**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:
# ECOSYSTEM OF INNOVATIVE ACTIVITY OF BANKS AND DIRECTIONS OF DEVELOPMENT OF THE MODERN BANKING SECTOR

submitted by the applicant of higher education

**Li Peng**

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

No 4 dated «25» November 2024

**Head of Department**
**Doctor of Economics, Professor**

**_____________Galina AZARENKOVA**

Scientific advisor

**PhD in Economics, Nadia VIADROVA**

**Kharkiv 2024**

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**APPROVED**
Head of department of
Banking Business and Financial Technologies
Doctor of Economics, Professor
_______________Galina AZARENKOVA
ASSIGNMENT
«__25» September 2024.

**INDIVISUAL ASSIGNMENT**

Assigned to applicant Li Peng, full-time study mode, for further preparation of qualified master thesis, the topic is: "**Ecosystem of innovative activity of banks and directions of development of the modern banking sector."**
The topic was approved by order dated "17" September 2024 y. No.4601-3к/1025.
The qualifying master ' s thesis is based on the following materials: Qualified master's theses are based on extensive and reliable academic literature, empirical studies, statistical data, interviews, experimental results, legal documents, books, Internet resources, and your own research.

Together, these materials form the theoretical framework and support for the thesis, ensuring the credibility and depth of the research.

**Plan of qualifying master's work**

Chapter1

THE FOUNDATION AND SIGNIFICANCE OF BANK INNOVATION ACTIVITY ECOSYSTEM.

Chapter2

RESEARCH METHOD AND CASE DESCRIPTION

Chapter3

THE INTEGRATION STRATEGY OF MODERN BANKING DEVELOPMENT DIRECTION AND INNOVATION ECOSYSTEM

**The object of research:** This paper deeply discusses the relationship between the ecosystem of bank innovation activities and the development direction of modern banking and its integration strategy, and analyzes its importance in the current financial environment and its role in improving the innovation ability of banks. Through the research tasks of literature review, theoretical framework construction, current situation investigation and model analysis, this paper conducts in-depth research on the ecosystem of bank innovation activities and the development direction of modern banking, and puts forward practical suggestions.

**The purpose of the qualifying master's work:** By studying the application and results of the innovation ecosystem in practice, we reveal the importance of the construction of the ecosystem of banking innovation activities, predict the direction of modern banking, and identify ways to improve its supporting tools on the basis of systemizing existing recommendations.

**Specific assignment that a higher education applicant must complete to achieve the goal:**

In chapter1: This paper mainly describes the research on the ecosystem of bank innovation activities. Based on the actual development status of the ecosystem of bank innovation activities, it discusses three stages of the ecosystem of Chinese banking innovation activities, and jointly studies the importance of the ecosystem of bank innovation activities to the future development direction. This paper discusses the definition and composition of the ecosystem of bank innovation activities, which lays a solid foundation for the research.

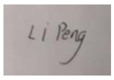
In chapter2: Through literature analysis, theoretical analysis and SWTO model analysis, this paper discusses the impact of the ecosystem of bank innovation activities on the development of modern banking industry. By screening relevant data of China Merchants Bank, model analysis is conducted to analyze the relationship between the ecosystem of innovative activities of China Merchants Bank and the development direction of modern banking industry, so as to provide valuable insights for the future development of banking industry. It also provides a useful exploration for the development direction of modern banking.

In chapter3: This paper summarizes the research results, puts forward the positive impact of building an ecosystem of bank innovation activities on the banking industry, studies and judges the future development trend of the banking industry, and emphasizes the importance and necessity of this study.

CALENDAR PLAN

| NO | Name of work stages | Deadline set dates from | Note |
|---|---|---|---|
| 1 | Selection of the topic | | |
| 2 | Approval of the plan and tasks of thesis | | |
| 3 | Submission of the thesis to the supervisor | | |
| 4 | Supervisor must sign the thesis | | |
| 5 | Norm controller must sign the thesis | | |
| 6 | Admission by the head of the department to the defense of the thesis | | |
| 7 | Defence of thesis | | |

Date of assignment issuance 25.09.2024

Student ___Li Peng 

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Signature initials, surname

Scientific advisor_ Nadiia Viadrova _

**ABSTRACT**
**ON QUALIFICATION MASTER’S WORK**
**« ECOSYSTEM OF INNOVATIVE ACTIVITY OF BANKS AND DIRECTIONS OF DEVELOPMENT OF THE MODERN BANKING SECTOR»**

Total papers contains 70 pages, 39 references, 1 tables, 4 trend analysis chart, 1 Schematic drawing.

**Object of research** is the ecosystem of bank innovation activities and the development direction of modern banking.

**Subject of research** is literature review, theoretical analysis and SWTO model analysis.

**Purpose of qualification master's work** is to explore the interrelationship between the ecosystem of banking innovation activities and the development direction of modern banking and its integration strategy.

This paper analyzes the background of the dynamic competition of the banking industry in the financial market, its importance in the current financial environment, its role in improving the innovation ability of the bank, and the development direction of the banking industry in the future.

This article describes the trends in modern banking and identifies key directions such as digital transformation, customer experience optimization, and cross-industry collaboration to provide readers with a comprehensive understanding.

Explain the data source of the research paper, establish the logical relationship between the model and the data, and ensure the science, effectiveness and credibility of the research.

Analyze the influence and development of each time period on the bank's innovation activities and innovation direction.

Explore the ecological methods and significance of banking in innovative activities, and reveal the development direction and direct impact of modern banking.

Summarize the development trend and put forward specific suggestions.

This paper puts forward the strategy and development direction of modern banking innovation ecology.

The importance, necessity and relevant contribution of this study are emphasized to provide a basis for future research on related topics.

In this article, we reveal how the innovation ecosystem enables banks to make breakthroughs in technology adoption and customer experience, and provide effective advice and practical guidance for financiers, bankers, researchers and policymakers..

**The tasks of qualification master's work** are

- to search and summarize relevant literature on the ecosystem of banking innovation activities and the development direction of modern banking, as well as a comprehensive understanding of relevant concepts in this field;

- to investigate the current competitive dynamics of financial markets and the realities of banking innovation, as well as the inevitability of the direction of modern banking;

- to analyze the specific means, methods and influencing factors of modern bank innovation activities;

- to identify the importance of an ecosystem of innovative activities in modern banking;

- to collect and filter relevant data sources, present data through statistical analysis and graphs, and discover patterns and patterns from them;

- to develop strategies and recommendations for establishing a sound ecosystem of banking innovation activities.

**According to the research results,** combined with the theory and practice of the report, it can be demonstrated to improve the ecosystem of innovative activities in the banking industry, and further provide specific suggestions for the development direction of modern banking industry.

**The results obtained can be used** as an important basis for the important role of the ecosystem of bank innovation activities in promoting modern banking, ensuring that the technical support and innovation mechanism meet the national regulatory requirements and market norms, and providing strong technical support and innovation impetus for the development direction of the ecosystem of bank innovation activities and modern banking industry.

**KEY WORDS:** BANKS INNOVATION ACTIVITIES, ECOLOGY MARKET CHANGES TECHNOLOGY DRIVERS

**CONTENTS**

## INTRODUCTION

This paper discusses the relationship between the ecosystem of bank innovation activities and the development direction of modern banking and its integration strategy. First of all, this paper expounds the definition and composition of the bank innovation activity ecosystem, analyzes its importance in the current financial environment and its role in improving the bank's innovation ability. Through the case analysis of China Merchants Bank's "Fintech innovation project", this paper shows the application and results of innovation ecosystem in practice. Relevant data and model analysis reveal how the innovation ecosystem promotes the bank's breakthroughs in technology application and customer experience, ensuring that it maintains its leading position in a highly competitive market. The paper then explores trends in modern banking, identifying key directions such as digital transformation, customer experience optimization and cross-industry collaboration. On this basis, the paper puts forward strategic suggestions to promote the continuous innovation and development of banks through ecosystem integration and partnership establishment. This paper summarizes the important role of the ecosystem of bank innovation activities in promoting modern banking, and points out the potential direction of future research. Through this research, this paper provides useful theoretical support and practical guidance for the banking industry's strategic decision-making in the context of digitalization and innovation drive.

# CHAPTER1 THE FOUNDATION AND SIGNIFICANCE OF THE CONSTRUCTION OF THE ECOSYSTEM OF BANKING INNOVATION ACTIVITIES

## 1.1 Review of research on the ecosystem of bank innovation activities.

As an emerging research field in recent years, the research on the ecosystem of bank innovation activities has attracted the attention of many scholars. This new term not only represents a new organizational model of the banking industry in innovation activities, but also reflects the increasingly close interaction between the banking industry, financial technology and social and economic environment[1]. In China, research on the ecosystem of banking innovation activities has achieved certain results. Based on the actual development status of the bank innovation activity ecosystem, scholars have made a detailed division of its development course in China from the perspective of academic research by combing the relevant literature[2]. Specifically, it can be divided into the following three stages.

In this stage, with the deepening of reform and opening up and the development of market economy, the banking industry began to gradually realize the importance of innovation[3]. However, due to the limitations of technology level and market environment, the ecosystem of banking innovation activities is still in its embryonic state, which is mainly manifested by some innovation attempts within banks and cooperation with a few external institutions.

The rise and fall of the Internet finance concept from 2012 to 2016

During this period, the rise of Internet finance brought new development opportunities for the ecosystem of bank innovation activities. Banks began to actively embrace the Internet and cooperate with Internet enterprises and e-commerce platforms to jointly build an innovative activity ecosystem. However, with the gradual saturation of the Internet finance market and the tightening of regulatory policies, some non-compliant Internet finance platforms have been eliminated, and the ecosystem of banks' innovative activities has also experienced ups and downs[4].

Entering the new era, the development of fintech has injected new vitality into the ecosystem of innovative activities in banks. The application of advanced technologies such as artificial intelligence, big data and blockchain has enabled banks to carry out innovative activities more efficiently and establish partnerships with more external institutions. At this stage, the ecosystem of banks' innovation activities shows a trend of diversification and openness.

From the perspective of promoting high-quality economic development, the development of the ecosystem of banking innovation activities also went through different stages. Scholars have divided the development of fintech into the embryonic period from 1972 to 1989, the initial period from 1990 to 2010, and the development period since 2010. These three stages echo the development stage of the ecosystem of banking innovation activities, which together promoted the high-quality development of the banking industry and even the entire economy and society. The influence of the development of the ecosystem of banking innovation activities on the whole economy and society is reflected in all aspects. First of all, it promotes the transformation, upgrading and innovative development of the banking industry, and improves the service efficiency and competitiveness of the banking industry. Second, it has promoted the deep integration of fintech and the real economy, providing strong financial support for the development of the real economy[5]. Finally, it has also promoted the modernization of social governance and the transformation of the mode of economic development, injecting new impetus into sustainable economic and social development.

The research on the ecosystem of banks' innovative activities has achieved certain results, but it still needs to be further deepened. In the future, with the continuous development of financial technology and the continuous advancement of innovation activities in the banking industry, the ecosystem of banking innovation activities will show a more diversified and open development trend, bringing more opportunities and challenges to the development of the banking industry and economic society.

## 1.2 Definition and composition of the ecosystem of banking innovation activities.

The ecosystem of bank innovation activities is a dynamic organic whole composed of multiple stakeholders and their complex and delicate interelationships[6]. The core purpose of this ecosystem is to drive and promote the innovation and development of banking business in multiple dimensions such as technological innovation, product diversification and service optimization. It not only focuses on upgrading the traditional banking business model, but also actively explores the application of emerging technologies such as artificial intelligence, big data and blockchain in the financial field, with a view to providing customers with a more convenient, secure and personalized financial service experience[7].

From the perspective of constituent elements, the ecosystem of bank innovation activities covers multiple stakeholders such as banking institutions, technology companies, regulators, partners of financial institutions, third-party service providers, academic research institutions, consumers and user groups. As the core of the ecosystem, banks are responsible for integrating resources and leading the direction of innovation[8]. Technology companies provide technical support to help banks achieve digital transformation; Regulators ensure compliance with innovation activities and safeguard financial stability; Partners of financial institutions and third-party service providers work together to expand the scope of services and enhance the overall competitiveness of the ecosystem; Academic research institutions provide theoretical support and cutting-edge exploration for innovation; And the demand feedback of consumers and user groups is the driving force to promote innovation.

From the analysis of operation mechanism, the ecosystem emphasizes open cooperation, resource sharing and collaborative innovation. By establishing an open platform to promote information exchange, resource sharing and technical cooperation among different stakeholders, the transformation and application of innovation achievements will be accelerated[9]. At the same time, a set of incentive and constraint mechanisms have been formed within the ecosystem to encourage members to actively participate in innovation activities, while ensuring that the risks of the innovation process are controllable and maintaining the healthy development of the ecosystem.

From the perspective of value creation, the ecosystem of bank innovation activities not only improves the efficiency and competitiveness of banking business through continuous technological innovation, product iteration and service optimization, but also creates greater value for customers, such as reducing transaction costs, improving service convenience and enhancing capital security. In addition, this ecosystem also promotes the overall progress of the financial industry and promotes the sustainable development of the economy and society.

The ecosystem of banking innovation activities is a complex network consisting of multiple actors, including the banks themselves, fintech companies, regulators, customers, scientific research institutions and technology providers. Each agent plays a specific role in this ecosystem and interacts with each other through cooperative and competitive relationships[10]. For example, banks may partner with fintech companies to develop new mobile payment solutions, while regulators are responsible for providing corresponding policy guidance and regulatory frameworks.

The ecosystem emphasizes the value of collaboration and shared innovation, which breaks the limitations of traditional siloed innovation models. In the traditional model, banks often rely on internal research and development departments to drive innovation. This closed approach, while guaranteeing a certain degree of innovation autonomy, may also limit the speed and breadth of innovation, because internal resources are limited and it is difficult to fully grasp the rapidly changing market demands and technological frontiers. However, in the ecosystem, innovation activities take on an open and inclusive posture. Resources and knowledge are no longer monopolized by a single institution, but flow freely among participants, creating a good atmosphere for shared innovation. This open environment makes it easier for banks to access new ideas, technologies and models from the outside, thus broadening the horizons and paths for innovation[11]. Through cooperation with external partners, banks are able to acquire new technologies and market trends more quickly and efficiently. These external partners may include technology companies, research institutes, financial institution partners, etc, who each have unique resources and advantages to be able to provide diversified innovation support to banks[12]. Such cooperation will not only help banks to quickly grasp new technologies, but also enable them to more accurately grasp the pulse of the market, so as to make recommendations in the development of products and services that are more in line with consumer needs. Collaboration and shared innovation in the ecosystem can also promote mutual trust and win-win results between banks and other players. In the process of jointly facing market challenges and opportunities, the parties are able to form close cooperative relationships and jointly promote the healthy development of the ecosystem[13]. This atmosphere of mutual trust and win-win results has provided the bank with broader space for innovation and development opportunities.

The composition of this ecosystem emphasizes not only the value of collaboration and shared innovation, but also the importance of flexibility and adaptability. In the fast-changing world of finance, the pace of market change and technological advancement often exceeds the ability of a single institution to anticipate and respond. As a result, all players in the ecosystem, including banks, must possess a high degree of sensitivity and reaction speed to respond quickly to these changes. For banks, flexibility and adaptability are key to staying competitive in the market. In the face of an uncertain environment, banks need to be able to flexibly adjust their strategic direction and quickly grasp the opportunities of new technologies and business models. This requires banks not only to have keen market insight, but also to have the courage and determination to dare to try new things. Through continuous learning and practice, banks can gradually accumulate the experience and ability to cope with market changes, thus holding a favorable position in the competition. The flexibility of the ecosystem is also reflected in the dynamic combinations and ways of collaboration among the players. As markets and technologies evolve, the makeup of an ecosystem is constantly changing. New players may come in, while some established players may exit or switch roles. This dynamic nature requires banks to be able to maintain close communication and collaboration with other players so that they can quickly form effective cooperative teams when needed to jointly address market challenges. The adaptability of the ecosystem is also reflected in the acceptance and integration of new technologies and business models. As fintech continues to evolve, new technologies and business models are emerging. Banks need to keep an open mind and actively embrace these new technologies and business models and integrate them into their own operations. Through continuous innovation and experimentation, banks can expand into new business areas and improve service quality and efficiency, thus enhancing their market competitiveness[14].

From the above, we can see that multi-agent collaboration and dynamic adaptability are the core characteristics of the ecosystem of banking innovation activities. This ecosystem not only promotes technological progress and business model innovation, but also provides strong support for the banking industry to achieve sustainable development in the modern complex environment. The collaboration of multiple entities enables banks to pool wisdom and resources from all parties to jointly address market challenges. Fintech companies bring cutting-edge technology solutions to banks, data providers help banks better understand customer needs, and regulators ensure that innovation activities are carried out within the framework of compliance. This close collaboration facilitates the rapid dissemination and application of knowledge and technology, which drives the overall progress of the banking industry. Dynamic adaptability allows banks to respond flexibly to market changes and technological advancements[15]. In a rapidly changing financial environment, banks need to constantly adjust their strategies and business models to meet new market demands and competitive situations. The ecosystem of banking innovation activities provides banks with flexible cooperation mechanisms and innovative platforms, enabling them to quickly capture market opportunities, adjust product strategies, and jointly explore new business models with other players. Therefore, the ecosystem of bank innovation activities not only promotes technological progress and business model innovation, but also provides strong support for the banking industry to achieve sustainable development in a modern complex environment[16]. The establishment of this ecosystem helps to enhance the overall competitiveness of the banking industry, promote the inclusion of financial services, and bring customers a more convenient, secure and personalized financial service experience[17]. In the future, with the continuous progress of science and technology and the constant change of market demand, the ecosystem of banking innovation activities will continue to play an important role in pushing the banking industry to new heights.

## 1.3 Significance of building the ecosystem of banking innovation activities.

Building an ecosystem of bank innovation activities has far-reaching and positive significance, which is one of the important steps for the modern banking industry to achieve sustainable development in the rapidly changing financial environment. The construction of this ecosystem not only brings unprecedented opportunities for banks, but also provides strong support for them to maintain their leading position in the fierce market competition[18]. The construction of the ecosystem of banking innovation activities has greatly promoted the diversification of banking products and services. In this ecosystem, banks are no longer fighting alone, but working closely with diverse innovation entities, such as fintech companies, data providers, regulators and others. These partners, each with unique resources and advantages, are able to provide banks with a wealth of innovative elements and inspiration[20]. By working with them, banks are able to quickly acquire and apply new technologies and methods, and in turn develop new products and services that better meet customers' needs[19]. This mode of multi-party cooperation not only breaks the situation of traditional banks fighting alone, but also enables banks to adjust their product strategies more flexibly and respond quickly to market changes to meet the diversified needs of customers.

In the ecosystem, banks have access to the most cutting-edge technological developments and market trends, so that they can seize innovation opportunities in time[21]. At the same time, through cooperation with other innovation subjects, banks can share resources, knowledge and experience to reduce innovation costs and risks. This mode of cooperation can help banks accelerate the innovation process, improve the quality and efficiency of innovation, and thus gain a favorable position in the market competition. The establishment of an ecosystem of banks' innovation activities will also help promote the overall progress and sustainable development of the banking sector[22]. The establishment of the ecosystem promotes information sharing and collaborative cooperation among different participants, helping to form a healthy atmosphere of competition and cooperation. Such an atmosphere helps to stimulate the innovation vitality of the entire industry and push the banking industry forward continuously. At the same time, the construction of the ecosystem also helps to improve the service quality and efficiency of the banking industry, and provide customers with more high-quality, convenient and safe financial services, thus enhancing customers' trust and satisfaction in the banking industry[23]. The establishment of an ecosystem of banking innovation activities can effectively enhance the competitiveness of banks. With the rapid development of fintech, traditional banks are facing competitive pressure from various emerging financial service companies. This ecosystem not only provides a platform for banks to work closely with innovators, but also enables banks to maintain innovation vitality in a broader scope, improve their technical level and service capabilities by integrating resources, thus forming a differentiated advantage in market competition and improving their customer satisfaction.

The ecosystem of bank innovation activities also contributes to the upgrading of risk management. This ecosystem not only promotes innovation in technology and business models, but also provides banks with a more comprehensive and advanced perspective to examine and manage risks[24]. Through partnerships with various technology enterprises, banks are able to access and apply cutting-edge technologies such as big data, artificial intelligence and blockchain. These technologies have great potential in the field of risk management. For example, big data analysis and artificial intelligence algorithms can help banks more accurately predict and identify potential financial risks, including credit risk, market risk, operational risk and so on. By monitoring and analyzing a large amount of transaction data and market information in real time, banks are able to detect abnormal behaviors and potential threats in a timely manner, so that appropriate measures can be taken to prevent and control them[25]. Especially in areas such as cybersecurity, anti-fraud and compliance management, the ecosystem of banks' innovative activities has played an important role. Cyber security is a major challenge for the banking industry, and by partnering with professional cyber security companies, banks can access the latest security technologies and solutions to enhance cyber protection and emergency response capabilities. In terms of anti-fraud, using artificial intelligence and machine learning technologies, banks can build smarter anti-fraud systems that effectively identify and block fraud. Meanwhile, compliance management experts and legal advisers in the ecosystem can also provide banks with compliance advice and support to ensure that their business activities comply with regulatory requirements. In addition, the ecosystem of bank innovation activities also enhances the transparency and efficiency of the bank's overall operations. Through cooperation and information sharing with other players, banks are able to better understand market dynamics and industry competitive dynamics to make more informed decisions. The establishment of the ecosystem has also promoted synergies among various departments within the bank, improving work efficiency and response speed.

The establishment of the ecosystem is of great significance in promoting the application of regulatory technology and close collaboration with regulators[26]. The establishment of this innovative model not only provides banks with a bridge to adapt to and respond to regulatory changes, but also provides regulators with a richer and more accurate source of data, which jointly promotes the sound development of the entire banking industry. The construction of the ecosystem helps banks better understand

and adapt to the new regulatory requirements. Under the traditional regulatory model, banks often need to face and interpret complex regulatory policies alone, which is not only time-consuming and laborious, but may also lead to compliance risks due to misunderstanding. However, in the ecosystem, banks can establish a closer cooperation relationship with regulators and obtain timely regulatory dynamics and guidance through regular exchanges and communication, so as to ensure that their business activities always comply with regulatory requirements[27]. This mode of cooperation not only reduces compliance risks, but also improves banks' regulatory adaptability and flexibility. The ecosystem provides regulators with more data support, helping to form a more precise regulatory framework. In the ecosystem, data sharing and collaboration between banks and other players is the norm. This means that regulators can more easily access the business data, transaction information and so on of banks and their partners for more comprehensive and in-depth analysis. This data support helps regulators to more accurately assess banks' risk profile, compliance level and market behavior, and then formulate more accurate and effective regulatory policies. This data-based supervision model not only improves the accuracy and efficiency of supervision, but also promotes the healthy development of the banking industry. The construction of the ecosystem also helps promote the application of regulatory technology[28]. As fintech continues to evolve, regulatory tech is also constantly innovating and upgrading. Through cooperation within the ecosystem, banks can gain access to the latest regulatory tech solutions, such as smart contracts, blockchain, artificial intelligence, etc., and apply them to their own compliance management and risk control. The application of these technologies not only improves banks' compliance efficiency and risk management level, but also provides regulators with more convenient and efficient regulatory tools. The construction of ecosystem is of great significance to promote the application of regulatory technology and close collaboration with regulators. Through the establishment of this innovative model, banks can better understand and adapt to new regulatory requirements and reduce compliance risks; Regulators will also be able to obtain more data support to form a more accurate regulatory framework; At the same time, the application of regulatory technology has been further promoted, which has jointly promoted the steady development of the entire banking industry.

This innovative model has far-reaching implications far beyond the banking business itself[29]. In addition to the traditional goal of pursuing profit growth, banks can use the ecosystem to introduce and promote a series of innovative measures such as green finance and inclusive finance, so as to fulfill their social responsibilities at a broader level, actively support environmental protection and social equity, and create more shared value for society.

Green finance is an important trend in the current global financial field. Through the platform of the ecosystem, banks can work closely with environmental protection enterprises and green project developers to provide financial support and financial services for clean energy, energy conservation and emission reduction, and sustainable development projects. This not only helps the bank to open up new business areas and increase revenue sources, but more importantly, it promotes the development of an environmentally friendly economy, promotes the response to the challenge of global climate change, and reflects the bank's high sense of responsibility and mission for environmental protection[30].

At the same time, the promotion of inclusive finance is also an important way for banks to realize their social responsibility through the ecosystem. By connecting with small and micro enterprises, rural areas and low-income groups in the ecosystem, banks are able to design and provide financial products and services that meet their needs, such as microfinance, mobile payments, insurance, etc., thus effectively alleviating financial exclusion and promoting inclusive social and economic growth. This not only enhances the bank's social image, but also enhances its ability to serve the real economy.

Building an ecosystem of banking innovation activities not only promotes the expansion and transformation and upgrading of banks' own business, but more importantly, it has a positive external effect on social governance, economic development and financial stability. In terms of social governance, the establishment of the ecosystem promotes multi-stakeholder cooperation, helps to solve social problems, and improves the efficiency of public services. In terms of economic development, it has promoted the deep integration of financial innovation and economic transformation and upgrading, injecting new vitality into economic growth[31]. In terms of financial stability, by strengthening risk management and compliance building, the ecosystem helps to enhance the robustness and resilience of the entire banking sector. Building an ecosystem of banks' innovative activities is a key path to achieving banks' sustainable development goals. It not only provides banks with new business growth points and ways to fulfill their social responsibilities, but also has far-reaching positive impacts on social governance, economic development and financial stability. It is an important strategic choice for the banking industry to face the future and promote social common prosperity.

CHAPTER2: RESEARCH METHODS AND CASE STUDIES.

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As a basic and important rese.arch method, literature analysis plays an irreplaceable role in comprehensively understanding and deeply exploring the ecosystem of bank inRovation activities. In this study, the application of literature analysis is neot only limited to the simple reading and combing of relevant theoreticalsliterature, but also a systematic, in-depth and critical learning processe. Through extensive collection and careful reading of relevant theoretical literature at home and abroad, this study strives to comprehensivelyr grasp the research status and development trend of the ecosystemcof banking innovation activities[32]. These literatures cover all aspects ofhbank innovation activities, including innovation mode, ecosystem construction, risk management, regulatory technology application, etc., providinng a wealth of theoretical support and empirical cases for this paper. In thee process of literature analysis, this study pays special attention to absortbing and learning from the previous research methods and achievementss. Through comparative analysis of different scholars' research perspectivves, methods and technologies on the ecosystem of bank innovation actividities, this study refines a series of



and theoretical analysis in comprehensively understanding and deeply exploring the ecosystem of bank innovation activities.

research ideas and analytical tools for reference. These methods and tools not only enrich the research methods of this paper, but also improve the scientificity and accuracy of the research. In order to have a more comprehensive understanding of the actual situation of the ecosystem of bank innovation activities, this study also referred to a large number of banks' public annual reports, wind database and other authoritative materials. These materials provide a wealth of data support and empirical cases, so that the study of this paper is closer to reality and more convincing[33]. Through the analysis and collation of these data, this study further clarified the development status quo, problems and challenges of the ecosystem of bank innovation activities, and provided a solid empirical basis for the writing of this paper.

The deepening application of theoretical analysis in the research of the ecosystem of bank innovation activities. As an important cornerstone of this study, theoretical analysis aims to dig deeper and sort out the internal relations and rules between the ecosystem of bank innovation activities and the development direction of modern banking. By systematically reviewing and sorting out relevant theories and conceptual frameworks, this study aims to provide a solid theoretical basis and scientific analysis hypothesis for the subsequent empirical research on the development direction of banks. This study comprehensively combs the relevant theories of the ecosystem of bank innovation activities. This includes the basic concept, constituent elements, operating mechanism and its specific application in the banking industry[34]. Through in-depth analysis of the internal logic and dynamic evolution process of the ecosystem of banking innovation activities, this study reveals its important role in promoting the transformation and upgrading of the banking industry and improving the quality and efficiency of financial services. This study covers the development trend, competition pattern, innovation strategy and risk management of the banking industry. Through in-depth analysis of these theories, this study grasps the overall context and key nodes of the development of the banking industry, provides the macro background and strategic guidance for the follow-up research, and also provides beneficial enlightenment and guidance for the development of the banking industry.

In the context of globalization and digitalization, the banking industry is faced with unprecedented challenges and opportunities. In order to meet these challenges and seize the opportunities, the banking sector needs to constantly innovate and build a sound ecosystem of innovative activities[35]. From the perspective of SWOT model, this paper will analyze the relationship between the ecosystem of innovative activities of China Merchants Bank and the development direction of modern banking industry, in order to provide valuable insights for the future development of banking industry, and also provide useful exploration for the development direction of modern banking industry. In the future, CMB should continue to give full play to its advantages in technological innovation, service innovation and management innovation, actively respond to market challenges, grasp development opportunities, and lead the banking industry to a higher stage of development with a more open mind and innovative thinking[36]. At the same time, other banks should draw inspiration from CMB's successful experience and continue to explore innovation paths suitable for themselves in light of their own realities.

## 2.2 Relevant data model and case analysis

China Merchants Bank is the first joint-stock commercial bank wholly owned by legal persons after China's reform and opening up. It was founded by China Merchants Group in Shekou, Shenzhen on March 31, 1987. It is headquartered in Futian District, Shenzhen City, Guangdong Province, China. Its main business is to provide wholesale and retail banking products and services, fund business on its own and on behalf of clients, and services such as wealth management, retail credit, online services, payment and settlement, asset management, asset custody and investment banking[38]. It is also the first pilot bank promoted by the state to reform the banking industry from outside the system.

Advantage analysis,As one of the leading commercial banks in

China, CMB has always maintained strong innovation capability and frontier exploration in the field of fintech[39]. Driven by digitalization and intelligence, CMB has actively drawn on and applied new generation information technologies, including big data, artificial intelligence, blockchain and cloud computing, among others. These technologies not only enable CMB to more accurately predict customer needs, but also improve its ability to manage risks. For example, based on big data analysis, CMB can dig deeply into customer behavior, transaction patterns and other levels to form a customer portrait, and then provide personalized financial products and services. Its fintech innovation project is one of the bank's important strategic initiatives to address the challenges of digital transformation, enhance customer experience and enhance competitiveness. By integrating emerging technologies, reshaping business processes and optimizing service models, CMB is committed to building an efficient, intelligent and open financial services ecosystem. As of June 2024, CMB has 143 branches (including branches in free trade zones) and 1,794 sub-branches in China, covering more than 130 cities. It has 6 branches and 2 representative offices overseas, and employs more than 110,000 people. According to the official website of China Merchants Bank in June 2024, the total assets of China Merchants Bank are 11.57 trillion yuan, ranking 7th in the domestic banking industry; Its operating income was 172.9 billion yuan, ranking 6th in the domestic banking industry; The net profit attributable to shareholders of the bank was 74.7 billion yuan, ranking fifth in the domestic banking industry. The average return on total assets (ROAA) was 1.32% and the average return on equity (ROAE) was 15.44%, ranking first among large and medium-sized listed banks in China.

Analysis of weaknesses,Although CMB has made remarkable achievements in the field of innovation, which has won it wide acclaim and market share, it cannot be ignored that it still faces a series of challenges that constitute disadvantages or potential obstacles for its further development. The high investment and long cycle of technological innovation are realistic problems that CMB must face headlong. The rapid development of fintech requires banks to continuously invest huge amounts of money in research and development of new technologies, upgrading systems and training staff to adapt to the latest market demands. These investments are not only huge, but also have a relatively long payback period, which can put pressure on banks' financial positions. At the same time, sustained technological innovation also requires a stable talent pool as support, especially in high-end technical talent, and CMB needs to compete fiercely with other industry giants and tech start-ups to attract and retain these key talents. Keeping innovation agile and flexible is another big challenge for CMB in the fast-changing market environment. With the diversification of customer needs, the rapid evolution of market trends, and the emergence of competitors, CMB must be able to respond quickly to market changes and flexibly adjust its innovation strategy to ensure that its products and services always remain at the forefront of the industry. However, as a large financial institution, CMB may have certain complexity in its decision-making process and internal management mechanism, which may lead to a relatively slow decision-making process, affecting the timeliness of innovation and market competitiveness. In the process of innovation, China Merchants Bank also needs to carefully balance the relationship between risk and return. Financial innovation is often accompanied by high risks, including market risk, credit risk, operational risk, etc. How to effectively control these risks while pursuing innovation and ensure the steady development of business is an issue that China Merchants Bank must seriously consider.

China Merchants Bank has made remarkable achievements in innovation, but it still needs to face up to the challenges of high investment and long cycle of technological innovation, maintaining innovation agility and flexibility, balancing risk and return, and cultivating innovation culture. By continuously optimizing internal management, strengthening talent training and introduction, improving risk control mechanism and deepening corporate culture construction, CMB is expected to overcome these disadvantages, continue to promote innovation and maintain its leading position in the financial industry.

Opportunity analysis,China Merchants Bank, as a leader in China's banking industry, has actively explored the ecosystem of banking innovation activities and the development direction of modern banking, not only winning competitive advantages for itself, but also providing valuable experience and inspiration for the future development of the whole industry. This paper will deeply analyze the opportunities of CMB in the ecosystem of banking innovation activities and the development direction of modern banking from multiple perspectives, and explore how CMB can make use of these opportunities to achieve sustainable development and innovative breakthroughs. The rapid development of financial technology has provided China Merchants Bank with unprecedented opportunities for innovation. With the increasing maturity of technologies such as big data, artificial intelligence and blockchain, the banking industry is undergoing a profound transformation from a traditional service model to a digital and intelligent one. China Merchants Bank, as a pioneer in the application of financial technology, has actively embraced this change and provided customers with more convenient, personalized and secure financial services by introducing new technologies, optimizing business processes and improving service efficiency.

Tabl 1.1

Scientific and technological personnel and scientific research investment of some commercial banks in China

| Bank names account for | Number of scientific and technical personnel (people) | Proportion of total employees (%) | Scientific research investment (100 million yuan) | Percentage of revenue (%) |
|---|---|---|---|---|
| Bank of China | 8189 | 3.07 | 186.18 | 3.07 |
| Industrial Bank | 3303 | 6.45 | 63.64 | 2.88 |
| Shanghai Pudong Development Bank | 6428 | 10.64 | 67.06 | 3.51 |
| Bank of Beijing | 1297 | 7.52 | 5.4 | 3.50 |
| China Merchants Bank | 10043 | 9.7 | 132.91 | 4.01 |

The development of internationalization has provided China Merchants Bank with a broader market space. With the advancement of globalization, the banking industry is facing the opportunity of internationalization. As a leader in China's banking industry, CMB has actively expanded overseas markets and cooperated with international financial institutions, thus achieving business diversification and international development. CMB has actively expanded overseas markets by setting up overseas branches and cooperating with local financial institutions. This has not only provided CMB with a broader market space, but also enhanced its international influence and brand value. CMB has met the financial needs of enterprises in the process of globalization by introducing international businesses such as cross-border payment and supply chain finance. This not only improves the operational efficiency of enterprises, but also brings more business opportunities and revenue sources for CMB. CMB is actively engaged in cooperation with international financial institutions to jointly develop new financial products and services. This not only helps CMB learn from international advanced experience and technology, but also enhances its cooperative relations with international financial institutions, laying a solid foundation for its future international development.

Threat Analysis,The rapid development of fintech has brought unprecedented opportunities for China Merchants Bank, but it has also brought many threats. As technologies such as big data, artificial intelligence and blockchain continue to mature, the application of fintech is becoming more and more extensive, posing a severe challenge to traditional financial institutions such as CMB. The rapid development of fintech requires CMB to continuously invest heavily in technology research and development and system upgrades to maintain its leading position in technology. However, the pace of technological upgrading is very fast, and CMB needs to keep up with it, otherwise it will easily be overtaken by competitors. The pressure of such technological upgrading poses a severe challenge to CMB's financial situation and resource allocation. With the continuous development of fintech, more and more fintech enterprises have emerged, which are driven by technological innovation and oriented to customer needs to provide convenient, efficient and personalized financial services. These fintech enterprises pose stiff competition to traditional financial institutions such as China Merchants Bank, especially in areas such as mobile payment, online banking and intelligent advisory. The application of fintech involves a large amount of customer data and private information, and once the data is leaked or abused, it will cause serious reputational losses and legal risks for CMB. Therefore, CMB needs to continuously strengthen its data security and privacy protection work to ensure the security and privacy of customer data. Changes in the market environment pose a severe challenge to

CMB. With the globalization of the economy, the continuous opening of the financial market and the diversification of customer demands, CMB needs to constantly adjust its strategy and business model to adapt to changes in the market environment. With the deepening of economic globalization, China Merchants Bank is facing the competitive pressure from the international market. International financial institutions have obvious advantages in capital strength, technical level and management experience, posing a severe challenge to China Merchants Bank. China Merchants Bank needs to strengthen cooperation and competition with international financial institutions to enhance its own strength and international competitiveness. With the continuous opening of the financial market, CMB is facing more market risks and competitive pressure. The entry of foreign financial institutions will intensify market competition and pose a threat to China Merchants Bank's business development and market share. At the same time, the opening up of the financial market has also brought more financial risks, such as exchange rate risks and credit risks, and CMB needs to strengthen risk management and preventive measures. With the development of economy and the progress of society, customer needs are becoming more and more diversified and personalized. China Merchants Bank needs to constantly innovate its products and services to meet the diversified needs of customers. However, the rapid changes in customer demand have put forward higher requirements for CMB's innovation ability and market response speed, and CMB needs to strengthen market research and customer demand analysis, and constantly improve the quality of products and services.

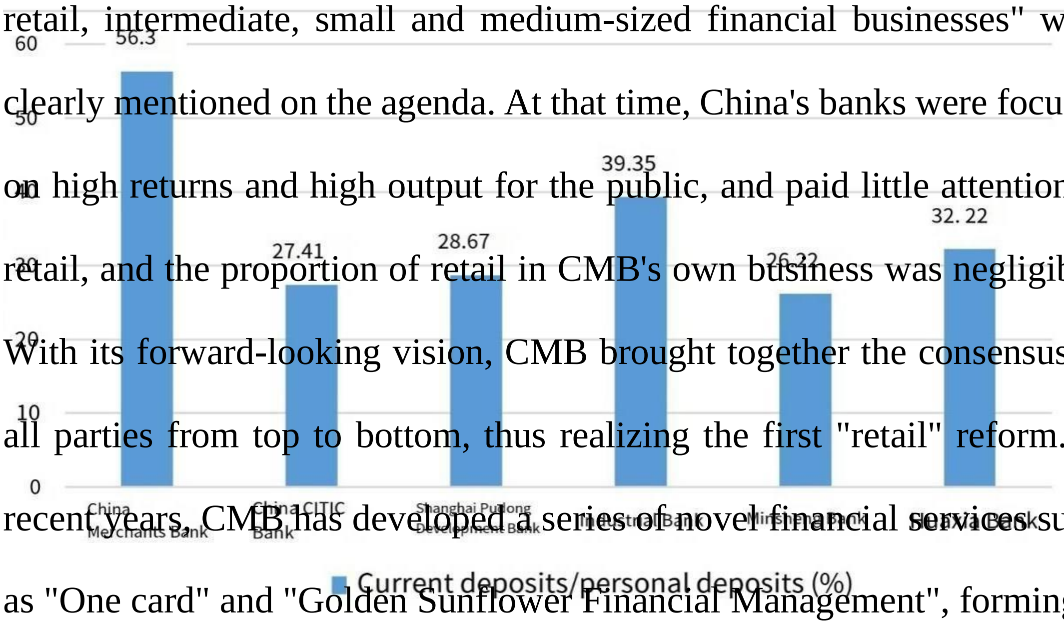
Changes in regulatory policies have had an important impact on CMB. With the continuous development of the financial market and the continuous improvement of regulatory policies, CMB needs to pay close attention to the changes in regulatory policies and adjust its business model and strategic direction in a timely manner. Changes in regulatory policies are often uncertain, and CMB needs to pay close attention to policy dynamics and adjust its business model and strategic direction in a timely manner. However, the speed and frequency of policy changes are often relatively fast, and CMB needs to have strong policy sensitivity and adaptability to cope with the challenges brought by policy changes. The continuous development of the financial market and the continuous improvement of regulatory policies have put forward higher standards for

CMB in terms of regulatory requirements. CMB needs to strengthen its internal management, risk control and compliance construction to ensure business compliance and robustness. However, the increased regulatory requirements have also increased CMB's operating costs and compliance pressure. With the continuous expansion of CMB's international business, cross-border supervision has become an important issue. There are differences and conflicts in the regulatory policies of different countries and regions, and CMB needs to strengthen cross-border regulatory coordination and communication to ensure the compliance and robustness of its business. However, the complexity of cross-border supervision has increased China Merchants Bank's operating costs and compliance risks.

CMB faces challenges from domestic and foreign competitors in the banking sector. These competitors have obvious advantages in capital strength, technical level and management experience, posing a threat to China Merchants Bank's business development and market share. Competition in the domestic banking sector is fierce, and CMB faces challenges from competitors such as large state-owned banks, joint-stock banks and city commercial banks. These competitors have obvious advantages in capital strength, customer base and brand influence, posing a threat to China Merchants Bank's business development and market share. China Merchants Bank needs to strengthen brand building, customer service and product innovation to enhance its competitiveness.

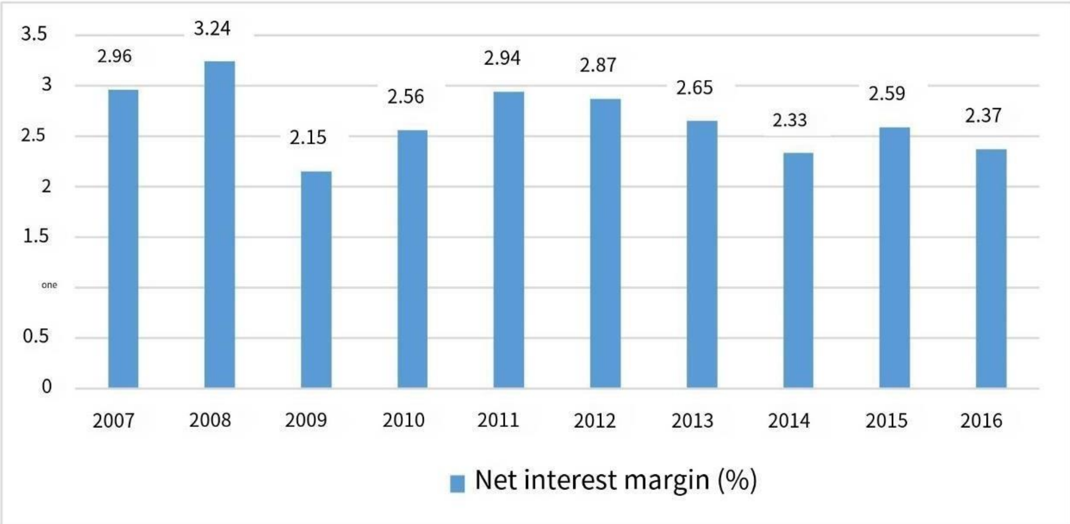
With the continuous opening up of the financial market and the continuous expansion of its international business, CMB is facing competitive pressure from international financial institutions. These international financial institutions have obvious advantages in capital strength, technical level and management experience, posing a severe challenge to CMB's international business. China Merchants Bank needs to strengthen cooperation and competition with international financial institutions to enhance its own strength and international competitiveness. Emerging financial formats, such as Internet finance and fintech innovative enterprises, are emerging, posing a challenge to traditional financial institutions such as CMB. Driven by technological innovation and guided by customer demand, these emerging financial formats provide convenient, efficient and personalized financial services. China Merchants Bank needs to strengthen cooperation and competition with the emerging financial formats to promote its own innovation and development. From the development history of CMB, the innovative activity ecosystem strategy of CMB so far is as follows: "In a lightweight (light asset, light thinking, light bank) way, in order to create the best customer experience for the purpose", and with the MAU of the North Star Index as a guide, rebuild a digital retail financial management system, through digital customer acquisition, digital operation and digital risk control, build a new customer service system.

First transformation: Retail led the first transformation of China Merchants Bank from 2004 to 2009. The development goal of CMB in 2004 was to "take retail as the core, promote its operation and development through continuous innovation". In 2005, the "Opinions on promoting retail, intermediate, small and medium-sized financial businesses" were clearly mentioned on the agenda. At that time, China's banks were focused on high returns and high output for the public, and paid little attention to retail, and the proportion of retail in CMB's own business was negligible. With its forward-looking vision, CMB brought together the consensus of all parties from top to bottom, thus realizing the first "retail" reform. In recent years, CMB has developed a series of novel financial services such as "One card" and "Golden Sunflower Financial Management", forming a comprehensive financial service system and achieving remarkable achievements. From 2003 to 2008, the net profit of CMB rose at a rate of 56.71%, ranking first among similar banks. From the perspective of different fields, the bank's savings deposits increased from less than 200 billion yuan to 555.3 billion yuan, among which, the proportion of demand deposits in the bank has reached more than 50%; Microcredit from individual banks increased by 3,286 percentage points; Among them, the operating income of banks increased from the original 620 million yuan to 650 million yuan, and all economic data achieved leapfrog growth.



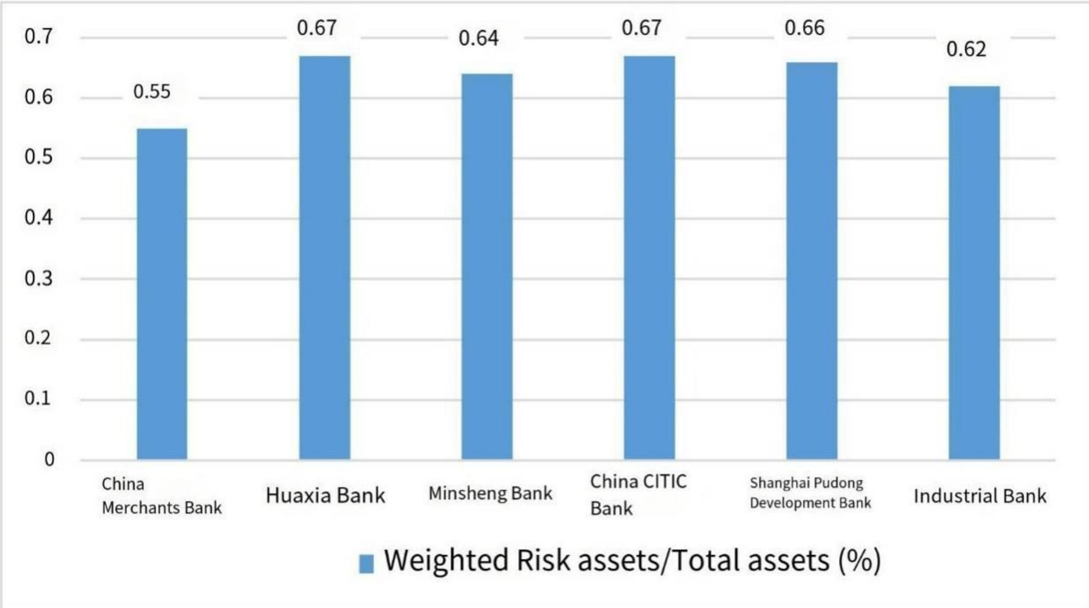
The share of personal demand deposits in personal deposits in 2009

As can be seen from the chart above, by the end of 2009, CMB's first digital transformation had achieved certain results, ranking first among similar banks in terms of user stickiness, and its demand deposits in that year accounted for 56.3% of personal deposits. During this period, taking "retail as the center" became the core of CMB's transformation, and the adjustment of operation mode became an important link of CMB's transformation, and also the basis of CMB's "retail banking". In today's increasingly fierce competition in the industry, it became an important part of CMB's "new business form" development strategy The second transformation: The light bank has its ebb and flow, and any transformation will not be smooth sailing, so is CMB. After the financial crisis in 2008, with the central bank repeatedly lowering interest rates and mobilizing a large amount of liquidity, China's banks have started to narrow their net interest margins (another narrowing time is about 14- 15 years). In its capital and liabilities, because demand deposits, retail loans and bills account for a large proportion in the bank, it is more sensitive to the response to interest rates, and these changes are reflected in the company's operation. Statistics show that the net profit of investment investment decreased by 1.09 percentage points to 2.15% in 2009, a decrease of 3.24% compared with 2008; Among them, the net profit of China Merchants Bank fell by 1.19 percentage points from a year ago. Its operating profit for the year was 18.235 billion yuan, down 13.48 percent from a year earlier, making it the only company in its category to post a loss.




Net interest margin of China Merchants Bank 2007-2016

It is in this big environment that in 2010, China Merchants Bank began a "secondary transformation", mainly around improving operational efficiency, improving loan risk, improving cost efficiency, increasing the proportion of value customers, and improving risk management and control capabilities. On this basis, the bank further clarified the strategic positioning of "one body and two wings", that is, to light development. In the development ideas of "one body and two wings", China Merchants Bank put forward the retail finance with "one body" as the core, and emphasized its strategic position with retail as the core, and the two wings with the public and the industry as the core. Continuous innovation in the asset-light fields such as trading, retail and custody has promoted the "second breakthrough" of CMB. Its assets under custody have exceeded 10 trillion yuan in 16 years, ranking second in the country, providing it with solid income and capital. According to CMB's five-year plan for 2014, its retail finance business will generate more than 50 percent of the group's profits after five years.

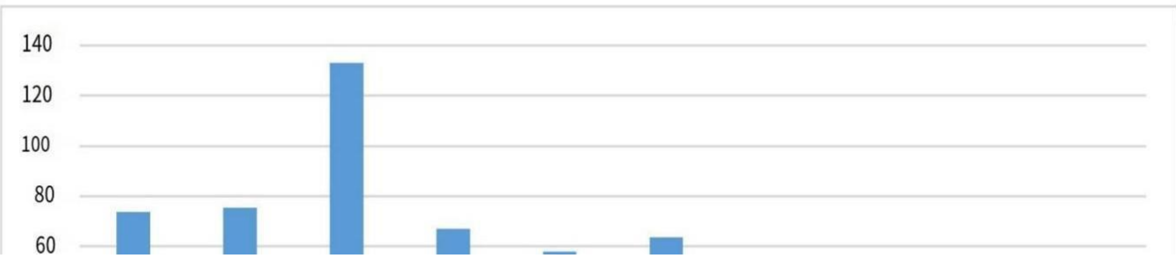



Weighted risk assets as a percentage of total assets in 2016 (%)

The target amount of weighted risk assets has been achieved in 2016, when the pre-tax profit of the retail industry increased by 23.80% over the same period of the previous year, and the proportion of pre-tax profit reached 53.62%. In addition, the weight ratio of China Merchants Bank in the same type of banks has gradually reflected its superiority in similar banks. For example, although its total assets are nearly 3 trillion less than BOCOM, its net profit in the first quarter of 2017 has surpassed the state-owned bank -- BOCOM, and entered the fifth bank in the country. After the two "transformation", the retail business of CMB has fully accounted for half of its banking business in terms of scale and income. In terms of core business, such as wealth management and retail deposits, it has far exceeded its peers, and has formed obvious differentiating advantages in China's customer base, product group, channel group and brand group.

The third transformation: from 2017 to 2024, Fintech banking in the eyes of CMB, fintech in 2017 is regarded as a booster that can make its business take off again, and CMB will make every effort to realize the transformation from traditional banks to networking, data-oriented and intelligent. Therefore, it will officially put forward the 3.0 transformation strategy of building a fintech bank. China Merchants Bank has always been adhering to the business philosophy of "technology prosperity", with technology as the support, technology as the basis, market as the orientation, user as the center, technology to drive the overall development, and accelerate the building of a technology-centric, technology-oriented new financial institution. In 2015, CMB launched the "mobile first" strategy, and released the Mobile Life App5.0, which became the first mobile application in the industry for other commercial institutional customers, laying a solid foundation for its business expansion; In 2017, CMB released app 6.0, which made use of big data and artificial intelligence technology to bring more benefits to customers and improve the systematic strength of the retail industry on this basis; Since 2018, the development of China's "light banking" has entered the second half, and began to explore the 3.0 model in the digital era; In September 2019, the number of users of CMB's App has exceeded 100 million, and among many financial applications, it is second to none in terms of user stickiness and activity. In 2021, CMB will build a 3.0 business model, which is "the business model of large assets + the operation model of digital.

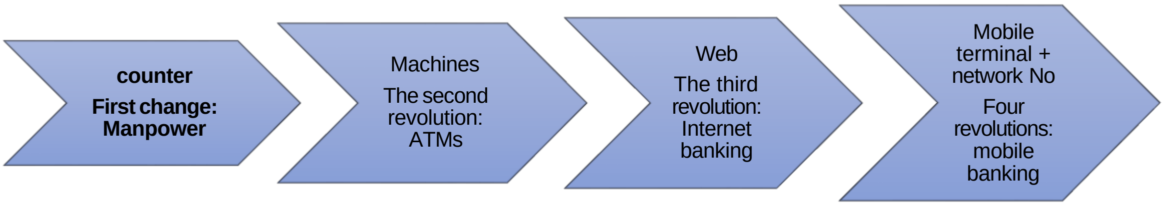
Type + open and integrated institutional model , and made a good start in the "14th Five-Year Plan". China Merchants Bank continues to strengthen the application of science and technology, China Merchants Bank 2023 annual report shows that the business of China Merchants Bank steady development, the overall operation is good. Specifically, the total profit of the bank was 176.606 billion yuan, an increase of 11.493 billion yuan, an increase of 6.96%; The net profit attributable to the bank's shareholders was 146.602 billion yuan, an increase of 5.89 billion yuan, or 6.22 percent. , the investments covered multiple aspects such as retail, risk, technology and organizational culture, laying the foundation for building a future business innovation ecosystem.



Financial technology investment of joint-stock banks in 2023 China Merchants Bank will be "user-centered", will be "technology as the core", "to build an innovation ecology as the core", to establish the development direction of the modern banking industry, promote the banking industry to achieve high-quality development, and better serve the real economy and social development.

### 2.3 Analysis of the ecosystem of CMB's innovation activities.

CMB's innovative activities in the financial field are reflected in the construction of its digital financial platform. By building an innovative Internet financial platform, CMB has provided diversified financial products and services to meet the individual needs of users. Users can carry out convenient transactions and financial management operations through channels such as mobile banking, online banking and third-party payment platforms. The construction of such digital financial platforms not only improves the operational efficiency of banks, but also enhances the customer experience. In terms of intelligent services, China Merchants Bank has improved the efficiency and accuracy of risk management by introducing artificial intelligence technology and big data analysis. Through the analysis of user data and transaction behavior, CMB was able to detect potential risks in a timely manner, avoid losses and ensure the safety of users' funds.




History of Chinese banking innovation

Meanwhile, CMB has also launched artificial intelligence-based intelligent customer service and intelligent advisory products to further improve user experience and service quality. With an innovative model of win-win cooperation, China Merchants Bank has set up a fintech startup accelerator in order to promote the development of fintech. By cooperating with startups, CMB is able to access new technologies and innovative financial products. Meanwhile, startups can also take advantage of CMB's resources and platform to accelerate product development and marketing. This innovative model of win-win cooperation not only brings new technologies and products to CMB, but also provides valuable market opportunities and development space for startups. In terms of green finance, China Merchants Bank has also carried out active practices. By launching green finance products such as green credit and green bonds, CMB has supported the development of the environmental protection industry and promoted the optimization, transformation and upgrading of the economic structure. At the same time, CMB has actively participated in international green finance cooperation and promoted the formulation and promotion of green finance standards.

China Merchants Bank's innovative activity system construction focuses on technology-driven, customer-centric, open cooperation and risk management. Through continuous practice and exploration, CMB has provided strong support for its own digital transformation.

# CHAPTER 3. INTEGRATION STRATEGY OF MODERN BANKING DEVELOPMENT DIRECTION AND INNOVATION ECOSYSTEM

## 3.1 Development trend of modern banking industry.

Trends in modern banking, as an important part of the financial sector, are being profoundly influenced by a number of key factors, particularly technological advances, changing customer needs and the evolution of the regulatory environment, which together shape the future landscape of banking.

The rapid development of technology has not only revolutionized the operation mode of banks, but also greatly enriched the service content. The rise of financial technology, especially the application of cutting-edge technologies such as cloud computing, big data analysis and blockchain technology, has provided banks with unprecedented means of efficient and secure operations. The elastic scalability of cloud computing enables banks to flexibly respond to business peaks and reduce IT costs; Big data analytics enables banks to dig deep into customer behavior patterns to achieve precision marketing and risk management; And the decentralized nature of blockchain technology provides banks with a more secure and transparent transaction environment. The integrated application of these technologies not only significantly improves the internal operational efficiency of banks, but also brings customers a more personalized and intelligent service experience, such as innovative services such as intelligent advisory and instant payment.

The rapid changes in customer demand are leading the development of banking services in the direction of diversification and individuation. With the widespread use of the Internet and smart phones, consumers are increasingly demanding digital and instant financial services. Modern consumers, especially the younger generation, are more inclined to complete financial transactions through online platforms, which requires traditional banks to accelerate the pace of digital transformation, innovate service channels and improve user experience. At the same time, the rise of open banking platforms enables customers to easily compare and choose between different financial service providers, which further intensifies the competition in the banking industry, prompting banks to continuously improve their digital service capabilities and innovation capabilities to meet the growing personalized needs of customers.

Changes in the regulatory environment are also an important force driving innovation in the banking sector. In the post-financial crisis era, the global banking industry is facing more stringent regulatory requirements, which forces banks to strengthen their risk management capabilities and compliance construction. However, while strengthening supervision, governments and regulators are also actively encouraging innovation and competition to improve the overall efficiency and inclusion of financial services. Against such a backdrop, banks need to constantly explore new business models and technology applications to remain competitive in the market, while ensuring compliance. For example, central banks and regulators in many countries have begun to support open banking policies and encourage the sharing and use of financial data, which not only promotes transparency and innovation in the banking sector, but also provides new development opportunities for banks.

The modern banking industry is actively seeking new directions in the face of technology-driven changes, increasing customer demand, and a changing regulatory environment. To cope with these challenges and opportunities, banks need to not only strengthen the construction and upgrading of their technological infrastructure, but also make comprehensive adjustments and optimizations in organizational culture, strategic planning and talent cultivation. By building an innovation ecosystem and strengthening cooperation and exchanges with fintech companies, banks can constantly launch new products and services to meet the diversified needs of their customers; At the same time, by optimizing internal management and processes, and improving operational efficiency and risk management capabilities, banks can maintain their leading position in the fierce market competition.

The modern banking industry is in an era full of changes and challenges. Only by keeping up with the pace of technological development, deeply understanding the changing needs of customers, actively adapting to the requirements of the regulatory environment, and constantly innovating and adjusting the strategic direction can banks remain invincible in the future competition.

## 3.2 Innovate strategies for the integration of the ecosystem with modern banking.

In the development of modern banking industry, the integration strategy of innovation ecosystem has become a key path to promote industry transformation and upgrading and enhance core competitiveness. Faced with the rapidly changing market environment and the wave of technological progress, banks are no longer an isolated financial service provider, but are placed in a complex ecosystem involving fintech companies, academic institutions, startups, regulators and other parties. How to effectively combine with external innovation resources to build an open, collaborative and win-win innovation ecosystem is an important issue facing banks at present.

Banks should establish an open innovation platform, which is the core of the convergence strategy. These platforms are not only places for technical exchange, but also incubators for knowledge sharing and creative collision. Through close cooperation with external organizations such as fintech companies, academic institutions and start-ups, banks can draw on the most cutting-edge technology ideas, market dynamics and customer demand information. Such cooperation can not only bring new technologies and business models to the bank, but also accelerate the pace of innovation in banking business and enhance its market competitiveness. The construction of an open platform should pay attention to the following aspects: first, establish an efficient communication mechanism to ensure the smooth flow of information within the ecosystem; Second, formulate clear cooperation rules to protect the rights and interests of all parties and promote fair competition; Third, provide necessary resource support, such as capital, technology and human resources, to help our partners grow rapidly. Through these measures, banks can achieve win-win collaboration within the innovation ecosystem while maintaining their own core competitiveness.

In the integration strategy of innovation ecosystem, banks need to develop flexible and diverse cooperation models. For example, through incubators and accelerators, they can jointly develop new products and services with start-ups. This mode of cooperation can not only bring fresh ideas and vitality to banks, but also help start-ups enter the market quickly and realize commercial value. At the same time, banks can also gain access to the rapid application of potentially disruptive technologies through strategic investments or joint ventures. This cooperation model helps banks to lay out future markets in advance and seize opportunities.

Banks can also participate in the broader innovation ecosystem through industry alliances and joint projects. These alliances and projects usually involve multiple industries and fields, which can pool more wisdom and resources to jointly address the opportunities and challenges brought about by industry changes. By participating in these alliances and projects, banks can expand their business scope and influence, and enhance their status and voice in the industry.

The integration strategy of the innovation ecosystem requires a cultural and structural transformation within the bank. First, banks need to encourage internal entrepreneurship and a trial-and-error culture. This means providing employees with a relaxed environment for innovation, allowing them the freedom to explore and try new things within limits. Even if they fail, they can learn from it and gain experience. This kind of culture helps to stimulate the innovation potential and creativity of employees.

Banks need to adopt flat organizational structures to speed up decision making and response. The traditional hierarchical organizational structure often leads to slow information transfer and inefficient decision-making. On the other hand, a flat organizational structure can reduce intermediate links and improve communication efficiency, enabling banks to adapt to market changes and customer needs more quickly.

Banks also need to recruit a wide range of talents from different fields, and introduce advanced technology and management concepts to optimize operations and service processes. As fintech continues to evolve, so does the need for talent in the banking sector. Banks need to recruit talents with knowledge in multiple fields such as finance, technology and data analysis to provide intellectual support for innovation. At the same time, banks also need to introduce advanced technologies and management concepts, such as artificial intelligence, blockchain and cloud computing, to optimize their own operations and service processes and improve efficiency and customer satisfaction.

To ensure the deep integration of the innovation ecosystem with the banking sector, regulatory and policy support is critical. Banks should actively communicate with regulators and advocate for a regulatory framework that ADAPTS to innovation. This means that regulators need to provide certain room for banks to innovate on the premise of safeguarding financial stability and customers' rights and interests. For example, banks can be allowed to carry out innovation pilots in specific areas and explore new business models and technology applications. At the same time, regulators can also provide banks with necessary guidance and support to help them avoid potential risks and problems.

In addition, by establishing industry standards and best practices, ecosystem players can be guided to coordinate actions and jointly promote sustainable development of the banking sector. Industry standards and best practices are a summary of the banking industry's long-term development experience, which can provide useful reference and reference for banks. By promoting these standards and practices, they can help banks improve operational efficiency, reduce risk costs and enhance customer satisfaction. At the same time, it will also help build a fair, transparent and trustworthyfinancial market environment and promote the healthy development of the banking sector.

## 3.3 Deep integration: achieve dual innovation of technology and business.

The strategy of integrating the innovation ecosystem with modern banking requires banks to actively open up, innovate themselves, and collaborate with multiple parties to promote technological and business progress. This integration will not only enhance the innovation capability of the banking industry, but also better meet the needs of customers and maintain the long-term vitality and competitive advantage of the industry.

In terms of the dual innovation of technology and business, banks need to pay attention to the following aspects: First, strengthen technology research and development and investment, and promote the innovation and application of financial technology. Banks need to continue to pay attention to the development trend and market dynamics of financial technology, strengthen cooperation and exchanges with financial technology companies, and jointly develop new technologies and products. Second, optimize business processes and service models to improve customer satisfaction and loyalty. Banks need to take customers as the center, deeply understand customer needs and pain points, and provide more convenient, efficient and personalized financial services by optimizing business processes and service models. Third, expand business scope and channels to achieve cross-border integration and coordinated development. Banks need to actively expand their business scope and channels, strengthen cooperation and exchanges with other industries, and achieve cross-border integration and coordinated development. For example, they can cooperate with e-commerce platforms and social media to provide customers with more comprehensive and convenient financial services.

Therefore, the integration strategy of the innovation ecosystem is of great significance to the development of modern banking. By establishing an open innovation platform, developing flexible cooperation models, carrying out internal transformation, striving for regulatory and policy support, and realizing the dual innovation of technology and business, banks can effectively combine with external innovation resources to build an open, collaborative and win-win innovation ecosystem. This will help banks enhance their innovation capabilities, meet customer needs, maintain a competitive edge, and promote sustainable development of the banking sector.

# CONCLUSIONS

In the conclusion part of the paper, we first review the construction basis of the ecosystem of banking innovation activities and its importance in modern banking. Through a detailed analysis of the banking innovation ecosystem, we can see that it plays a significant role in enhancing the competitiveness of banks and promoting the innovation of financial products and services. Building an organic innovation ecosystem will not only help banks cope with the rapidly changing market environment, but also bring new business opportunities and revenue growth points. Using the case of China Merchants Bank, we show three transformations in the banking industry and how to effectively apply the innovation ecosystem to drive technological change and improve operational efficiency. Through concrete data and model analysis, we reveal the actual impact of such innovation on the banking business, especially the results achieved in customer experience improvement and business process optimization. This section highlights the bridging role of business cases in understanding and promoting the innovation ecosystem. We also explore trends in modern banking, especially the opportunities and challenges banks face with the rapid development of fintech and changing customer needs. On the one hand, technological advances have brought great potential for banks to improve operational efficiency and innovative services; On the other hand, banks also need to respond in areas such as data security and regulatory compliance to safeguard the sound development of their business.

Through a comprehensive analysis of the integration strategy between the innovation ecosystem of banks and the development of modern banking, we point out that banks need to make systematic changes in organizational structure, cultural construction and technology investment. This transformation requires not only internal coordination and integration of banks, but also close cooperation with external technology companies and regulators. In this way, banks are no longer just financial service providers, but become an innovation platform to jointly build the future financial ecology through an open architecture and cooperation model. Overall, the ecosystem of banking innovation activities is a key driver shaping the future of modern banking. With an agile ecosystem, banks can better adapt to change, maintain a competitive edge, and drive the overall progress of the industry.

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Онлайн сервіс створення та перевірки кваліфікованого та удосконаленого електронного підпису

ПРОТОКОЛ
створення та перевірки кваліфікованого та удосконаленого електронного підпису

Дата та час: 13:57:58 09.12.2024

Назва файлу з підписом: 1_Thesis.Li Peng 2.pdf.p7s
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Результат перевірки підпису: Підпис створено та перевірено успішно. Цілісність даних підтверджено

Підписувач: 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): 14:57:58 09.12.2024
Сертифікат виданий: КНЕДП АЦСК АТ КБ "ПРИВАТБАНК"
Серійний номер: 5E984D526F82F38F04000000E4DA710112DF3D05
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

Версія від: 2024.10.24 15:00

Онлайн сервіс створення та перевірки кваліфікованого та удосконаленого електронного підпису

ПРОТОКОЛ
створення та перевірки кваліфікованого та удосконаленого електронного підпису

Дата та час: 11:19:15 09.12.2024

Назва файлу з підписом: 1_Thesis.Li Peng 2.pdf.p7s
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Результат перевірки підпису: Підпис створено та перевірено успішно. Цілісність даних підтверджено

Підписувач: Вядрова Надія Григорівна
П.І.Б.: Вядрова Надія Григорівна
Країна: Україна
РНОКПП: 2826317486
Час підпису (підтверджено кваліфікованою позначкою часу для підпису від Надавача): 13:19:10 09.12.2024
Сертифікат виданий: "Дія". Кваліфікований надавач електронних довірчих послуг
Серійний номер: 382367105294AF9704000000EC482B00E05F2E02
Тип носія особистого ключа: ЗНКІ криптомодуль ІІТ Гряда-301
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: 2024.10.24 15:00