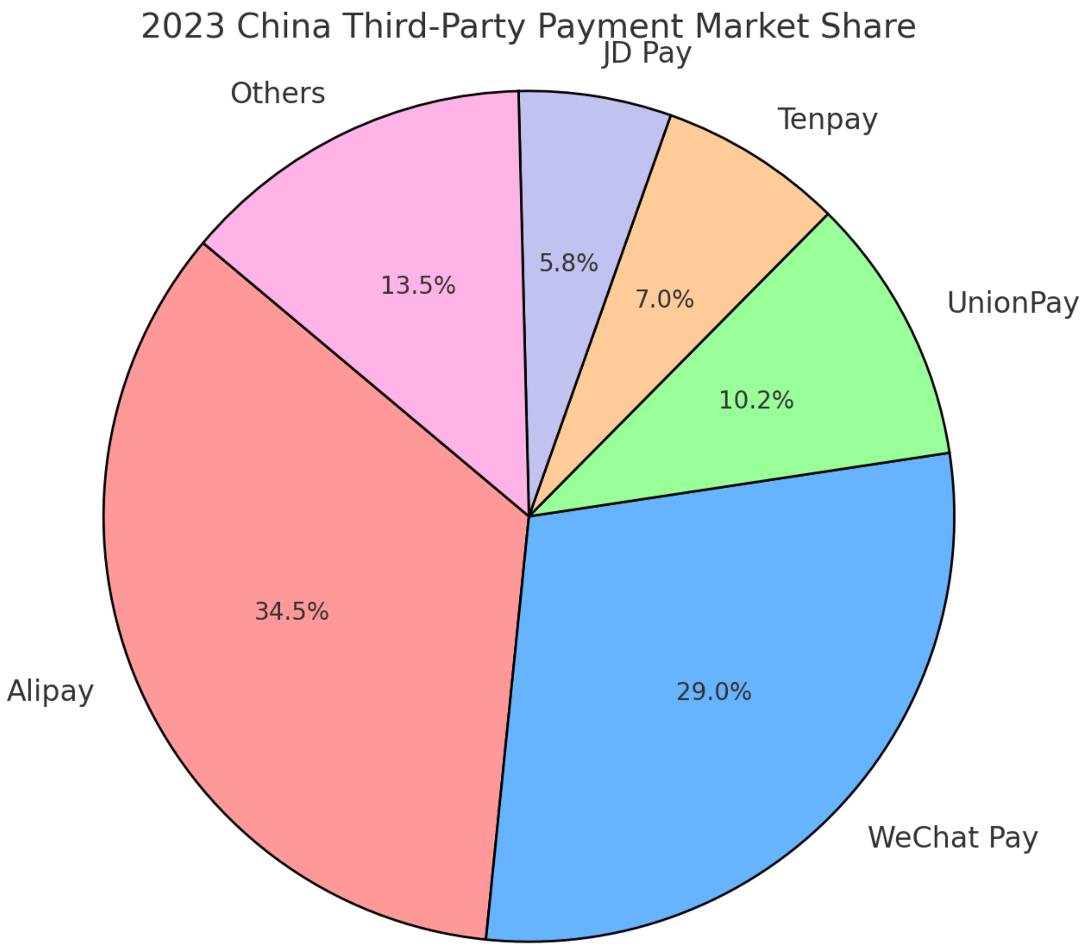

Fig 3.4 2023 China Third-Party Payment Market Share

Source: Asset Information Network, Qianji Investment Bank, Analysys Data

Payment services are the foundation of Ant Financial. Alipay not only exists as a payment tool, but also is deeply integrated with a variety of life scenarios (such as transportation, shopping, catering, etc.), enabling consumers to complete financial services in their daily consumption. Consumers can make payment and enjoy relevant financial services through Alipay in a one-stop manner, whether they buy products, pay utilities, take a taxi or order meals. This seamless connection breaks down the barriers of traditional financial services and improves consumers' financial accessibility.

The market share data of China's third-party payment platforms in 2023 shows that Alipay and WeChat payment dominate the market, accounting for nearly 63.5% of the total share. Alipay leads with 34.5%, followed by WeChat payment with 29%, reflecting the continuous competition between the two giants in the field of digital payment. It is worth noting that WeChat Pay is one of the businesses under Tencent Group's WeBank.

Micro lending services, such as Huabei and Jiebei, are another key area of Ant Financial's embedded finance. Ant Financial analyzes users' consumption behavior and credit history through big data technology, and can provide personalized credit products for them. For example, "Huabei" provides consumer credit services similar to credit cards, while "Jiebei" allows users to apply for short-term loans. These financial products do not require the cumbersome approval process of traditional banks, but are quickly approved through the system, greatly improving user convenience and fund liquidity.

In addition, Ant Financial also provides users with convenient investment services through its investment and wealth management platform "Ant Wealth". Users can directly purchase funds, stocks and other financial products on the Alipay platform, and enjoy professional financial advice and risk management. This embedded financial model not only provides users with a low threshold and efficient wealth management channel, but also changes the traditional banking wealth management business model.

Through embedded finance, Ant Financial deeply integrates financial services with daily life scenarios, lowers the threshold for using financial services, enhances user experience, and promotes financial inclusion. In addition, with strong data and technological advantages, Ant Financial is able to achieve accurate prediction of individual customer needs, provide customized financial products and services, and further promote the development of financial innovation.

In summary, Ant Financial has achieved a deep integration of financial services and daily life through the innovative model of embedded finance, providing users with a more convenient and personalized financial experience, and bringing revolutionary changes to the financial industry.

3.3 Trends and Prospects for Future Banking Service Expansion

With the continuous development of the social economy and technological progress, the needs of individual customers are undergoing profound changes, and the ways in which banking services are provided are also constantly evolving. Especially in the context of digital transformation and rapid development of financial technology, banking services are moving towards a more intelligent and personalized direction.

The first thing to pay attention to is the changes in individual customer needs.

With the popularization of the Internet and the wide application of mobile payment and intelligent terminals, the needs of individual customers are no longer limited to traditional deposit and loan services, but more convenient, intelligent and personalized financial products and services.

The first trend is the convenience and real-time nature of financial services.

Individual customers pay more and more attention to the convenience of financial services, especially in the context of mobile Internet, users hope to enjoy fast banking services anytime and anywhere. From traditional banking to mobile banking, and then to the launch of smart banking services, customer demands are evolving towards 24/7 and all scenario services **Помилка! Джерело посилання не знайдено.**.

For example, WeBank launched a service model without physical outlets through full digital operation, and provided customers with readily available micro credit, consumer finance, wealth management and other products through the Internet platform, greatly improving the convenience and real-time nature of the service.

The second trend is personalized financial services.

With the increasing diversification of customers' financial needs, banks have begun to focus on personalized products and services to meet the differentiated needs of different groups. Individual customers are increasingly seeking financial products that meet their own needs and preferences, rather than "generic" services **Помилка! Джерело посилання не знайдено.**.

WeBank has also made active explorations in this area, analyzing users' consumption, savings, credit and other behaviors through big data to provide intelligent personalized service recommendations. This personalized service not only enhances customer satisfaction, but also increases the bank's service stickiness.

The third trend is the demand for digitalization and intelligence in finance.

With the rapid development of technologies such as artificial intelligence, big data, and blockchain, individual customers' demands for banking services are gradually shifting towards intelligence and dataization. Customers hope that banks can provide more accurate financial services through technological means, such as intelligent investment advisory, automated credit assessment, and precise wealth management planning.

For example, WeBank relies on big data and artificial intelligence technology to not only provide personalized credit products based on users' historical behavior and credit records, but also improve customer service efficiency through intelligent customer service, automated processing, and other means. Customers can enjoy personalized and intelligent financial services through mobile phones or Internet platforms, which not only meet the requirements of rapidity, but also ensure accuracy.

Furthermore, it is worth noting how banking services can be further digitized and intelligentized.

The service model of banks is rapidly shifting from traditional manual services to technology driven digital and intelligent services. Digital banking services are not only about moving traditional businesses online, but also about profound changes in service models and reshaping business processes.

Intelligent services based on big data.

With the development of big data technology, banks can accurately identify user needs and provide more personalized financial products through massive user data analysis. For example, WeBank utilizes big data and machine learning technology to analyze multiple dimensions such as user consumption behavior and social media activities, providing customers with accurate product recommendations and risk assessments.

In the future, banks will rely more on data analysis and artificial intelligence to provide customized services such as robo advisors and customized credit products. With the help of big data, banks can obtain valuable insights from multi-dimensional information such as customers' consumption, payment, wealth management, and lending, thereby helping banks optimize business processes and enhance customer experience.

Artificial intelligence and automation services.

With the advancement of artificial intelligence technology, banks will pay more attention to improving service efficiency and quality through intelligent means. For example, banks provide 24-hour uninterrupted customer service through technologies such as intelligent customer service, voice recognition, and natural language processing, answering customer questions, handling various business operations, and even conducting complex credit approvals.

WeBank has already achieved significant results in intelligent services. Its credit approval system based on artificial intelligence can quickly analyze customers' credit status, repayment ability, and loan needs, and provide customized credit plans for customers. This intelligent service not only improves the operational efficiency of banks, but also reduces the deviation of manual review, making loan approval more accurate and fair.

The application of blockchain technology.

The application of blockchain technology in the financial field, especially in payment settlement, cross-border payments, asset securitization and other fields, has begun to achieve initial results. Blockchain technology can ensure the transparency, traceability, and security of transactions, playing an important role in preventing financial risks and combating financial crimes.

In the future, banks will increasingly utilize blockchain technology in service expansion to enhance the transparency and security of financial services, while reducing operating costs. For example, WeBank is exploring the use of blockchain technology to optimize cross-border payments and supply chain finance, improving the efficiency and security of fund circulation.

With the changing needs of individual customers and the rapid development of financial technology, the digitization and intelligence of banking services will become the mainstream trend of future development. Through technologies such as big data, artificial intelligence, and blockchain, banks will be able to meet customer needs more accurately and personalized, improving service quality and efficiency.

Banks need to continue deepening their digital transformation and improving their level of intelligent services in order to maintain their advantage in the fiercely competitive financial market.

In addition, how to promote interaction between banks and individual customers through policy adjustments is also a development direction worth exploring. This is also the main innovative suggestion of this thesis.

With the rapid development of financial technology and changes in customer demands, the relationship between banks and individual customers is undergoing unprecedented transformation.

The traditional banking business model is mainly based on offline services and fixed products, and with the advancement of digital transformation, the interaction between customers and banks is constantly evolving.

Individual customers are increasingly relying on digital platforms and intelligent services, which requires banks to make flexible responses in service models, product innovation, user experience, and other aspects.

In order to promote closer interaction between banks and individual customers, banks need to make corresponding adjustments at the policy level, combine the advantages of financial technology, promote intelligent and personalized services, and enhance customer satisfaction and loyalty.

Next, we will continue to combine the innovative practices of WeBank and propose several innovative policy adjustment suggestions to help banks establish closer interactive relationships with individual customers.

The first is the need for personalized credit policies and precise services.

Banks' credit policies should be more flexible and personalized to meet the needs of different customer groups. The traditional credit evaluation methods are usually based on fixed factors such as the customer's historical credit record and asset status, which often cannot fully reflect the customer's true needs and future payment ability. However, in today's increasingly developed financial technology, with the help of technologies such as big data and artificial intelligence, banks can more accurately assess customers' credit risks and provide tailored credit products.

Taking WeBank as an example, WeBank has established a more comprehensive credit evaluation system by deeply analyzing multi-dimensional data such as customers' social behavior, consumption habits, and online payment history. Through intelligent systems, WeBank can provide personalized credit products for customers with different credit conditions. For example, for customers with good credit, banks can offer credit products with lower interest rates and higher credit limits, while for customers with weaker credit, they can provide more flexible repayment arrangements or lower loan amounts. Through this flexible adjustment of credit policies, banks can better serve different customer groups while maintaining controllable risks, thereby promoting interaction between customers and banks.

Banks can further optimize their credit policies in the following areas.

Personalized credit limit and interest rate adjustment: Tailored credit limits and interest rates for customers based on their consumption patterns, payment behavior, and other data to increase the attractiveness of the product.

Flexible repayment methods: Based on the customer's payment ability and cash flow situation, provide more flexible repayment plans to help customers reduce financial pressure and lower default risks.

Seamless integration of cross platform services: Banks can collaborate with more third-party platforms, utilize big data and artificial intelligence to achieve cross platform credit evaluation, and provide customers with more personalized financial products.

The second is to enhance customer experience and interactive services.

The improvement of customer experience is the key to establishing long-term interactive relationships between banks and customers. With the advancement of digital transformation, banks must promote innovation in intelligent services through policy adjustments, and enable customers to enjoy more convenient and personalized services. Banks should pay attention to the following innovative measures.

Intelligent customer service and digital interaction.

Currently, many banks have launched artificial intelligence customer service systems that can use natural language processing (NLP) technology to understand customer issues and provide instant solutions. This technology not only enhances the customer experience, but also enables banks to provide services 24/7, enhancing the interaction between customers and banks. WeBank has achieved significant results in this field. Through the "WeBank Intelligent Customer Service" platform, customers can quickly answer various business questions and receive personalized recommendations for financial products.

In terms of policy adjustments, banks can further enhance the functionality of intelligent customer service systems by strengthening semantic and sentiment analysis, improving accuracy, and other aspects.

Cross channel interaction and seamless service experience.

With the diversification of online financial service platforms, the interaction between banks and customers is not limited to traditional counters and mobile banking. Customers also interact with banks through multiple channels such as social platforms, instant messaging tools, and smart devices. Banks need to adjust policies, break down channel barriers, and achieve seamless integration of cross platform services.

As a leading Internet bank in China, WeBank has certain advantages in cross platform services. It has built an omni channel financial service system through the open interfaces of third-party platforms such as WeChat and Alipay, enabling customers to enjoy a consistent banking service experience on multiple platforms. Banks can optimize cross channel services through measures such as data interoperability across multiple platforms and strengthening social platform service capabilities.

Strengthen customer participation and feedback mechanisms.

In order to better serve individual customers, banks should enhance customer participation through policy adjustments, allowing customers to participate in the design and optimization process of bank services. Banks can achieve this goal by improving data transparency and optimizing customer feedback mechanisms.

The trust of customers in financial services is the key to the success of banking services. Banks should enhance customer trust by opening up data and improving transparency. Banks can collect customer opinions and suggestions through customer satisfaction surveys, online feedback systems, and other means, and adjust services according to customer needs.

Through policy adjustments, banks can better promote interaction with customers, not only enhancing their sense of participation and experience, but also helping to improve customer loyalty and satisfaction. By implementing more flexible credit policies, promoting intelligent services, and optimizing cross channel interaction mechanisms, banks can establish closer relationships with customers in the digital age.

With the continuous advancement of technology and gradual optimization of policies, the interaction between banks and customers will become increasingly intelligent and personalized, further promoting the popularization of financial services and meeting customer needs.

Overall, in order to effectively promote interaction between banks and individual customers, banks need to start with policy adjustments and promote more intelligent and personalized services. By optimizing credit policies, enhancing customer experience, and strengthening multi platform interaction, banks can not only improve service quality, but also increase customer loyalty and market competitiveness.

As a representative of innovation, WeBank's successful practice has provided valuable experience for banks. In the future, banks should continue to explore more flexible, efficient, and personalized service models, and create an intelligent financial ecosystem to better meet customer needs and respond to market challenges.

CONCLUSIONS

The purpose of this thesis is to explore how banks can respond to changes in individual customer needs by expanding their service scope, especially through digital and intelligent transformation, and further promote the optimization and innovation of credit policies.

The banking industry is in a rapidly developing era, and the introduction of financial technology has made banking services no longer limited to traditional products and models. The expansion of banking services not only includes the enrichment of financial products, but also the comprehensive upgrading of service channels, technological means, and customer experience.

By analyzing the current situation, implementation strategies, and future trends of bank service expansion, this thesis proposes specific measures to optimize credit policies and innovate bank service models, and provides practical guidance for the future service expansion of banks.

With the development of social economy and changes in individual customer needs, the expansion of banking services has become one of the core strategies for the development of major banks. In recent years, individual customers have shown diversified and personalized demands for banking services, which poses a huge challenge to traditional banking business models. From the perspective of banks, the challenge of service expansion mainly lies in how to meet the ever-changing needs of customers through innovative financial products, digital service platforms, and optimized service processes.

The service expansion of banks mainly focuses on areas such as consumer credit, personal finance, and smart payments. In the past few years, banks have gradually introduced intelligent loan approval, personalized wealth management products, and convenient payment methods through the introduction of financial technology. These innovative banking services not only improve the customer experience, but also enhance the bank's own competitiveness.

However, there are also some challenges in the process of expanding banking services. The first is how to break through the limitations of traditional credit evaluation models through technological means, adopt more flexible credit scoring models, and ensure the fairness and accuracy of services. The second is how banks ensure service quality and security during the process of service expansion, avoiding technical vulnerabilities and information security issues. In addition, how to achieve customer privacy protection in the era of big data and avoid the risks caused by excessive reliance on data analysis is also a concern that banks need to pay attention to when expanding their services.

The second part of this thesis analyzes the changing trends of individual customer needs, with a focus on how financial technology can drive innovation in banking services. With the advancement of technology, especially the widespread application of big data, artificial intelligence, and blockchain technology, the service model of the banking industry has shifted from the traditional product centered to a customer-centric service model. Individual customers have diverse and personalized demands for banking services, and banks need to meet these needs through more flexible and innovative products and services.

Driven by changes in individual customer demands, banks are undergoing a profound digital transformation.

Individual customers have an increasing demand for convenient services, and mobile payments, intelligent customer service, online wealth management, and other basic services that banks must provide. Secondly, with the improvement of individual customers' financial literacy, the demand for personalized and customized services is gradually increasing. Banks need to provide personalized financial solutions to customers through big data analysis to meet their needs in various aspects such as credit, savings, and investment.

With the further development of financial technology, traditional credit policies are facing enormous challenges and opportunities. Traditional credit evaluation relies on static credit scoring models. However, with the introduction of technologies such as big data and artificial intelligence, banks are able to more comprehensively and accurately assess the credit risk of individual customers. Through data mining and analysis, banks can break through the limitations of traditional credit evaluation, achieve comprehensive assessment of customer credit status, and formulate more personalized credit policies.

In this process, the role of financial technology cannot be ignored. Big data technology can help banks obtain and analyze real-time data on customers' consumption behavior, payment habits, social information, etc., thereby improving the accuracy and timeliness of credit evaluation. Artificial intelligence technology can help banks automate the credit approval process, reduce human intervention, lower operational risks, and improve approval efficiency.

With the continuous advancement of financial technology, banks will increasingly rely on data-driven intelligent decision-making models in the credit evaluation process. This can not only improve the risk management capabilities of banks, but also provide more flexible and personalized financial products for individual customers, thereby meeting their diverse needs.

Based on analysis, this thesis proposes some policy recommendations aimed at promoting better development of banks in the process of service expansion.

Banks should increase their investment in financial technology, promote digital transformation, and popularize intelligent services.

Banks should optimize their credit policies, combine financial technology, and use technologies such as big data and artificial intelligence to conduct accurate credit evaluations, providing customers with more personalized and flexible financial products.

Banks should actively promote the construction of open banks, cooperate with third-party financial institutions, technology companies, etc., and form a more open financial service ecosystem.

Banks should strengthen the protection of financial data security, ensure the privacy and security of customer information, and enhance customer trust.

The practical significance of this thesis lies in the fact that banks can not only enhance their market competitiveness through service expansion, but also better meet the constantly changing needs of individual customers. At the same time, in the process of promoting service expansion, banks need to pay attention to the balance between technological innovation and compliance risks, ensuring that while promoting digital transformation, customers' privacy and data security can be protected.

In summary, this thesis provides valuable theoretical references and practical experience for banks on how to respond to market changes and enhance competitiveness through service expansion, especially in the areas of financial technology application, credit policy optimization, and personalized financial products. It puts forward some practical strategies and suggestions, which provide useful references for the future development of banks.

REFERENCES

1. Zhu H. Application and Thinking of Financial Institution Stress Test. Times Finance, 2023, pp. 34-38.
2. Alva Wang, Yu Yang. Research on the in-depth development of supply chain finance-building a "invisible bank" based on online embedded financial services. Hebei Finance, 2020, (10), pp. 54-57. DOI: 10.14049/j.cnki.hbjr.2020.10.014.
3. Cai Yu. Research on personal consumption loan product strategy of banks. Shopping Mall Modernization, 2016, (18), p. 64. DOI: 10.14013/j.cnki.scxdh.2016.18.040.
4. Cambridge, Gong Yaojun. New changes in personal financial products market from the perspective of new asset management regulations. Investment and Cooperation, 2022, (10), pp. 28-30.
5. Cao Tong, Yang Wang. Innovative exploration of internet banking from an international perspective. China Foreign Exchange, 2023, (14), pp. 11-15. DOI: 10.13539/j.cnki.11-5475/f.2023.14.022.
6. Chen Xiaoli. Research on Social Media Application Path of Central Bank Based on International Comparison. China Economic and Trade Guide (Middle), 2020, (08), pp. 123-124.
7. Cui Guanghua. Empirical Analysis of the Impact of Capital Adequacy Ratio Supervision on China's Banking Credit. North China Finance, 2019, (06), pp. 55-62.
8. Dai Beibei. Construction of personal credit evaluation system of commercial banks under the background of big data. Economic Research Guide, 2022, (20), pp. 56-58.
9. Dai Hongjie, Xiao Zehua. Risk management of personal consumption loans in city commercial banks. Business Watch, 2023, 9(16), pp. 33-36.
10. Diao Shihong. On the service innovation of traditional banks under Internet finance. Times Finance, 2016, (02), pp. 77+79.

11. Dong Yufeng. Research on Risk Management of Personal Housing Loan in Commercial Banks. Public Investment Guide, 2023, (09), pp. 46-48.

12. Dou Fengfeng. On Consumer Credit. Fujian Forum (Economic and Social Edition), 1984, (08), pp. 22-23.

13. Du Yan. Exploration on the Transformation and Development Path of Commercial Banks' Financial Innovation Serving the Real Economy. China Science and Technology Investment, 2021, (08), pp. 88+91.

14. Fang Linqing. Digital transformation promotes credit innovation of banks serving the real economy. Public Investment Guide, 2024, (27), pp. 35-37.

15. Fang Shaofeng. Banks innovate loan services to solve the financing problems of SMEs. Public Investment Guide, 2024, (24), pp. 73-75.

16. Feng Meina. Risk Identification and Control Countermeasures of Digital Finance Enterprises-Taking Ant Financial as an Example. Brand Marketing of Time-honored Brands, 2023, (18), pp. 71-73.

17. Gong Mengxue. Digital finance promotes the product technology innovation of commercial banks. China Market, 2023, (18), pp. 184-188. DOI: 10.13939/j.cnki.zgsc.2023.18.184.

18. Guo Feng. The influence of financial technology on bank credit risk-from the perspective of the regulatory effect of monetary policy. Finance and Economy, 2023, (09), pp. 51-61. DOI: 10.19622/j.cnki.cn36-1005/f.2023.09.005.

19. Guo Haiting. Thoughts on the Development of Consumer Credit in China's Commercial Banks. Banker, 2023, (11), pp. 87-89.

20. Guo Xiaobei. Artificial intelligence accelerates the arrival of the era of intelligent banking. Modern Commercial Banks, 2023, (13), pp. 20-23.

21. Han Tian, Zhang Chunliang. Credit Issuance and Improving the Service Function of Commercial Banks. Finance Teaching and Research, 1996, (03), pp. 36-37. DOI: 10.16620/j.cnki.jrjy.1996.03.012.

22. Hu Meicun, Wu Shijian. Discussion on cooperative Internet loan business of commercial banks. Banker, 2023, (08), pp. 69-71.

23. Hu Xiaoya. Research on the strategy of digital transformation of banks promoted by artificial intelligence and big data. Modern Business Research, 2024, (09), pp. 29-31.

24. Jia Zecun. Practice and development strategy of green deposit business. Engineering Economy, 2021, 31(05), pp. 57-59. DOI: 10.998/j.cnki.1672-4452.199899896696.

25. Jie Ying, Zhang Yijun, Zheng Sujin. Analysis on the consistency of regulatory capital between commercial banks and insurance companies. New Financial Management, 2019, (10), pp. 25-27.

26. Jin Tian. Digital Technology Empowers Financial Industry Supervision. Information China, 2022, (03), pp. 66-69.

27. Jin Ying, Xu Huang. The development countermeasures of China's bank insurance under the new situation of supervision. China Insurance, 2023, (09), pp. 10-14.

28. Ke Konglin, Zhou Chunxi. Review on the credit risk assessment methods of commercial banks. Journal of Business Economics, 2005, (06), pp. 55-60. DOI: 10.14134/j.cnki.cn33-1336/f.2005.06.012.

29. Lan Qingzhi, Mu Yixian. Practice and Thinking of Credit Access and Exit Management. Gansu Finance, 2005, (11), pp. 40-41.

30. Leng Xiangwei. Bank credit management faces multiple challenges under the new situation. China Business, 2024, (08), pp. 200-201.

31. Li Baorong. Analysis of Personal Finance in Commercial Banks. Cooperative Economy and Technology, 2022, (18), pp. 54-56. DOI: 10.13665/j.cnki.hzjykj.2022.18.039.

32. Li Jingfang. Competitiveness Analysis and Promotion Strategy of China's Commercial Banks. Economic Outlook around Bohai Sea, 2024, (02), pp. 20-23. DOI: 10.16457/j.cnki.hbhjjlw.2024.02.004.

33. Li Ting. Strategic Choice of Commercial Banks' Payment of Settlement Services. Financial Economics, 2015, (04), pp. 75-78. DOI: 10.14057/j.cnki.cn43-1156/f.2015.04.020.

34. Li Tingting, Zeng Xin, Zhang Weiguo. The influence of network characteristics of cross-border syndicated loans in China on credit risk. Finance and Finance, 2024, 39(02), pp. 34-43.

35. Liang Yun, Yang Yan. Research on the influence of digital inclusive finance on residents' consumption-based on the intermediary role of high-quality development of commercial circulation industry. Journal of Henan University of Science and Technology, 2024, 44(11), pp. 18-29.

36. Liu Jialin, Wang Xianda. Exploring the relationship between consumer credit and consumption structure: evidence from micro-individuals. New Finance, 2024, (05), pp. 51-58.

37. Liu Tingting. Analysis on the development of Internet finance model. Finance and Economics, 2024, (25), pp. 27-29. DOI: 10.19887/j.cnki.cn11-4098/f.2024.25.004.

38. Liu Yisheng. Stability and Governance of International Financial System. Mass Standardization, 2020, (18), pp. 133-134.

39. Liu Yu. Research on risk prevention and control of "micro-loan" cooperative business under the background of Internet finance. Times Finance, 2018, (33), pp. 21-22.

40. Luo Qing, Liu Jun, Jin Ming Dow. Overview of credit risk assessment methods of commercial banks. China Science and Technology Information, 2005, (15), p. 300.

41. Luo Ronghua. Strengthening financial supervision and preventing financial risks. Financial Science, 2023, (12), pp. 1-2.

42. Lv Hui. Characteristics of banking service marketing and its marketing mix expansion strategy. Accounting Learning, 2019, (30), pp. 179+181.

43. Ma Yifan. The influence of Internet finance on the financial business of commercial banks. Heilongjiang Science, 2024, 15(15), pp. 162-164.

44. Min Liang. Analysis on the New Path of Commercial Banks Serving Science and Technology Enterprises in the Digital Age. Modern Commerce, 2023, (13), pp. 113-116. DOI: 10.14097/j.cnki.5392/2023.13.005.

45. Ni Jiangwai. Research on the Digital Transformation Path of Commercial Banks. China Business, 2024, (11), pp. 184-187.

46. Ren Chunling. Summary of Research on Financial Technology Promoting the Development of New Productivity. Journal of Changchun Finance College, 2024, (06), pp. 30-36+91.

47. Shi Jiapeng, Liu Shanshan, You Jianqiang. Analysis on the service model transformation of commercial banks. Cooperative Economy and Technology, 2022, (14), pp. 47-49. DOI: 10.13665/j.cnki.hzjykj.2022.14.056.

48. Shu Shuhua. Service Quality Evaluation of Commercial Banks Based on Prospect Theory. Journal of Shanghai Lixin University of Accounting and Finance, 2018, (02), pp. 76-85. DOI: 10.13230/j.cnki.jrsh.2018.02.007.

49. Song Aihua. Empirical analysis of regional differences in the efficiency of China's commercial banks. Statistics and Decision, 2019, 35(20), pp. 157-160. DOI: 10.13546/j.cnki.tjyjc.2019.20.035.

50. Supply chain financial service model of small and micro enterprises in public banks. Banker, 2021, (06), pp. 123-124.

51. Tang Jia, Tang Cheng, Zhaonan. Current situation and transformation strategy of domestic wealth management service mechanism. Commercial Economy, 2019, (03), pp. 20-21.

52. Wang Bo, Kang Qi. Income diversification and liquidity creation of commercial banks. Journal of Zhongnan University of Economics and Law, 2022, (03), pp. 86-100. DOI: 10.19639/j.cnki.ISSN 1003-5230.2022.0033.

53. Wang Fangchun. Discussion on the Application of Credit Scoring Model in Credit Approval Decision. Gansu Finance, 2021, (03), pp. 35-38.

54. Wang Guiling. On the Innovative Construction of Shared Financial Risk Management and Control Mechanism. Journal of Beijing Vocational College of Political Science and Law, 2024, (03), pp. 63-73.

55. Wang Lan, Kang Ziyi. Digital Transformation and Risk Control of Local Commercial Banks. China Collective Economy, 2024, (04), pp. 105-108.

56. Wang Pengfei. Research on the development of mobile banking APP business under the background of Internet. Internet Weekly, 2023, (21), pp. 52-54.

57. Wang Xiaohua, Wang Xinfang. The Path of Constructing the Financial Model of "Internet plus Currency" in the Digital Economy Era. Business 2.0, 2024, (24), pp. 7-9.

58. Wang Xingtao. Research on the digital transformation strategy of commercial banks in the new era. Finance and Economics, 2024, (28), pp. 48-50. DOI: 10.19887/j.cnki.cn11-4098/f.2024.28.052.

59. Wang Yanwei, Gao Xiaogai, Liu Peng. The influence of structural monetary policy tools on the financing of scientific and technological innovative enterprises. Financial Development Research, 2024, (07), pp. 48-55. DOI: 10.19647/J.CNKI.37-1462/F.2024.07.005.

60. Wu Zaiju. Thoughts on the development and risk control of personal credit business in commercial banks. Public Investment Guide, 2020, (18), pp. 34-35.

61. Xi Jiachen. The role of digital inclusive finance in promoting local economic development. Today's Fortune, 2024, (33), pp. 41-43.

62. Xie Lei. Analysis on Risk Identification, Management and Prevention of Weizhong Bank. Financial Literature, 2024, (04), pp. 13-16.

63. Xu Feiqing. Measures to actively improve the control of bank credit scale. Research of Finance and Accounting, 1995, (10), pp. 3-4.

64. Xu He. Research on the Influence of Ant Flower on Consumer Behavior. Industrial Innovation Research, 2023, (17), pp. 72-74.

65. Xu Jiayang. Research on credit product innovation of small and micro enterprises in commercial banks based on big data. National Circulation Economy, 2021, (10), pp. 169-171. DOI: 10.16834/j.cnki.issn1009-5292.2021.10.052.

66. Xu Ling. Discussion on the payment and settlement countermeasures of commercial banks under the background of mobile payment. Journal of Township Enterprises, 2024, (16), pp. 33-35.

67. Xue Jingjing. Research on the Application of Financial Technology in Personal Credit Asset Management. Business News, 2024, (15), pp. 68-71.

68. Yan Haibo, Zhang Xinyue. Digital transformation of service trade and innovation of financial service model. Service Outsourcing, 2024, (11), pp. 50-52.

69. Yang Mingzhu. Marketing Strategy of Financial Products of Commercial Banks. Contemporary County Economy, 2024, (09), pp. 92-93. DOI: 10.16625/j.cnki.51-1752/f.2024.09.032.

70. Yao Yong. Expectation Management of Bank Customer Service. Technology and Market, 2015, 22(12), pp. 250-251.

71. Zhang Chunwei. Discussion on Personal Customer Relationship Management of Commercial Banks under the Background of Big Data. Fortune Today, 2024, (11), pp. 28-30.

72. Zhang Demao. Suggestions for commercial banks to promote the application of artificial intelligence. China National Conditions and Strength, 2020, (12), pp. 46-49. DOI: 10.13561/j.cnki.zggqgl.2020.12.014.

73. Zhang Haitao. Building personalized marketing model of financial services based on big data. Marketing, 2024, (11), pp. 38-40.

74. Zhang Jianliang. Practical Exploration on the Construction of Modern Industrial System for Commercial Banks. Financial Horizon, 2024, (05), pp. 3-9.

75. Zhang Jiejie. Present situation and future development trend of artificial intelligence technology in commercial banks. China Strategic Emerging Industries, 2024, (09), pp. 39-41.

76. Zhang Xiaohong. Research on the Development, Influence and Regulatory Framework of Financial Technology. New Finance, 2024, (10), pp. 27-32.

77. Zhang Xiaoran. Normative research on domestic personal credit scoring mechanism. Credit Information, 2019, 37(06), pp. 49-55.

78. Zhang Yu. Behavior decision-making framework and anchoring effect analysis of credit evaluation of commercial banks in China. Financial Science, 2011, (05), pp. 41-47.

79. Zhang Zhi. Research on Innovation of Banking Service Model under the Background of Digital Transformation. Management and Technology of Small and Medium-sized Enterprises, 2024, (01), pp. 148-150.

80. Zhao Xuejun, Wu Junli. On the Evolution of National Commercial Credit Policy. Research on Chinese Economic History, 2006, (04), pp. 12-20+29.

81. Zhou Huihong. Banking services still need innovation. Financial Expo, 2023, (09), p. 63.

82. Zhu Huazhe. Effect and Mechanism of Digital Finance on the Relationship between Commercial Credit and Bank Credit. Exhibition Economy, 2024, (18), pp. 118-122. DOI: 10.19995/j.cnki.cn10-1617/f.2024.18.118.

83. Zou Lixing. Changes in Credit Conditions and Policy Improvement. Journal of Dongbei University of Finance and Economics, 2016, (02), pp. 3-12.

APPENDIXES

Appendix A
STOCK OF PERSONAL CONSUMPTION LOANS IN THE BANKING INDUSTRY (IN BILLIONS OF YUAN)

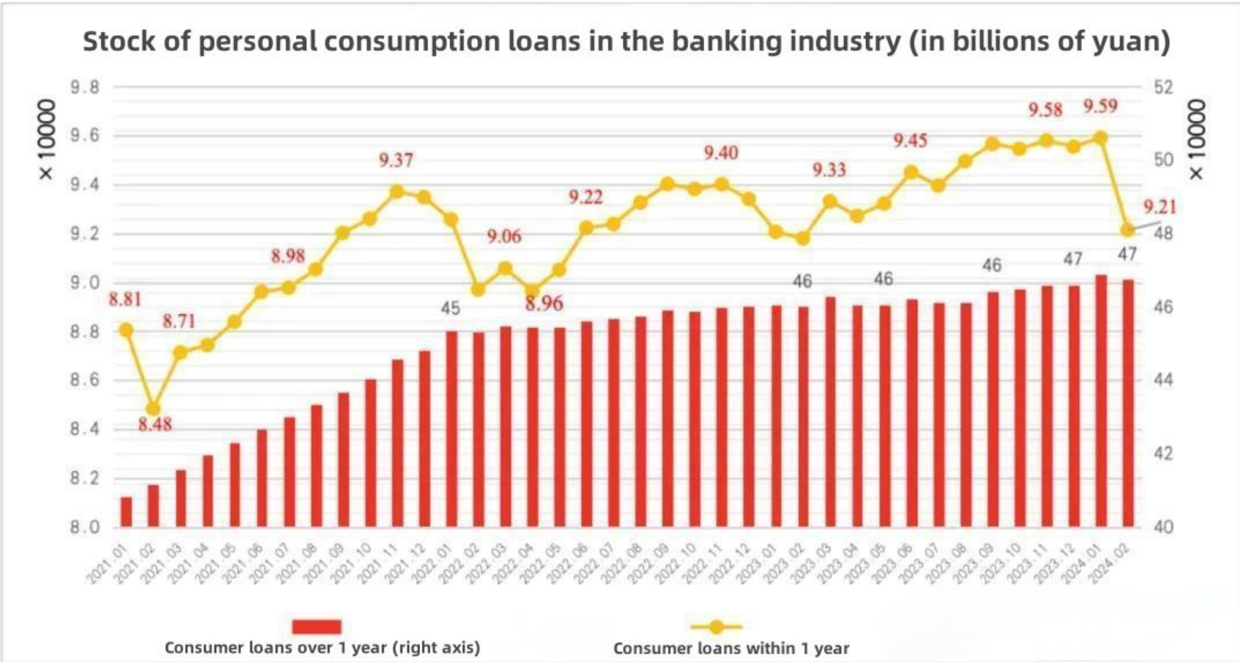

Fig A.1. Stock of personal consumption loans in the banking industry

Source: Heatwave Finance

Онлайн сервіс створення та перевірки кваліфікованого та удосконаленого електронного підпису

ПРОТОКОЛ
створення та перевірки кваліфікованого та удосконаленого електронного підпису

Дата та час: 13:29:12 12.05.2025

Назва файлу з підписом: Thesis_Wu_Zhi_Gang_Samorodov.docx[1].p7s[1].p7s
Розмір файлу з підписом: 1.7 МБ

Назва файлу без підпису: Thesis_Wu_Zhi_Gang_Samorodov.docx[1].p7s[1]
Розмір файлу без підпису: 1.7 МБ

Результат перевірки підпису: Підпис створено та перевірено успішно. Цілісність даних підтверджено

Підписувач - 1: АЗАРЕНКОВА ГАЛИНА МИХАЙЛІВНА
П.І.Б.: АЗАРЕНКОВА ГАЛИНА МИХАЙЛІВНА
Країна: Україна
РНОКПП: 2571514226
Організація (установа): ФІЗИЧНА ОСОБА
Час підпису (підтверджено кваліфікованою позначкою часу для підпису від Надавача): 14:57:39 13.12.2024
Сертифікат виданий: КНЕДП АЦСК АТ КБ "ПРИВАТБАНК"
Серійний номер: 5E984D526F82F38F04000000E4DA710112DF3D05
Тип носія особистого ключа: Незахищений
Алгоритм підпису: ДСТУ 4145
Тип підпису: Удосконалений
Тип контейнера: Підпис та дані в одному файлі (CAdES enveloped)
Формат підпису: З повними даними ЦСК для перевірки (CAdES-X Long)
Сертифікат: Кваліфікований

Підписувач - 2: Омеляненко Денис Олегович
П.І.Б.: Омеляненко Денис Олегович
Країна: Україна
РНОКПП: 3634714115
Час підпису (підтверджено кваліфікованою позначкою часу для підпису від Надавача): 15:06:14 19.12.2024
Сертифікат виданий: "Дія". Кваліфікований надавач електронних довірчих послуг
Серійний номер: 382367105294AF9704000000EF5A070009B10B03
Тип носія особистого ключа: ЗНКІ криптомодуль ІІТ Гряда-301
Серійний номер носія особистого ключа: Не визначено
Алгоритм підпису: ДСТУ 4145
Тип підпису: Кваліфікований
Тип контейнера: Підпис та дані в одному файлі (CAdES enveloped)
Формат підпису: З повними даними ЦСК для перевірки (CAdES-X Long)
Сертифікат: Кваліфікований

Версія від: 2025.01.15 13:00