

MARKETING STRATEGY MODEL INFLUENCES ON PROFITABILITY
IMPROVEMENT IN URBAN COMMERCIAL
BANKS IN CHINA

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A thesis paper submitted in partial fulfillment of the requirements for
the Degree of Doctor of Business Administration

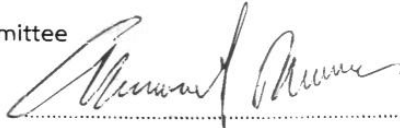
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ABSTRACT

This thesis is a study of the impact of marketing strategy models on the profitability of urban commercial banks in China. Based on the close integration of the actual development of urban commercial banks, this paper mainly discusses the theoretical, policy, and digital-era backgrounds of marketing for urban commercial banks from the perspective of basic marketing principles. Then, based on the relationship between products, services, safety, information technology, customer loyalty, and profitability improvement of urban commercial banks, research questions, objectives, and related hypotheses are proposed. Within the scope of this study, this paper analyses the variable composition of marketing strategies of urban commercial banks by combining qualitative and quantitative methods with related research. It focuses on questionnaires and task interviews with grassroots employees, middle managers, and senior managers of urban commercial banks, and collects data through literature analysis and fieldwork. Using mathematical and statistical tools, we analyse and compare the relevant values of the marketing strategy model of urban commercial banks, innovatively put forward the marketing strategy model of urban commercial banks, and make research and analysis on its model against the practice of urban commercial banks' operation and management, analyse the problems and root causes of the marketing of urban commercial banks, and in-depth analysis of urban

commercial banks under the influence of the objective environment of market economy in terms of their Marketing concept, operation mechanism, development strategy, and so on, and then put forward suitable measures for the current urban commercial bank marketing. The dissertation achieves three objectives: (1) To explore urban commercial banks' products, services, safety, information technology, customer loyalty, and profitability improvement. (2) To analyze the direct and indirect effects of products, services, safety, information technology, and customer loyalty on the profitability of urban commercial banks. (3) To find a model of marketing strategies affecting the profitability improvement of Chinese urban commercial banks.

The results were to be as follows

1. Financial core products, financial services, financial safety, and information technology are important influencing factors for the sustainable development of urban commercial banks. Based on marketing theory, performance theory, information technology theory, financial service theory, and financial safety theory, this paper also incorporates the factor of bank customer loyalty, constructs a theoretical model, and analyzes the influence mechanism of the core products, financial services, financial safety, information technology, and customer loyalty of urban commercial banks on performance.

2. This research demonstrates outstanding theoretical value in the field of finance and makes significant contributions to the expansion and deepening of the disciplinary knowledge system.

3. Financial core products, financial services, financial safety, and information technology, as the key influencing factors for the sustainable development of urban commercial banks, have laid the foundation for the banks' progress and also outlined the roadmap for optimization and improvement. After an in-depth analysis of the internal relationships between these factors and bank performance, a series of highly targeted countermeasures is emerging, aiming to comprehensively drive urban commercial banks to a new level of development.

Keywords: Urban Commercial Bank, Marketing Strategy, Financial Management

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Chapter 1

Introduction

Rationale

1. The development history of China's urban commercial banking industry

The development history of China's urban commercial banking industry is a significant chapter that closely aligns with the pace of national economic reform and financial marketization. It has progressed from immaturity to maturity, now playing an essential role in China's financial system.

Since the mid-1990s, the emergence of city commercial banks can be traced back to the ongoing reform of the national financial system. These banks evolved from urban credit cooperatives and, through a series of reforms and reorganizations, have transitioned into becoming a crucial financial force for supporting the local economy and small to medium-sized enterprises. This transformation not only signifies the upgrading of financial institutions but also reflects a significant aspect of China's economic system reform within the financial sector.

City commercial banks have undergone challenging explorations in their early stages, made steady progress during the transformation phase, and achieved innovative breakthroughs in the reform acceleration stage. They have continuously adjusted to market dynamics, enhanced business structures, improved service quality, and gradually developed business models and competitive edges with distinct local characteristics. Notably, in supporting small and medium-sized enterprises and driving local economic growth, city commercial banks have played a pivotal role and emerged as a key pillar of China's economic and social advancement.

The evolution of city commercial banks holds significant importance in enhancing China's financial system and optimizing the distribution of financial resources. Firstly, they address the service gaps of large commercial banks for small

and medium-sized enterprises, meeting the market's demand for diverse financial services. Secondly, the emergence of city commercial banks has spurred heightened competition within the banking sector, breaking the dominance of large state-owned commercial banks and enhancing the efficiency and quality of financial services. Moreover, by introducing innovative business models and expanding service offerings, city commercial banks have injected fresh energy into the financial market, fostering its growth and prosperity.

2. China's urban commercial banking policy environment

Since 2000, China's urban commercial banking industry has experienced significant changes in its policy environment. The first stage involved the establishment of the regulatory framework. As financial system reform progressed, the state recognized the importance of urban commercial banks in the local economy and issued policy documents to clarify their positioning and development direction. For instance, city commercial banks were encouraged to strengthen their capital base and market competitiveness through measures such as increasing capital, expanding shares, and attracting strategic investors. Concurrently, regulatory authorities intensified supervision to ensure the sound operations of urban commercial banks.

During the policy adjustment period, regulatory policies are continuously optimized and improved as the financial market rapidly develops and financial risks become more apparent. The state has begun adjusting regulatory policies for urban commercial banks by strengthening requirements for bank capital adequacy and risk management to enhance their risk resistance. Urban commercial banks are also encouraged to boost their competitiveness through innovative business models and improved service quality. Furthermore, the state has introduced a range of preferential policies to support urban commercial banks in serving small and medium-sized enterprises and promoting rural economic development.

During the policy deepening stage, regulatory policies are further refined and deepened in response to the increasing openness and competition in the financial market. The state is focusing on making more detailed adjustments to the regulatory

policies of urban commercial banks. This includes strengthening requirements on bank corporate governance and internal control to ensure stable operations. Additionally, banks are being encouraged to enhance service efficiency and customer experience through technological innovation and digital transformation. Furthermore, there is increased supervision of cross-border business to mitigate the spread of financial risks internationally.

The evolution of the policy environment in China's urban commercial banking industry has significantly influenced the industry's development. The optimization of this environment has provided a solid foundation for urban commercial banks to thrive. Through the implementation of various regulatory and preferential policies, the government has created a conducive policy environment for these banks, enabling them to effectively contribute to the local economy. Furthermore, policy adjustments have stimulated innovation and growth within city commercial banks, prompting them to enhance service quality and market competitiveness continuously. This evolution has also fostered the healthy growth of financial markets by enhancing supervision and mitigating financial risks to ensure market stability and security. Moreover, policy adjustments have encouraged market openness and competition, leading to the diversification and innovation of financial services. Additionally, policy optimization has bolstered cross-border business supervision, preventing the transmission of financial risks across borders and maintaining the financial market's stability. the evolution of the policy environment has played a vital role in the sustained and healthy development of China's economy. City commercial banks, as integral components of the financial system, have been instrumental in driving local economic growth and supporting the development of small and medium-sized enterprises. Their innovation and growth have also provided substantial backing for China's economic transformation and upgrade.

3. Market economic environment for the development of China's urban commercial banking industry

The development of urban commercial banks is closely linked to the development of the market economy. Since the reform and opening-up, urban commercial banks, as an essential part of the commercial banking system, have been growing along with the transformation of the market economy. From early urban credit cooperatives to consolidation and reshaping, rapid growth, and now the stage of differentiation, urban commercial banks have always been growing alongside the market economy. With their close ties to local economies and differentiated development strategies, they have played a unique role in supporting the real economy and promoting inclusive financial development. At the same time, with the in-depth development of the market economy and the advancement of financial reforms, urban commercial banks are also facing various challenges and opportunities.

Urban commercial banks have formed differentiated development characteristics focused on deepening regional economies, which aligns with the regionalized and specialized development trends of the market economy. By optimizing their business structures and enhancing scale effects, urban commercial banks can better meet the financial needs of local economies and improve their ability to serve the real economy. Additionally, urban commercial banks have leveraged the innovative power of financial technology to continuously enhance service efficiency and customer experience, enabling them to compete in a fiercely competitive market. These development characteristics have allowed urban commercial banks to play an important role in the market economy, making positive contributions to the prosperity and development of local economies.

In the context of strict regulation and economic downturn, urban commercial banks face competition pressure from large banks, joint-stock banks, and foreign banks. At the same time, tighter regulatory policies and innovations in financial technology have also imposed higher demands on urban commercial banks. However, challenges and opportunities coexist. Urban commercial banks, with their

geographical advantages rooted in local areas and close ties with small and medium-sized enterprises, have unique advantages in supporting local economic construction and promoting inclusive financial development. With the in-depth development of the market economy and the advancement of financial reforms, urban commercial banks will encounter more development opportunities. Therefore, urban commercial banks need to closely monitor market dynamics and policy changes, flexibly adjust their business strategies and models, and seize opportunities to achieve sustainable development while addressing challenges.

4. The main difficulties and challenges faced by China's urban commercial banking industry

(1) Operating Scale and Market Competition Pressures. The primary challenge faced by China's urban commercial banking sector lies in its relatively small operating scale. Compared to large commercial banks and joint-stock banks, their asset size and business coverage are limited, which restricts their market influence and competitiveness. Additionally, with the gradual opening of the financial market and the entry of foreign banks, urban commercial banks are facing fierce competition from various domestic and foreign financial institutions, posing challenges to their business development and market share maintenance.

(2) Profitability and Operating Costs. Urban commercial banks are relatively weak in profitability. Due to their limited operating scale, there are constraints in asset utilization and risk management, which restricts their profitability. Furthermore, with the advancement of interest rate liberalization and intensified market competition, the net interest margin of urban commercial banks has narrowed, further compressing their profit space. At the same time, to cope with market competition and changes in customer demand, urban commercial banks need to invest more capital and human resources in technological innovation and digital transformation, which increases their operating costs.

(3) Risk Management and Compliance Requirements. Limited risk management capabilities are another challenge faced by urban commercial banks. Due to their limited capabilities in risk identification, assessment, monitoring, and

disposal, urban commercial banks face higher credit risk, market risk, and operational risk. Additionally, with the strengthening of financial supervision and tightening of regulatory policies, urban commercial banks need to comply with stricter regulatory requirements, including capital adequacy ratio, liquidity management, loan classification, and other regulations. These stringent compliance requirements pose higher demands on their business development and risk management.

(4) Innovation Development and Differentiated Competition. Urban commercial banks also face challenges in innovation development and differentiated competition. Due to their relatively weak innovation capabilities and product innovation, they lack competitive new products and services in the market. This limits their market expansion and profitability. To cope with market competition and changes in customer demand, urban commercial banks need to pay more attention to differentiated competition and service innovation to meet the needs of different customer groups. However, limitations in innovation capabilities and resource investment put urban commercial banks under significant pressure in differentiated competition. To address these challenges, urban commercial banks need to strengthen their internal construction, improve risk management capabilities and innovation capabilities, enhance differentiated competition and service innovation, and achieve sustainable development.

5. The Current Situation of Financial Product Marketing of Chinese City Commercial Banks

(1) Rich Product Variety and Distinctive Features. City commercial banks exhibit a rich variety of financial products and distinctive features in their marketing efforts. Their product line covers savings, wealth management, loans, and insurance, providing customers with diversified options. Savings products are low-risk and offer stable returns, serving as the foundation for attracting and retaining customers. Wealth management products offer risk and return options between savings and loans, suitable for customers with different risk tolerances. Loan products meet customers' financing needs, especially personal housing loans and auto loans. Insurance products provide risk protection to help customers avoid potential risks.

(2) Diversified Marketing Methods. City commercial banks employ diversified marketing methods for their financial products. In addition to traditional bank branch marketing and account manager outreach, they actively utilize online marketing channels such as internet banking and mobile banking to provide convenient and efficient services. Furthermore, city commercial banks collaborate with other financial and non-financial institutions for cross-industry marketing, achieving resource sharing and mutual benefits. Data-driven marketing has also become an important means for city commercial banks to enhance marketing efficiency, leveraging data analysis to achieve precision marketing.

(3) Strategies to Adapt to Market Changes and Customer Needs. In response to the diversification and personalization of market and customer needs, city commercial banks actively adjust their marketing strategies. They pay more attention to changes in customer demand, providing differentiated and personalized services to meet the needs of different customers. With the increasing openness of the financial market and fierce competition, city commercial banks continuously innovate and improve their marketing strategies to enhance their market competitiveness. They strive to enhance service quality and optimize customer experience to win customers' trust and loyalty.

(4) Market Data and Growth Trends. According to market data, city commercial banks have achieved steady growth in their financial product marketing efforts. Although their market share is relatively small, city commercial banks play an active role in serving the real economy, supporting industrial upgrading, and promoting economic growth. Their performance in the financial market is gaining increasing attention, and they are gradually demonstrating their own advantages in competition. However, market competition remains fierce, and city commercial banks need to continue to enhance their product innovation capabilities, optimize marketing strategies, and respond to market changes and changes in customer needs.

Research Questions

1. What is the urban commercial banks products, services, security, information technology, customer loyalty and profitability?
2. What is the relationship between products, services, security, information technology, customer loyalty and profitability in urban commercial banks?
3. How to build a marketing strategy model that affects the profitability improvement of urban commercial banks?

Objectives

1. To explore urban commercial banks products, services, security, information technology, customer loyalty and profitability improvement.
2. To analyze the direct and indirect effects of products, services, safety, information technology and customer loyalty on the profitability of urban commercial banks.
3. To finding a model of marketing strategies affecting profitability improvement of Chinese urban commercial banks.

Research Hypotheses

1. Product Innovation and Profitability Enhancement in Urban Commercial Banks

As a pivotal force in the financial system, product innovation in urban commercial banks has a profound impact on the enhancement of profitability. In the context of increasingly fierce competition in the current financial market, urban commercial banks can not only meet the diverse needs of customers through financial product innovation, but also effectively expand business boundaries, enhance market competitiveness, and thus achieve significant improvements in profitability.

Financial product innovation can assist urban commercial banks in deepening customer insights and providing more targeted financial services. With technological advances and the application of big data technology, urban commercial banks can

more accurately analyze customers' consumption habits, risk preferences, and investment needs, thereby designing financial products that better meet customers' demands. These personalized financial products can not only increase customer satisfaction but also enhance customer loyalty, bringing a stable customer base and income source to the bank.

Financial product innovation can broaden the income channels of urban commercial banks. Although traditional deposit and loan businesses remain the primary source of income for commercial banks, the proportion of intermediary businesses and asset management businesses has gradually increased with the continuous development of the financial market. By innovating financial products, urban commercial banks can enrich the product line of intermediary businesses, enhance asset management capabilities, and thereby increase non-interest income, reduce reliance on deposit and loan businesses, and achieve diversified income structure and enhanced profitability.

Financial product innovation contributes to enhancing risk management capabilities in urban commercial banks. During the process of financial product innovation, banks need to establish a more comprehensive risk management system and scientifically assess and control various risks. This improvement in risk management capabilities can not only help reduce the bank's non-performing loan ratio but also improve asset quality and profitability. At the same time, by innovating risk management tools and technologies, urban commercial banks can better cope with the uncertainty and volatility of the financial market, ensuring the steady development of their business.

Financial product innovation can also promote brand building and market influence enhancement in urban commercial banks. Innovative financial products often attract widespread attention in the market, increasing the bank's reputation and popularity. This brand effect helps attract more customers and business opportunities, bringing more profit growth points to the bank. At the same time, by innovating financial products, urban commercial banks can set industry benchmarks,

lead market trends, and further consolidate their leading position in the financial market. Based on the above analysis, the following hypothesis is proposed:

Hypothesis 1: Product innovation in urban commercial banks has a significant positive effect on the enhancement of profitability.

2. Enhancement of Urban Commercial Banks' Service and Profitability.

As a bridge between banks and customers, urban commercial banks' services play a significant role in improving their profitability. Against the backdrop of increasingly diversified financial services, urban commercial banks, by optimizing service quality, innovating service models, and enhancing service efficiency, can not only strengthen customer loyalty but also effectively expand business boundaries, thereby achieving a remarkable increase in profitability.

Optimizing service quality is the foundation for urban commercial banks to enhance their profitability. The level of service quality directly affects customers' satisfaction and loyalty to the bank. Urban commercial banks can provide customers with more professional, efficient, and convenient financial services by enhancing employees' service awareness, strengthening service training, and improving service processes. This superior service experience not only meets customers' diverse needs but also enhances their trust and reliance on the bank, thus bringing stable customer bases and business growth to the bank.

Innovating service models is the key for urban commercial banks to enhance their profitability. With the advancement of technology and the rise of internet banking, traditional banking service models can no longer meet customer needs. Urban commercial banks need to actively embrace the internet and new technologies to promote the integration and innovation of online and offline service models. For example, by developing electronic channels such as mobile banking and online banking, they can provide customers with more convenient and flexible financial services. At the same time, they can achieve precise matching of customer needs and personalized services with the help of technologies such as big data and artificial intelligence, improving service efficiency and customer satisfaction. This

innovative service model can effectively expand the bank's business scope, increase revenue sources, and enhance profitability.

Enhancing service efficiency is also an essential means for urban commercial banks to improve profitability. Efficient service efficiency can not only shorten customer waiting time, improve customer satisfaction, but also reduce the bank's operating costs and increase profitability. Urban commercial banks can enhance service efficiency by optimizing business processes, introducing advanced business processing systems, and improving employees' business skills. At the same time, strengthening internal management and risk control to ensure service quality and safety is also an important guarantee for improving service efficiency.

Service innovation can not only bring short-term business growth and profit enhancement but also enhance the bank's core competitiveness and brand value. Through continuous innovation in service models, products, and services, urban commercial banks can maintain close contact with customers, meet their changing needs, and thus remain invincible in fierce market competition. Based on the above analysis, the following hypothesis is proposed:

Hypothesis 2: Urban commercial banks' services have a significant positive impact on improving profitability.

3. Enhancement of Urban Commercial Banks' Safety and Profitability

The safety of urban commercial banks has a profound impact on their profitability. Safety, as one of the core elements of commercial banks' operations, not only directly relates to the bank's reputation and customers' trust, but also serves as an essential guarantee for the bank to achieve stable operations and sustainable profitability. The safety of urban commercial banks can significantly enhance customers' trust. In the increasingly complex and volatile financial market, customers are more cautious in choosing banks, and safety has become their primary consideration. A highly secure urban commercial bank can give customers sufficient confidence, making them willing to deposit their funds in the bank, thereby providing the bank with a stable source of funding. An increase in customers' trust will further

promote the bank's development in businesses such as lending and investment, leading to an improvement in profitability.

Operational risks are inevitable issues in the business process of commercial banks, but banks with high safety standards can effectively manage and control risks by establishing a robust risk management system. Through strict credit approval, risk control, and internal audit processes, banks can reduce non-performing loan ratios, improve asset quality, and minimize losses caused by risk events. This will help banks maintain a stable operating status and provide a strong guarantee for the continuous improvement of profitability.

On the premise of controllable risks, banks with high safety standards can actively explore new business models, products, and services to meet the changing needs of customers. By enhancing information security management and technological innovation, banks can improve service quality and efficiency, enhancing customer satisfaction and loyalty. This will give banks a competitive advantage in the market, attracting more customers and businesses, thus enhancing profitability.

Hypothesis 3: Urban commercial banks' operational risks have a significant positive impact on the enhancement of profitability.

4. Urban Commercial Banks' Information Technology and Profitability Enhancement

With the rapid development of information technology, urban commercial banks have increasingly invested in and applied IT to address challenges such as market competition and the diversification of customer needs. The application of IT in commercial banks' operations, management, and services has not only improved their operational efficiency but also optimized customer experience, thus significantly impacting profitability.

The introduction and application of IT have enabled urban commercial banks to achieve automation, standardization, and intelligence in their business processes. For instance, by introducing advanced banking core systems, credit management systems, and risk management systems, banks can quickly input, review, and approve customer information, reducing manual operations and enhancing efficiency. These

systems also automate risk assessments, loan quota calculations, and other tasks, minimizing errors in human judgments and improving the accuracy and scientific rigor of decision-making. These improvements enable banks to respond more quickly to customer needs, enhancing customer satisfaction and ultimately strengthening profitability. Furthermore, IT helps banks reduce operational costs. Through electronic channels such as online banking and mobile banking, banks provide more convenient and efficient services to customers, reducing the costs of physical branch construction and management. IT also enables resource sharing and optimized allocation, improving resource utilization efficiency and reducing operational costs. These cost reductions allow banks to allocate more funds to business expansion and innovation, enhancing profitability.

The application of IT enables urban commercial banks to provide more personalized and diversified services to customers. For example, through customer data analysis systems, banks can gain a deeper understanding of customers' consumption habits, risk preferences, and other information, providing more precise financial products and services. Banks can also interact with customers in real-time through social media and mobile applications, understanding their needs and feedback to continuously optimize service quality and enhance customer satisfaction. Optimizing customer experience not only improves customer satisfaction and loyalty but also attracts more potential customers. With the rapid development of internet finance, customers have increasingly high demands for the convenience and security of financial services. The application of IT enables banks to meet these demands, increasing customer stickiness. Banks can also utilize big data, artificial intelligence, and other technological means to conduct precise marketing and personalized recommendations, improving marketing effectiveness and customer conversion rates. These measures help banks expand their customer base, increase revenue sources, and enhance profitability.

The application of IT in risk management enables urban commercial banks to achieve comprehensive risk monitoring and early warning. For instance, by introducing advanced risk management systems and models, banks can

quantitatively assess, dynamically monitor, and credit risks. Banks can also utilize big data, cloud computing, and other technological means to conduct credit ratings and risk assessments for customers, improving the accuracy and effectiveness of risk management. Enhanced risk management helps banks reduce non-performing loan ratios and improve asset quality. Lower non-performing loan ratios mean banks can better recover loan principal and interest, reducing bad debt losses. Improved asset quality enables banks to better utilize funds for business expansion and innovation, enhancing profitability. Based on the above analysis, the following hypothesis is proposed:

Hypothesis 4: Urban commercial banks' information technology has a significant positive impact on enhancing their profitability.

5. The mediating effect of customer loyalty

(1) Urban commercial bank products, customer loyalty, and profitability

The feedback and suggestions of loyal customers provide banks with directions and motivation for product innovation, driving banks to continuously introduce new products that meet customer needs. These new products can satisfy customers' diverse demands, enhance customer satisfaction and loyalty, and further increase the bank's revenue sources.

The repeated purchases and word-of-mouth communication of loyal customers bring stable revenue sources and new potential customers to the bank, providing strong support for the bank's profitability. At the same time, loyal customers have a high degree of recognition and trust in the bank's brand, which makes it easier for the bank to gain customer acceptance and recognition when launching new products, reducing the difficulty and cost of market promotion.

Hypothesis 5: Customer loyalty of urban commercial banks plays a mediating role between product innovation and capability enhancement.

(2) Urban commercial bank services, customer loyalty, and profitability enhancement

Service quality enhances customer loyalty by improving customer satisfaction. Urban commercial banks enhance customer satisfaction by providing

excellent services, which in turn enhances customer loyalty to the bank. This loyalty is an important driving force for customers to continue using the bank's products and services.

Customer loyalty promotes profitability. Loyal customers bring stable revenue sources to the bank, reduce the bank's operating costs, and enhance the bank's brand value. These factors work together to promote the enhancement of the bank's profitability.

Hypothesis 6: Customer loyalty of urban commercial banks plays a mediating role between service and capability enhancement.

(3) Urban commercial bank security, customer loyalty, and profitability enhancement

Customer loyalty plays a significant mediating role as a bridge between security and profitability. On one hand, security is the cornerstone of customer loyalty. Only when a bank possesses sufficient security can it win customers' trust and establish long-term customer relationships. On the other hand, customer loyalty is a crucial factor in enhancing profitability. Loyal customers not only bring stable income to the bank but also enhance the bank's brand value through word-of-mouth communication.

The high security of urban commercial banks can significantly enhance customers' trust in the bank. This trust stems from the bank's stable operating conditions, comprehensive risk management system, and good reputation. The improvement of customer trust helps the bank establish long-term and stable customer relationships. Banks with high security can reduce the possibility of customers switching to other banks due to concerns about fund security. Loyal customers are more willing to choose and rely on the bank for a long time, thus reducing the customer churn rate.

Loyal customers tend to be more stable and willing to conduct more financial transactions in the bank, such as deposits, loans, investments, etc. These transactions not only bring stable income sources to the bank but also reduce the cost of acquiring and maintaining new customers. Therefore, the higher the customer

loyalty, the stronger the bank's profitability. Loyal customers often recommend their trusted banks to family and friends, thereby increasing the number of potential customers for the bank. This word-of-mouth communication helps enhance the bank's brand value and further attracts more customers and businesses. The improvement of brand value will be directly reflected in the bank's profitability.

Hypothesis 7: The customer loyalty of urban commercial banks plays a mediating effect between security and capability enhancement.

(4) Urban commercial bank information technology, customer loyalty, and profitability enhancement

Information technologies such as artificial intelligence and big data analysis can help banks more accurately understand customer needs and provide personalized services, thereby enhancing customer satisfaction. Information technology has made banking services more convenient and efficient, such as mobile banking and online banking, greatly improving the customer experience. A good customer experience can enhance customers' trust and loyalty to the bank.

Loyal customers tend to prefer the products and services of the same bank, providing a stable source of income for the bank. Loyal customers have a deep understanding of the bank's products and services and can quickly access bank information, maintaining a high level of loyalty, which helps the bank maintain lower costs for retaining existing customers. Loyal customers are more likely to accept new products and services from the bank, reducing the bank's marketing costs. At the same time, loyal customers often recommend the bank's products and services to others, creating word-of-mouth promotion, further reducing the bank's marketing costs.

Hypothesis 8: The customer loyalty of urban commercial banks plays a mediating effect between information technology and capability enhancement.

6. Customer Loyalty and Profitability Improvement in Urban Commercial Banks

There is a close relationship between customer loyalty and profitability improvement in urban commercial banks. Customer loyalty refers to customers'

satisfaction, trust and willingness to recommend the bank's products and services, which is an important foundation for the bank's long-term stable development. Profitability, on the other hand, is a core indicator for banks in market competition, which directly affects their survival and development.

Loyal customers will not easily switch to other banks, which helps to reduce customer turnover and enables banks to keep existing customers while reducing costs in customer acquisition and maintenance, thus improving profitability. At the same time, loyal customers are more willing to accept the bank's cross-marketing and value-added services, and are also willing to recommend the bank's products and services to others, which can enhance the sales of the bank's products, and nearly expand the market share, increase the source of revenue and improve profitability.

Hypothesis 9: The customer loyalty in urban commercial banks has a significant positive effect on profitability improvement.

Scope of the Research

Scope of Content

1. Independent Variable

(1) Financial Products. Financial products refer to a series of services and tools designed by financial institutions to meet customers' diverse needs in investment, financing, and wealth management. These products not only encompass trading objects in financial markets such as currencies, gold, foreign exchange, and marketable securities, but also serve as crucial carriers in the process of capital financing. Financial products possess economic value and can be openly traded or redeemed in financial markets, though they are also accompanied by certain risks. They are classified based on various characteristics and purposes, including basic securities, derivative securities, equity products, and debt products, and can be further segmented according to their duration and risk level. The diverse range of financial products includes banking financial products, securities financial products, insurance financial products, trust financial products, as well as emerging internet

financial products and financial derivatives. These financial products are not only the core components of financial markets, providing investors with a wide range of investment options, but also serve as financing channels for enterprises, playing a vital role in the prosperity and development of financial markets, as well as economic growth and social stability.

(2) Financial Services. Roger A. Kerin and Steven W. Hartley (2022) assert that services are characterized by four distinct elements: Intangibility, Inconsistency, Inseparability, and Inventory, collectively known as the four I's of services. Urban commercial banks offer customers not tangible goods but intangible commodities, specifically services, which are unique in their nature as specialized financial services mediated by currency. As such, the marketing strategy of urban commercial banks, shaped by the characteristics of their services, focuses on delivering more convenient and professional services than competitors to provide a superior customer experience, thus differentiating themselves, winning customers, and enhancing client loyalty. Convenience refers to the ease of obtaining a particular product or service from an urban commercial bank, emphasizing the simplicity and efficiency of the process in achieving desired outcomes. This includes accessibility, ease of purchase and usage, as well as pricing considerations. Professionalism, on the other hand, represents the bank's ability to fulfill customer needs through specialized knowledge, skills, and experience. It serves as a measure of the bank's level of expertise and quality in the financial sector, and is a crucial factor in marketing to clients. A positive customer experience encompasses the overall impression and feeling customers have during their interactions with urban commercial banks, encompassing evaluations of reliability, professionalism, friendliness, innovation, and the environment. This experience significantly impacts customers' behavior and attitude, influencing their decision to continue using the service or recommend it to others.

(3) Financial Security. Stephen Lumpkin and Sebastian Schich (2020) argue that minimizing systemic risks and maintaining the stability of the financial system are the primary motivations for bank regulation and the safety net arrangements comprising deposit insurance and lender-of-last-resort services. Zhou Ting (2021)

believes that in the marketing process, banks need to fully consider various risk factors such as market risk, credit risk, operational risk, and establish corresponding risk assessment and management mechanisms. Through effective risk management, banks can ensure the safe and steady development of their business and safeguard customer interests. Therefore, the safety of urban commercial banks means that their cash assets and expected income are sufficient to repay current and expected debts, eliminating various internal and external risks, controlling risks within solvency, minimizing systemic risks, maintaining the stability of the financial system, and ensuring their normal business order. Additionally, security is one of the most important factors influencing customer loyalty in urban commercial banks. The most direct influencing factors mainly include the quality of credit assets, the quality of off-balance-sheet assets, and the growth rate of deposits.

(4) Information technology. Alvin Toffler also proposed in the 1980s that "the establishment and popularization of computer networks will completely change the mode of human survival and life, and those who control and master the network will be the masters of human destiny in the future. Whoever masters the information and controls the network will own the whole world." With the advent of the digital era, Alvin Toffler's judgment has been verified in the banking industry. Chen Yue et al. (2020) proposed that with the development of financial technology, digital finance has become a new force, and the development trend of new finance is obvious. Facing the new situation, commercial banks can only adjust their traditional marketing strategies in time, apply information technology to the marketing field, and achieve targeted and integrated marketing strategies by promoting differentiated products and services, building Internet financial platforms, etc., thus promoting the development of commercial bank marketing. According to the "Outlook Report on China's Banking Industry in 2024" released by KPMG Enterprise Consulting (China) Co., Ltd., in recent years, China's banking industry has continuously increased its investment in information technology and digitalization, and there has been tremendous progress in the online and automated level of banking products and services, as well as the scope and depth of data intelligence applications. The

proportion of technology and digital talents in the banking industry itself has also increased year by year. From the perspective of institutions, not only large and medium-sized banks continue to attach importance to improving digital capabilities, but small and medium-sized regional banks also attach unprecedented importance to information technology and digital transformation. Therefore, information technology has become the core strategic resource of current urban commercial banks, and the use of information technology to achieve product digitization, service intelligence, and full-time channels has become a key factor in the marketing strategy of urban commercial banks.

2. Intermediate variables

Customer loyalty is a multidimensional concept that encompasses both the profound emotional attachment and behavioral manifestations customers exhibit towards a specific product or service. It manifests in the customer's high level of identification and satisfaction with the company's ideals, behaviors, and visual image, as well as behavioral loyalty demonstrated through repeat purchases and continued consumption. Additionally, it is reflected in the customer's intention to continue consuming in the future, demonstrating their loyalty at the level of consciousness. Loyal customers are of significant value to a company, as they not only continue to purchase products or services but also generate associated consumption, exhibiting relatively low sensitivity to prices. Therefore, building customer loyalty is the most effective way to achieve sustained profit growth for a company. To establish and enhance customer loyalty, companies need to focus on factors such as service quality, customer satisfaction, exceeding customer expectations, meeting personalized requirements, and promptly addressing customer issues. These factors collectively constitute the key elements for building customer loyalty.

3. Dependent Variable

Profitability refers to a company's ability to generate profits and achieve capital appreciation over a specific period, directly reflecting the efficiency of its capital appreciation. It is measured through various key indicators, such as operating profit margin, cost-profit margin, cash earnings coverage, total asset return, return on

equity, and return on capital, which reflect the strength and level of a company's profitability from different perspectives. Profitability is influenced by factors like operational efficiency, cost control, market positioning, product competitiveness, and management skills. Additionally, it serves as a crucial foundation for a company's survival, growth, and pursuit of value maximization.

Scope of area

The research area focuses on urban commercial banks in China. China's urban commercial banks are characterized by their typicality and representativeness in terms of locality, scale, market positioning, development dependency, innovation, and flexibility.

Compared to other countries, the prominent local characteristics of China's urban commercial banks are one of their typical features. These banks' share capital primarily comes from local governments, enterprises, and residents, and their branches are concentrated primarily in their respective cities and surrounding areas, reflecting a strong regional color.

In terms of scale, China's urban commercial banks are relatively small. Although some banks have expanded in recent years, overall, their asset sizes are generally not large, which is closely related to their local characteristics.

In terms of market positioning, China's urban commercial banks have clearly focused on serving the local economy, small and medium-sized enterprises, and urban residents. This positioning not only aligns with their local characteristics but also provides them with a unique niche in the fierce competition of the banking industry.

The development of China's urban commercial banks often depends on the economic conditions of their respective regions. Regions with active economies and sufficient fiscal resources tend to have better-performing urban commercial banks, providing them with a favorable development environment.

In terms of business development and product innovation, China's urban commercial banks demonstrate high flexibility and innovation. They can quickly adjust their business strategies and launch new products and services based on

market demand and customer needs to meet the needs of different customer groups.

According to data from the China Banking and Insurance Regulatory Commission (CBIRC), as of the end of 2022, there were 125 urban commercial banks in China with 20,094 branches under their management, located in the northeastern, eastern, central and western regions.

Table 1.1 Regional Distribution of Branches of Urban Commercial Banks in China

Region	Province / autonomous region / municipality directly	Number of urban commercial banks	Number of branches managed by urban commercial banks	Proportion %
Northeastern	Liaoning	14	1415	12%
	Jilin	1	364	
	Heilongjiang	2	622	
Subtotal	3	17	2401	
Eastern	Beijing	1	610	45%
	Tianjin	1	218	
	Hebei	11	1318	
	Shanghai	1	362	
	Jiangsu	4	973	
	Zhejiang	13	2796	
	Fujian	4	479	
	Shandong	14	1678	
	Guangdong	5	581	
	Hainan	1	36	
Subtotal	10	55	9051	
Central	Shanxi	2	504	18%
	Anhui	1	472	
	Jiangxi	4	795	

Table 1.1 (Continued)

Region	Province / autonomous region / municipality directly	Number of urban commercial banks	Number of branches managed by urban commercial banks	Proportion %
	Henan	2	882	
	Hubei	2	447	
	Hunan	2	578	
Subtotal	6	13	3678	
Western	Neimenggu	4	526	25%
	Guangxi	3	1208	
	Chongqing	2	231	
	Sichuan	12	984	
	Guizhou	2	386	
	Yunnan	3	269	
	Xizang	1	13	
	Shanxi	2	424	
	Gansu	2	384	
	Qinghai	1	86	
	Ningxia	2	165	
	Xinjiang	6	288	
Subtotal	12	40	4964	
Total	31	125	20094	100%

Note: Taiwan, Macau and Hong Kong are not counted above.

Among them, the 10 provinces (autonomous regions/municipalities directly under the central government) in the eastern region are the main gathering place of city commercial banks, with a combined number of 55 urban commercial banks and 9,051 branches under management, accounting for 45% of the ratio, and are also the areas where large urban commercial banks are more concentrated, such as Bank of

Beijing and Bank of Shanghai ranked as China's first and second urban commercial banks, respectively. Meanwhile, Zhejiang Province is one of the most economically developed regions in China, with an active economy and the largest number of urban commercial banks. Several other provinces with more urban commercial are mainly due to the fact that the local government has increased leverage through urban commercial banks to stimulate economic development. Next are the 12 provinces (/autonomous regions/municipalities directly under the central government) in the western region, with a combined number of 40 urban commercial banks and 4,964 branches under management, accounting for 25% of the total. The western region has the largest administrative area, and therefore has a relatively large number of urban commercial banks. Three provinces in the northeast region and six provinces in the central region have 17 and 13 urban commercial banks respectively, with 2,401 and 3,678 branches under management, accounting for 12% and 18% respectively. Compared with the eastern region and the western region, the administrative area of the northeast region and the central region is relatively small, and their economic activity is also between the eastern region and the western region.

In summary, this study is based on 20,094 branches of Chinese urban commercial banks distributed in different regions.

Scope of Time

The research period is from January 2024 to December 2024.

Advantages

1. Theoretical Contributions

Through in-depth research on the marketing strategies of urban commercial banks, it can enrich and expand marketing theory, providing new ideas and methods for research in this field. Meanwhile, new theoretical perspectives formed through the study of urban commercial banks' marketing strategies can provide new references for bank marketing practices.

2. Application Value

By conducting in-depth research on the impact of factors such as products, services, security, and information technology on customer loyalty in urban commercial banks, more precise marketing strategies can be designed to ultimately enhance their profitability. Through in-depth research on their marketing strategies, it can promote their ability to improve service levels and innovation capabilities, providing stronger support for regional economic development. Additionally, the research findings can also provide predictions and suggestions for the future development of urban commercial banks, helping them better adapt to market changes and challenges.

3. Promote the development of the banking industry.

As a regional financial institution, urban commercial banks play an important role in supporting regional economic development and serving small and medium-sized enterprises and individual customers. Through in-depth research on its marketing strategy, it can be promoted to better improve its service level and innovation ability, and provide stronger support for regional economic development.

4. Methodological benefits.

The research on the marketing strategy of urban commercial banks in this paper can also exercise the researcher's ability to think independently, analyze and solve problems, and improve the research ability and academic literacy. At the same time, the research can also develop researchers' skills in data analysis and case studies, laying a solid foundation for future academic research and career development.

Definition of Terms

Urban Commercial Banks, referred to as "city commercial banks" for short, are commercial banks established within the urban areas of China, primarily serving residents, enterprises, and other economic organizations in the city or region. They are jointly funded by local governments, enterprises, individuals, and other stakeholders. As independent legal entities, they operate autonomously, assume

their own risks, and are responsible for their own profits and losses, adhering to the principles of self-regulation. The main functions of urban commercial banks include accepting public deposits, granting loans, handling domestic and international settlements, handling bill acceptance and discounting, issuing financial bonds, acting as agents for issuing and redeeming government bonds, trading government bonds and financial bonds, engaging in interbank lending and foreign exchange trading, providing bank card services, issuing letters of credit and guarantees, acting as agents for collecting and paying funds, and providing insurance agency services. These services provide significant financial support for local economies, promoting their prosperity and development.

The characteristics of urban commercial banks are primarily manifested in the following aspects: Firstly, they have strong regional and community-oriented features. Since urban commercial banks primarily serve residents and enterprises within the municipal administrative region where they are established, they have a deeper understanding of the local market environment and are able to effectively align with the financial needs of local small and medium-sized enterprises. Secondly, urban commercial banks possess modern corporate governance structures, management models, and information technology. These advantages enable them to quickly grasp economic development trends and adjust their business models according to market demands. Finally, urban commercial banks play a crucial role in promoting local economic development. They not only provide financing support for small and medium-sized enterprises, but also promote consumer spending and economic growth by granting consumer loans and other means.

Profitability refers to a company's ability to generate profits, also known as its capacity for capital appreciation. It is typically measured by the amount and level of income a company achieves over a specific period. Profitability indicators mainly include operating profit margin, cost-profit ratio, cash coverage ratio of earnings, return on total assets, return on equity, and return on capital. The higher these indicators are, the stronger a company's profitability.

Specifically, profitability is a comprehensive reflection of a company's production and operation activities as well as its management level. It is also a key indicator that stakeholders, including managers, creditors, shareholders, or potential investors, value and pay close attention to.

The analysis of profitability constitutes a significant part of a company's financial analysis and serves as an important basis for evaluating its management performance. This analysis involves interpreting financial statements such as income statements and balance sheets, employing various profitability metrics like gross profit margin, net profit margin, and total asset turnover, to assess a company's profitability level.

Moreover, profitability analysis can help companies identify issues in their operations and management, propose improvement measures, enhance operational efficiency, and strengthen their competitiveness. Therefore, profitability analysis is crucial for a company's long-term development.

Marketing Strategy Model refers to a systematic and scientific decision-making process aimed at assisting enterprises in making effective and rational marketing decisions in a complex and ever-changing market environment. The core of this model lies in the in-depth analysis and research of key information such as market trends, consumer demands, and competitors' strategies, coupled with the enterprise's strategic goals, resource status, and changes in the market environment, to construct a comprehensive marketing decision-making framework. This framework encompasses multiple aspects, including the selection of target markets, product positioning, the formulation of marketing strategies, the optimization of marketing mix, and the evaluation of marketing effectiveness.

The Marketing Strategy Model emphasizes the scientificity, systematicness, and dynamism in the decision-making process. Scientificity is reflected in the utilization of modern marketing theories, market analysis methods, and data analysis tools in the decision-making process to ensure that decisions are based on sufficient information and scientific analysis. Systematicness is demonstrated by viewing the entire marketing decision-making process as an organic whole, with each link

interconnected and mutually influential, requiring comprehensive consideration. Dynamism requires enterprises to constantly monitor changes in the market environment while formulating marketing strategies, promptly adjust and optimize these strategies to adapt to the continuous development of the market.

During the implementation of the Marketing Strategy Model, enterprises need to first clarify their strategic goals and market positioning, determine the target market they intend to enter, and their competitive position within that market. Subsequently, enterprises must conduct in-depth market research on the target market to understand consumer demands, preferences, and purchasing behaviors, as well as competitors' product, pricing, promotion, and channel strategies. Based on a thorough grasp of this information, enterprises can begin to formulate specific marketing strategies, including product, pricing, promotion, and channel strategies. The formulation of these strategies requires comprehensive consideration of factors such as the enterprise's resource status, changes in the market environment, and changes in consumer demands.

During the implementation of marketing strategies, enterprises also need to continuously monitor market feedback and consumer reactions, promptly adjusting and optimizing marketing strategies. Simultaneously, enterprises must establish effective mechanisms for evaluating marketing effectiveness, regularly assessing and analyzing the implementation results of marketing strategies to identify issues and make improvements in a timely manner.

The Marketing Strategy Model is a scientific, systematic, and dynamic decision-making process that requires enterprises to fully consider factors such as changes in the market environment, changes in consumer demands, and the enterprise's resource status when formulating marketing strategies. Through in-depth market research and scientific analysis, enterprises can develop marketing strategies that align with their actual situation. Meanwhile, enterprises need to continuously monitor market feedback and consumer reactions during the implementation of marketing strategies, making timely adjustments and optimizations to achieve their strategic goals and gain a competitive edge in the market.

Customer Loyalty. According to Syahfitri and Kusnanto (2022), the term "business loyalty" refers to a customer's willingness to continue subscribing to a company for a long time, through repeated purchases and usage of goods and services, preferably exclusively, and voluntarily recommending the company's products. In other words, loyalty is a customer's decision to voluntarily continue subscribing to a specific company for a prolonged period, for friends and colleagues. Jill Griffin, a senior marketing expert (2002), believes that customer loyalty refers to the degree of frequent and repetitive purchases by customers due to their preference for a company or brand. Statistics show that when a company increases its customer retention rate by 5%, profits can increase by 25% to 100%. Therefore, loyal customers are a fundamental factor in enhancing a company's profitability and a primary source of its competitive advantage. Hence, this article defines customer loyalty as the degree of loyalty a customer has towards a particular brand or product, representing their trust, dependence, and willingness to continue purchasing. The following are the characteristics of customer loyalty:

Trust and reliance: Loyal customers have a strong sense of trust in a brand or product, believing in its quality, service, and value. This trust is built on long-term product experience and service support, making customers willing to choose that brand or product again.

Continuous purchasing behavior: Loyal customers make repeated purchases, becoming repeat customers of the brand. They are willing to maintain a long-term relationship with the brand and frequently purchase its products or services. This purchasing behavior is not significantly influenced by market conditions, competitors, or other factors.

Recommendation and word-of-mouth promotion: Loyal customers actively recommend the brand or product to friends and family, promoting a positive image through word-of-mouth. They are willing to share their usage experience and feelings, establishing positive evaluations for the brand.

Tolerance for imperfections: When facing product defects or service issues, loyal customers tend to adopt an understanding and tolerant attitude, willing to

work with the company to resolve the problem. They will not abandon their trust in the brand or product due to one unpleasant experience.

Attention to brand value: Loyal customers pay attention to brand developments, actively participate in brand activities, and provide suggestions and opinions. They are willing to invest time and effort in the brand, building a deep emotional connection with it.

Customer loyalty is a manifestation of customers' trust, dependence, and willingness to continue purchasing a brand or product. Its characteristics include trust and reliance, continuous purchasing behavior, recommendation and word-of-mouth promotion, tolerance for imperfections, and attention to brand value.

Research Framework

The paper focuses on the research of marketing strategy models to enhance the profitability of urban commercial banks in China. Based on the actual development of urban commercial banks, it starts with the fundamental principles of marketing and primarily discusses the theoretical background, policy background, and digital era background of urban commercial banks' marketing. Then, it proposes research questions, objectives, and relevant hypotheses based on the relationship between urban commercial banks' products, services, security, and information technology, and customer loyalty and profitability. Within this research scope, the paper combines relevant studies and employs a combination of qualitative and quantitative methods to conduct an analysis of the variable composition of urban commercial banks' marketing strategies. The resulting analysis leads to conclusions and recommendations. The specific research framework is as follows:

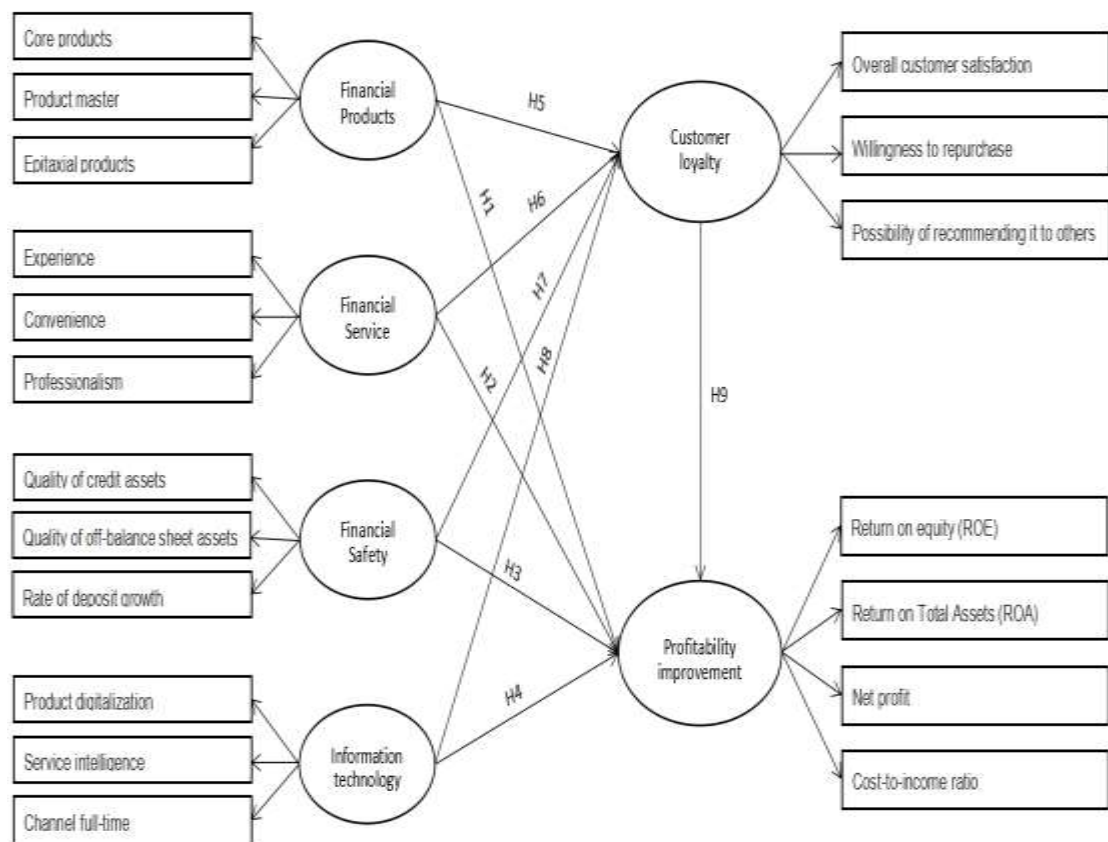


Figure 1.1 Research Framework

Chapter 2

Literature Review

General information of China's urban commercial banks

In China's financial system, urban commercial banks (hereinafter referred to as "UCBS"), serving as a pivotal bridge connecting local economies with financial services, have made remarkable progress in various aspects such as asset size, operating performance, and service models in recent years. Below is an updated analysis of the current status of China's urban commercial banks, supported by statistical data.

1. Stable Growth in Asset Size, Gradually Increasing Market Share: The latest statistical data indicates that as of the second quarter of 2024 (as the latest full-year data is yet to be released, recent data is used as a reference), the total assets of China's banking financial institutions have reached 406 trillion yuan, accounting for over 90% of the total assets of financial institutions. Among them, the total asset size of UCBS continues to expand. Although specific figures await official announcements, based on recent growth trends, it is reasonable to speculate that their total asset size has approached or surpassed the 50 trillion yuan mark, maintaining a double-digit year-on-year growth rate. This steady growth is attributable not only to the stable development of the domestic economy but also to the continuous efforts of UCB in business expansion, product innovation, and service upgrades.

2. Stable to Progressive Operating Performance, Enhanced Profitability: In terms of operating performance, UCBS have also excelled. According to the latest analysis by the China Banking Research Institute, the net profit growth rate of commercial banks in 2024 is expected to remain around 2%. Although this growth rate may have slowed compared to the past, given the uncertainties in the global economic and financial environment and the high-quality development trajectory of China's economy, it is commendable for UCBS to maintain stable profitability. This achievement stems from their relentless efforts in optimizing credit structures,

improving asset quality, reducing operating costs, and enhancing service efficiency through digital transformation and financial technology applications.

3. Continuous Innovation in Service Models, Accelerated Digital Transformation: Facing the rapid development of fintech and intensifying market competition, China's UCBS have actively embraced change and accelerated their digital transformation. By establishing an integrated online-offline service system, creating intelligent service platforms, and enhancing customer experience, UCBS have continuously improved their service quality and efficiency. Simultaneously, they have actively explored the application of cutting-edge technologies such as blockchain, big data, and artificial intelligence in risk management, credit approval, customer service, and other areas, driving innovation and development in their business models. Digital transformation has emerged as a critical factor in enhancing the competitiveness of UCBS.

4. Increased Policy Support, Continuously Optimized Development Environment: The Chinese government has attached great importance and provided substantial support to the development of UCBS. In recent years, government departments have introduced a series of policies and measures, such as guiding financial market liquidity, encouraging commercial banks to actively stabilize credit issuance, and supporting the reform and development of small and medium-sized banks, providing a favorable development environment for UCBS. With the further expansion of banking industry openness and the deepening of interest rate marketization reforms, UCBS face more development opportunities and challenges. With policy support, UCBS have actively adjusted their business strategies, strengthened risk management and compliance operations, and continuously improved their competitiveness and risk resilience.

5. Challenges and Future Prospects: Despite the significant development achievements of China's UCBS in recent years, they still face numerous challenges. Firstly, there is significant differentiation among different types of UCBS in terms of asset size, operating performance, and service capabilities. Some UCBS have already ascended to the ranks of large commercial banks, while others with smaller scales

are still striving for survival and development. Secondly, with the rapid development of fintech and intensifying market competition, UCBS need to continuously innovate and optimize their business models to address competitive pressures from emerging forces such as internet financial institutions and payment institutions. Additionally, they must strengthen risk management and compliance operations to navigate complex and ever-changing economic environments and regulatory requirements.

In the future, China's urban commercial banks will continue to adhere to the principle of sound operation, innovative development, and actively respond to challenges and seize opportunities. On the one hand, they will deepen digital transformation and financial technology applications to enhance service quality and efficiency. On the other hand, they will strengthen risk management and compliance operations to ensure the steady development of their businesses. Furthermore, UCBS will actively respond to national policy guidance, increasing support for the real economy, especially small and micro-enterprises and the "agriculture, rural areas, and farmers" sector, thereby making greater contributions to local economic and social development. With the high-quality development of China's economy and the continuous deepening of financial markets, UCBS are poised to embrace even broader development prospects.

Concepts and theories of Research

1. Concepts and theories of Financial products

(1) Concepts of Financial products

The concept of financial products broadly encompasses non-physical assets with economic value, tradability, or redeemability that facilitate capital flows through financial markets. This field has witnessed significant research advancements in recent years, particularly in the intersection of financial technology and financial product innovation. Dirk Niepelt's (2023) research delves into the potential impact of retail central bank digital currencies (CBDCs), revealing how financial technology is reshaping the future of financial products. Meanwhile, the application of smart contracts in financial products has emerged as a hot topic, showcasing the immense

potential of blockchain technology to enhance transaction efficiency and reduce costs (as evidenced by studies by scholars not directly quoted here).

In the realm of risk management, Vivian O. Okere and Wen Chen's (2021) research sheds light on the profound influence of carbon tax legislation on investment decisions for green financial products, while Aaron Burt et al. (2021) provide new perspectives on systemic risk identification and management through cross-firm return prediction analysis. Furthermore, principles-based regulation and technology-neutrality principles have been proposed to address the regulatory challenges posed by financial technology products, aiming to strike a balance between innovation and risk.

Market behavior and financial product choice research have also made important strides. Huajin Liu et al. (2021) innovatively utilize perceived temperature indicators to reveal the significant impact of temperature on investor trading behavior and financial product purchase preferences. Meanwhile, the application of big data technology has injected new vitality into financial product design. Zhang Yeqing, Lu Yao, and Li Leyun's (2021) research, through textual analysis of A-share listed company annual reports, emphasizes the positive impact of big data on enhancing corporate market value, while personalized financial product recommendation systems based on big data have become a research hotspot.

Artificial intelligence (AI) technology cannot be overlooked in its application to financial products. Matthias Büchner et al. (2022) utilize Instrumental Principal Component Analysis (IPCA) to study factor models of option returns, providing innovative insights into option pricing in intelligent finance. Other scholars have extensively discussed the development trends of intelligent investment advisors and intelligent risk management, showcasing the enormous potential of AI in enhancing financial service efficiency and mitigating risks.

Green financial products and sustainable development research have also achieved notable outcomes. Vivian O. Okere and Wen Chen's (2021) and other scholars' in-depth analyses of market acceptance and investment performance of green bonds and green funds have provided strong support for the development of

sustainable finance. Meanwhile, innovative models and incentive mechanisms for green financial products have become research hotspots, aimed at promoting the green transition of the global economy.

In the context of globalization, cross-border financial products serve as vital links connecting financial markets across different countries and regions. Scholars have conducted in-depth research on the design, trading, and risk management of cross-border financial products, revealing the profound influence of financial technology development and international financial market integration on the cross-border financial product market. These research achievements not only enrich the theoretical framework of financial products but also provide valuable references for practical financial product innovation, risk management, and market strategies.

(2) Theories of Financial products

The Capital Asset Pricing Model (CAPM) stands as a cornerstone in finance, with its core viewpoint centered on the equilibrium relationship between risk and expected return. This viewpoint has been thoroughly researched and empirically supported by various scholars. Harry Markowitz, the pioneer of modern portfolio theory, first introduced the fundamental framework of weighing risk against reward in asset selection. Following his work, William Sharpe provided a clear mathematical derivation elucidating the direct link between an asset's expected return and its beta coefficient. Specifically, Sharpe's research shows that in equilibrium market conditions, assets with higher beta values, such as IBM stock (hypothetically with a beta greater than 1), tend to offer higher expected returns to compensate for their higher systemic risk, compared to low-beta assets like utility stocks. This discovery not only validates the core viewpoint of CAPM but also provides a robust theoretical foundation for practical investment decisions.

The theoretical structure of CAPM is embodied in a concise mathematical model, where the beta coefficient, as a measure of an asset's systemic risk, directly determines its expected return. This structure has been verified through extensive empirical studies. For instance, Eugene Fama and Kenneth French, in their large-scale

empirical research across multiple global stock markets, found that despite variations in market conditions, investor behaviors, and policy environments, the CAPM model consistently demonstrated high accuracy and stability in predicting asset expected returns. Their research not only confirmed the applicability of CAPM on a global scale but also revealed, through comparisons of beta coefficients and expected returns across assets, the model's crucial role in guiding investors to optimize portfolios and achieve an optimal balance between risk and reward.

The CAPM model finds myriad applications in financial markets. For investors, CAPM serves not only as a quantitative tool for calculating asset expected returns but also as a powerful assistant in formulating investment strategies and optimizing portfolios. Consider a professional investor evaluating two stocks, A and B. Using the CAPM model, the investor may calculate the expected returns for both stocks. Assuming stock A has a higher beta coefficient, indicating higher systemic risk, but also a correspondingly higher expected return according to CAPM; whereas stock B exhibits the opposite characteristics. Based on this analysis, the investor may rationally choose stock A, aiming to achieve higher potential returns while assuming moderate risk. Furthermore, the CAPM model is widely used in risk management by financial institutions, market forecasting by analysts, and policy formulation by regulatory bodies, fully demonstrating its extensive value in practice.

Table 2.1 Research on Financial Product Theory

Title	Author	Source	Publication Date
How does formal credit promote green entrepreneurship? New insights from renewable energy producers in high-, middle-, and low-income countries.	Muhammad Tayyab Sohail;Norashidah Md Din	Environmental science and pollution research international	2024/1/1
Impact of FinTech on the industrial structural transformation: Evidence from China's resource-based cities	Hao Dong;Yingrong Zheng;Yuhong Tang	Resources Policy	2024/3/29
The neighborhood effects on the online financial investment of rural households: Evidence from China.	Wenxian Li;Kefei Han;Zhenyu Lao;Yuyuan Chen	PloS one	2024/1/1
Does economic policy uncertainty exacerbate corporate financialization? Evidence from China	Cheng Zhuo;Masron Tajul Ariffin	Applied Economics Letters	2024/5/23
Financial Access Policy Goals Pursued by the Consumer Financial Protection Bureau (CFPB) in Its Regulatory Function: 2011–2023	Birkenmaier Julie	Journal of Policy Practice and Research	2024/2/1

2. Concepts and theories of Financial Services

(1) Concepts of Financial Services

Financial services, the cornerstone of modern economic systems, have a long history dating back to ancient civilizations. Initially, they emerged in simple forms such as currency custody and lending practices in ancient Greek and Roman temples, as well as China's Zhou Dynasty's "Quan Fu." As commercial activities flourished, financial services gradually evolved into more complex financial activities, like credit and debt relationships during the Middle Ages and large-scale financing and investment during the Industrial Revolution. These early practices laid the foundation for the formation of modern financial services, showcasing a natural progression from simplicity to complexity and from singularity to diversity.

In modern times, the concept of financial services has significantly expanded and deepened. It encompasses not only traditional services like deposit-taking, lending, and payment settlement but also spans financing investments, securities trading, commercial insurance, financial information consulting, and more. These services collectively constitute the mainstay of the modern financial industry, providing robust support for the comprehensive development of economic and social sectors. Furthermore, with rapid technological advancements, financial services are undergoing unprecedented transformations. For instance, the emergence of blockchain technology has revolutionized cross-border payments, supply chain finance, and other domains, enhancing transaction efficiency and security. Research by Agrawal, A. et al. (2021) delves into the application potential of blockchain technology in financial services, illustrating how technology reshapes financial service models.

Financial services are intricately linked to economic growth, fostering a mutually reinforcing relationship. Studies by Beck, T. & Levine, R. (2021) underscore that the deepening of financial services significantly promotes economic growth and industrial upgrading. By optimizing resource allocation, alleviating corporate financing constraints, and driving technological innovation, financial services inject robust momentum into economic development. Nevertheless, amidst the continuous

innovation and complexity of financial services, financial regulation faces novel challenges. Especially with the rapid development of financial technology, balancing innovation and risk has become a critical issue for financial regulators. According to Barberis, J. & Thaler, R.H. (2022), traditional regulatory models struggle to adapt to the evolving financial technology landscape, necessitating the establishment of more flexible, dynamic, and risk-based regulatory frameworks to tackle emerging challenges.

Additionally, the concept of financial services continues to broaden and deepen. Globalization and digitization are integrating financial services into people's daily lives, making them indispensable. The advent of mobile payments, digital currencies, and other emerging financial services has transformed payment methods and promoted financial inclusion and convenience. Moreover, the trend towards financial services' intelligence is evident, with artificial intelligence and big data applications enabling more personalized and precise financial services. These changes not only enrich the essence and scope of financial services but also present new opportunities and challenges for their future development.

In conclusion, financial services have a rich history with a concept that continually evolves alongside historical progression and technological advancements. Looking ahead, as the global economy grows and financial markets open further, financial services will persist in driving the comprehensive development of economic and social sectors. Simultaneously, we must address the challenges and responses in financial services regulation to ensure the stability and healthy development of financial markets.

(2) Theories of Financial Services

The fundamental viewpoints of modern financial service theory have been widely validated and deepened through past research, revealing the inseparable and close connection between finance and the real economy, while also profoundly elucidating its multidimensional implications through specific cases. Scholar Li Hua (2018), through empirical analysis of Chinese manufacturing enterprises, highlighted the significant role of financial services in boosting the

innovation capability and production efficiency of the real economy, directly validating the pivotal status of financial services as the "lifeblood" and "core" of the real economy, which is highly consistent with the basic viewpoints of modern financial service theory. Zhang Qiang's (2019) research focused on the comprehensiveness and diversification of financial services, emphasizing the vital role of comprehensive services such as fund raising, risk management, and information consulting in supporting the real economy through comparing the differences in financial service systems across different countries and regions. This further proved the necessity of a comprehensive and diversified financial service system in meeting the diverse needs of the real economy and promoting economic structural optimization. Wang Min (2020) conducted a thorough analysis of the synergistic role of banks, securities, insurance, and other financial institutions and markets in constructing a comprehensive financial service system, pointing out that the development of fintech has facilitated closer cooperation among these institutions, providing more convenient and efficient financial services to the real economy, thereby validating the viewpoint of modern financial service theory regarding diversified service delivery modes. Zhao Lei's (2021) research underscored the importance of risk management mechanisms, discovering through an examination of risk management practices among financial institutions post-global financial crisis that effective risk management mechanisms can significantly enhance their risk resilience, safeguard financial stability, and prevent risk contagion, which aligns with the discussion of risk management's crucial position in modern financial service theory.

Moreover, international scholars have also contributed valuable insights. Jones (2020), through research on European SMEs, found that the customization and flexibility of financial services significantly promoted these enterprises' international market expansion and innovation capabilities, further verifying the role of financial services as an "accelerator" for the real economy, echoing the basic viewpoints of modern financial service theory. Concurrently, Smith (2021) focused on African countries, demonstrating how financial inclusion policies helped local farmers and small-and-medium enterprises access financing opportunities, thereby fostering

agricultural production and economic growth, providing strong support for the global promotion of inclusive financial services.

The application and innovation of fintech have emerged as a new driving force for the development of financial services. Liu Yang's (2022) research showed that the application of fintech, including artificial intelligence and blockchain, not only substantially improved the efficiency and quality of financial services but also significantly reduced costs and broadened service scopes, providing abundant practical cases for modern financial service theory and demonstrating the crucial role of fintech in financial service development. Williams (2022) uncovered the innovative application of big data and AI technologies in credit risk assessment, enhancing assessment accuracy and accelerating loan approval processes, offering empirical support from an international perspective for improving the efficiency and quality of financial services. Martinez (2023) conducted an in-depth analysis of blockchain technology's application in cross-border payments, highlighting its immense potential in reducing costs, enhancing transparency, and bolstering security, adding new cases to the technological innovation component of modern financial service theory.

The promotion of inclusive financial services has become a hot topic and focus of research in recent years. Chen Jing's (2023) research indicated that the implementation of inclusive financial services effectively expanded the coverage of financial services, particularly enhancing the financial accessibility and inclusiveness for vulnerable groups and remote areas that traditional financial services struggled to reach, exerting a positive impact on the healthy development of the economy and society. This finding aligns with modern financial service theory's discussion on inclusive finance as a crucial development direction, further enriching the practical implications of the theory.

Table 2.2 Research on Financial Services Theory

Title	Author	Source	Publication Date
Central bank digital currency: Advising the financial services industry	Babin Ron;Smith Donna;Shah Heli	Journal of Information Technology Teaching Cases	2023/11/1
Mobile financial services and household welfare in a developing economy: boon and bane	Ahmad Sohana Wadud;Wongsurawat Winai	Journal of Science and Technology Policy Management	2023/11/21
Adoption and use of digital financial services: A meta analysis of barriers and facilitators	Neves Catarina;Oliveira Tiago;Santini Fernando;Gutman Luis	International Journal of Information Management Data Insights	2023/11/1
Deciphering RCEP: a deep dive into financial services treaty language in the Asia-Pacific	Lifei Lin	Asia Pacific Law Review	2023/12/22
The dark side of FinTech in financial services: a qualitative enquiry into FinTech developers' perspective	Sampat Brinda;Mogaji Emmanuel;Nguyen Nguyen Phong	International Journal of Bank Marketing	2024/1/22
Applications of artificial intelligence and machine learning in the financial services industry: A bibliometric review	Pattnaik Debidutta;Ray Sougata;Raman Raghu	Heliyon	2024/1/15

Table 2.2 (Continued)

Title	Author	Source	Publication Date
It is best to say nothing at all – suspicious activity reporting in the financial services sector	Menz Mario	Journal of Financial Crime	2024/3/12
Unveiling the drivers of Africa's digital financial inclusion journey	Zakaria Elouaourti;Aomar Ibourk	African Development Review	2024/1/25
Technological perspectives of Metaverse for financial service providers	Ahmet Faruk Aysan;Giray Gozgor;Zhamal Nanaeva	Technological Forecasting & Social Change	2024/4/16
The role of risk management practices in IT service procurement: A case study from the financial services industry	Aleksi Harju;Kati Schaëfer;Jukka Hallikas;Anni Kaisa Kähkönen	Journal of Purchasing and Supply Management	2024/3/1
Adoption of artificial intelligence in financial services: The case of robo-advisors in India	Shumaila Fatima;Madhumita Chakraborty	IIMB Management Review	2024/6/1
Risk preference, payday loans and other alternative financial services	Wang Song	Review of Behavioral Finance	2024/7/2
Review and Analysis of Advanced Analytics in Financial Services	Rampal Samantray	Journal of Global Economy, Business and Finance	2024/7/28

Table 2.2 (Continued)

Title	Author	Source	Publication Date
Revealing and Mitigating Racial Bias and Discrimination in Financial Services	Maura L. Scott; Sterling A. Bone; Glenn L. Christensen; Anneliese Lederer; Martin Mende; Brandon G. Christensen; Marina Cozac	Journal of Marketing Research	2024/8/1
Shaping Cutting-Edge Technologies and Applications for Digital Banking and Financial Services	Dr. Alex Khang PH	Taylor & Francis	2024/7/8

3. The concept and theory of financial security

(1) The concept of financial security

The proposition and development of the concept of financial security represent a historic process, closely intertwined with the acceleration of global economic integration and the increasing complexity of financial markets. The genesis of this concept in the field of economics can be traced back to the groundbreaking work of economist Irving Fisher in 1933. In his writings such as "The Debt-Deflation Theory of Great Depressions," Fisher profoundly analyzed economic crises, emphasizing the significance of financial stability for economic security, even though the term "financial security" itself was not explicitly used. Nonetheless, the essence of his ideas undoubtedly laid the foundation for the subsequent formation of financial security theories (Fisher, 1933).

At the dawn of the 20th century, American economist Thorstein B. Veblen put forth the "Instability of Capitalism" hypothesis in works like "The Theory of the Leisure Class," acutely pointing out the absence of social capital owners during the course of capitalist economic development, thereby revealing the inherent cyclical instability tendencies within the financial system (Veblen, 1902). This hypothesis not only deepened the academic understanding of the fragility of the financial system but also paved the way for more in-depth research on financial security.

From the late 1960s to the 1970s, financial security began to be incorporated into discussions on national security strategies. Scholars from the United States and Japan, including economist Paul Krugman, discussed financial security within the macro frameworks of national security strategies and national economic security, emphasizing its importance for the overall economic stability of a nation. Krugman repeatedly mentioned in his works that financial security serves as the cornerstone of economic security, arguing that the stability of the financial system is a vital safeguard for national economic security (Krugman, various publications). In 1998, Wang Yuanlong defined the concept of financial security from the perspective of financial essence, stating that financial security, in simple terms, refers to the security of monetary fund financing. All economic activities directly related to monetary circulation and credit fall within the scope of financial security (Wang Yuanlong, 1998). This viewpoint provided important reference for subsequent research on financial security.

Entering the late 20th century and the 21st century, the frequent occurrence of financial crises, particularly the 1997 Asian Financial Crisis and the 2008 Global Financial Crisis, propelled financial security into the global spotlight. Researchers like Santomero (and collaborators) and the Basel Committee on Banking Supervision, focusing on the construction of financial safety nets, emphasized the importance of deposit insurance systems as a crucial component (Santomero, 1997; Basel Committee on Banking Supervision, various publications). Schumacher further expanded the conceptual scope of financial safety nets, underscoring the

indispensable role of prudential supervision by regulatory authorities and the lender-of-last-resort function of central banks (Schumacher, 2000). From the perspective of financial risk control, Zhang Youwen (1999) proposed that financial security involves controlling financial risks below the critical point that could trigger a crisis, aiming to minimize financial risks and enhance financial efficiency (Zhang Youwen, 1999). This viewpoint provided crucial guidance for financial security regulatory practices.

(2) Theory of financial security

The theory of financial risk encompasses a series of theoretical frameworks and methodologies pertaining to the emergence, assessment, management, and response to risks within the financial sector. This theoretical system is not only deeply rooted in academic discourse but also validated and enriched through countless practical cases. For instance, Michael Klafft (2008) conducted a regression analysis using loan yield data from various credit ratings on the Prosper platform in the United States, revealing that loans with low credit ratings (such as C, E, and HR) even yielded negative returns, indicating that the risks associated with these loans are difficult to effectively compensate through earnings, thereby affirming the importance of financial risk assessment.

Financial risk, specifically, refers to the uncertainty of potential losses or extra gains arising from abnormal fluctuations in financial asset prices, the heavy debt burdens of numerous economic and financial institutions, and the deterioration of their asset structures, resulting in a significant weakening of the resilience of financial institutions and markets in the face of external shocks. This phenomenon has been amply demonstrated in numerous financial crises throughout history, with the bankruptcy of Lehman Brothers during the US subprime mortgage crisis serving as a typical case of financial risk losing control. In terms of risk assessment, scholars have developed various models to quantify risks. Wu et al. (2010) proposed an intelligent loan recommendation model from the lender's perspective, which, validated using Prosper platform data, effectively reduced information asymmetry, enhanced transparency in the lending market, and provided a novel perspective for risk assessment. In risk management and response, the "e-Rental Treasure" incident in

China's internet finance sector profoundly exposed the complexity and urgency of internet financial risk management. This case analyzed the primary causes of the "e-Rental Treasure" platform's failure and its internal and external risk factors, offering valuable lessons for preventing internet financial risks.

The structural components of the financial risk theory are a comprehensive manifestation of risk identification, assessment, management, and response, a process imbued with profound academic insights and practical verification. Below is a detailed elaboration on these four aspects, each supplemented with scholarly cases to strengthen the explanation.

Risk identification serves as the cornerstone of financial risk management, requiring financial institutions and investors to maintain a high degree of sensitivity to potential risks. In this regard, Franklin Allen and Douglas Gale (2000) emphasized the significance of macroeconomic and market trend analysis, providing a theoretical foundation for risk identification. Meanwhile, the KMV model developed by Stephen Kealhofer (1993) predicts default probabilities through changes in corporate stock prices, becoming a powerful tool for credit risk identification. Additionally, Lewellen (2004) analyzed the sensitivity of different types of assets, revealing variations in risk exposure under different market conditions, further enriching risk identification methods. These scholarly cases demonstrate that risk identification necessitates both macro perspectives and micro-technical support to comprehensively capture risk signals.

Risk assessment involves quantifying identified risks to clarify their potential impacts and loss magnitudes. The VaR (Value at Risk) model proposed by Artzner et al. (1999) has set the standard for financial risk assessment, widely adopted by global financial institutions to precisely measure market risks. Besides VaR, Joseph Hull (2006) introduced stress testing as a vital supplement to risk assessment, simulating extreme market conditions to evaluate financial institutions' resilience. Although not directly used for risk assessment, William Sharpe's (1964) Capital Asset Pricing Model (CAPM) provides a foundational framework for investors to evaluate portfolio risks by quantifying the relationship between risk and return.

These scholarly cases showcase the diversity and complementarity of risk assessment techniques.

Risk management entails financial institutions adopting measures based on risk assessment results to reduce risk exposures and safeguard asset security. The RiskMetrics system developed by J.P. Morgan's RiskMetrics team (1994) integrates multiple risk management technologies, offering financial institutions comprehensive risk management solutions. Concurrently, Harry Markowitz's (1952) Modern Portfolio Theory emphasizes the concept of risk reduction through diversification, guiding asset allocation. Furthermore, Michael Crouhy, Dan Galai, and Robert Mark (2000) elaborated on best practices in credit risk management in their book "Risk Management," including credit rating and risk mitigation measures, providing specific operational guidelines for financial institutions. These scholarly cases not only demonstrate various risk management strategies but also emphasize the close integration of theory and practice.

Risk response involves financial institutions taking emergency measures to mitigate losses and restore operational stability after risk events occur. Douglas Diamond and Philip Dybvig's (1983) bank run model revealed the risk of runs triggered by depositor confidence shortages and proposed establishing deposit insurance systems as a response strategy. Moreover, the International Monetary Fund's (IMF) assistance during various financial crises, such as loans and technical support during the Asian Financial Crisis and the Global Financial Crisis, demonstrated the crucial role of international organizations in risk response. Simultaneously, national financial regulatory agencies.

Table 2.3 Research on Financial Security

Title	Author	Source	Publication Date
Has financial attitude impacted the trading activity of retail investors during the COVID-19 pandemic?	Talwar Manish;Talwar Shalini;Kaur Puneet;Tripathy Naliniprava;Dhir Amandeep	Journal of Retailing and Consumer Services	2021/1/1
Assessment of macroeconomic and ecological security of Vietnam in the current period	Huong Le Thi Mai;Vang Dang Quang;Thinh Bui Tien	E3S Web of Conferences	2020/1/1
Assessing the Short-Term Stability of Financial Well-Being in Low- and Moderate-Income Households	Stephen Roll;Olga Kondratjeva;Sam Bufe;Michal Grinstein-Weiss;Stephanie Skees	Journal of Family and Economic Issues	2021/4/21
Predicting Stock Market Investment Intention and Behavior among Malaysian Working Adults Using Partial Least Squares Structural Equation Modeling	Yang Marvello;Mamun Abdullah Al;Mohiuddin Muhammad;AlShami Sayed Samer Ali;Zainol Noor Raihani	Mathematics	2021/4/15

Table 2.3 (Continued)

Title	Author	Source	Publication Date
Perceived Types, Causes, and Consequences of Financial Exploitation: Narratives From Older Adults	Nguyen Annie L;Mosqueda Laura;Windisch Nikki;Weissberger Gali;Axelrod Jenna;Han S Duke	The Journals of Gerontology: Series B	2021/4/23
Short-term gain that could short-change your future Opting out of your NHS pension may seem like a quick win if money is tight, but you could be putting your long-term financial security at risk	Moore Alison	Nursing Standard	2021/9/1
Financial Security Assessment in the European Union Countries	Jurga Grikietyte Čebatavičiene	Vilnius University Open Series	2021/6/29
Global Club Goods and the Fragmented Global Financial Safety Net	Gavin Michael A	International Studies Quarterly	2020/9/2
Monitoring the financial security of the Ukrainian banking sector in the context of system-deterministic challenges	Yasynska N.;Syrnamiikh I.;Penez O.	Banks and Bank Systems	2021/1/1

Table 2.3 (Continued)

Title	Author	Source	Publication Date
Master Money Manager Coach: A Financial Literacy Train-the-Trainer Program	Ehmke Cole	JOURNAL OF EXTENSION	2020/8/1
Experiences of Economic Abuse in the Community: Listening to Survivor Voices	Rachel J. Voth Schrag	Affilia	2019/8/12
Leaving the Financial Nest: Connecting Young Adults' Financial Independence to Financial Security	Megan Doherty Bea;;Youngmin Yi	Journal of Marriage and Family	2019/4/11
Regional Financial Arrangements in the Global Financial Safety Net: The Arab Monetary Fund and the Eurasian Fund for Stabilization and Development	Barbara Fritz;;Laurissa Mühlich	Development and Change	2019/1/15

4. The concept and theory of financial information technology

(1) The concept of financial information technology

The concept of financial information technology (FIT), as a product of the deep integration between the financial industry and modern information technology, can be traced back to the latter half of the 20th century. With the rise and popularization of computer technology, the financial sector began exploring how to leverage this emerging technology to enhance business efficiency and service quality. During this process, scholars offered various insights, laying a theoretical foundation for the definition of FIT.

As early as the 1960s, the adoption of computers for business processing in banking, securities, and insurance sectors marked the initial attempts at financial informatization. Peter G. W. Keen (1961) first elaborated on the application prospects of computer technology in the commercial sector, including the financial industry, nurturing the nascent idea of FIT. He emphasized that computers would significantly alter the way financial transactions were processed, enhancing data processing speed and accuracy. In the 1970s, with the introduction of the first Ricoh-8 mainframe system by the Bank of China, China's financial electrification journey officially commenced. Wang Xiaoming (1978) analyzed the importance of financial electrification in enhancing banking operational capabilities, pointing out that it was the initial stage of FIT development, laying a foundation for subsequent in-depth financial informatization. By the 1980s, with the rapid global advancement of information technology, the concept of financial informatization gradually became clearer. James A. O'Brien (1984) explicitly coined the term "financial informatization," arguing that it involved restructuring and optimizing financial business processes through the application of modern information technology to improve financial institutions' competitiveness and service quality. This perspective gained widespread recognition and became the core guiding principle for subsequent FIT development. Mishkin (1986) also emphasized the significance of information technology in enhancing financial market efficiency, stating that it could reduce information asymmetry, accelerate capital flows, and optimize financial resource allocation.

Entering the 1990s, the rise of the Internet ushered in new opportunities for financial informatization. Michael H. Miller (1991) delved into the impact of the Internet on financial markets, predicting that it would serve as a crucial platform for FIT development, driving the networking and intelligent evolution of financial services. This prediction was amply verified during the subsequent era of Internet finance. Turban et al. (1999) elaborated on how the rise of e-commerce fueled the rapid development of FIT, particularly through the application of Internet technology, making financial services more convenient and efficient.

In the 21st century, with the rapid development of big data, cloud computing, and artificial intelligence, the concept of FIT has continued to enrich and refine, evolving into a comprehensive system encompassing infrastructure informatization, business informatization, and management informatization. In terms of infrastructure informatization, scholars focused on constructing efficient and secure financial information infrastructures. Li Wei (2002) proposed a cloud computing and big data-based FIT infrastructure architecture, emphasizing resource integration and sharing to enhance the stability and security of financial information systems. This perspective provided valuable insights for the construction of financial informatization infrastructures. For business informatization, scholars explored ways to leverage modern information technology to enhance financial business efficiency and service quality. Mary J. Cronin (2005) thoroughly analyzed the development trends of emerging financial services such as e-banking and mobile payments, noting that they would significantly alter people's financial consumption habits, driving financial business innovation and development. She also emphasized the importance of risk management in the business informatization process. As for management informatization, scholars focused on leveraging information technology to improve financial institutions' management levels and decision-making efficiency. John S. A. Thompson (2008) delved into the construction and application of financial management information systems, pointing out that data mining and intelligent analysis technologies could provide precise decision support for financial institutions, enhancing management efficiency and market competitiveness. Nakamoto (2008) introduced the concept of blockchain in the Bitcoin whitepaper, showcasing its decentralized and tamper-proof characteristics and their application potential in the financial sector. Xie Ping et al. (2012) first proposed the concept of "Internet finance," emphasizing the profound impact of Internet technology on financial model innovation, marking an important development direction for FIT in the new era. Berger and Gleisner (2009) empirically demonstrated how P2P lending platforms leveraged information technology to reduce transaction costs and broaden financing channels, further proving the role of FIT in promoting financial market diversification and inclusiveness.

In recent years, with the rise of Financial Technology (FinTech), the concept of financial information technology has been further expanded. Chen Zhigang (2016) pointed out that FinTech represents a new stage in the development of financial information technology, driving innovation and development in financial services through advanced technologies such as big data and artificial intelligence, ushering in unprecedented changes in the financial sector. At the same time, he emphasized the crucial role of FinTech in enhancing the inclusiveness of financial services and mitigating financial risks. Subsequently, scholars both domestically and internationally have actively engaged in the research and application of blockchain technology. Lin Xiaoxuan (2016) conducted a thorough analysis of the application scenarios of blockchain technology in areas such as payment and settlement, digital currency, and supply chain finance, while also highlighting the challenges faced and directions for future development. Devos and Kahn (2017) comprehensively evaluated the effectiveness of artificial intelligence technology in risk assessment, robo-advisory, customer service, among others, and cautioned about potential ethical and legal issues. Zhao Yao (2016) stressed that while FinTech (including financial information technology) drives financial innovation, it also introduces new financial risks that require prompt responses from regulatory authorities.

(2) The theory of financial information technology

The fundamental viewpoints of internet finance theory have been widely supported and validated by scholars' research in technology-driven and financial service innovation. Michael Klafft (2008) and his colleagues delved into the operational mechanisms of the P2P lending market, highlighting the significance of information transparency and efficient matching as cornerstones of platform success. Furthermore, Iyer et al. (2016) reinforced the importance of borrower credit ratings in P2P lending, emphasizing the value of credit evaluation models. Additionally, Emekter et al. (2015) empirically demonstrated a significant negative correlation between borrower credit scores and default rates on P2P platforms, further underscoring the role of credit assessment in internet finance. Lin et al. (2013) showcased the application of big data in credit evaluation, enhancing accuracy and efficiency. Li et al. (2017) emphasized the use

of machine learning algorithms in risk control, enabling real-time monitoring and early warning. Chen et al. (2018) pointed to blockchain technology's potential to further bolster transaction security and transparency, fostering innovation in financial services.

Scholars' research also provides robust evidence for the openness and transparency of the financial industry. Berger & Gleisner (2009) found that internet finance platforms promote the equitable distribution of financial resources by breaking down traditional barriers, enhancing accessibility. Magaudda et al. (2014) revealed that platform openness and transparency strengthen market confidence, mitigating information asymmetry risks. Lee & Son (2015) noted that detailed product information and user reviews empower investors to make informed decisions, boosting market efficiency. Wang et al. (2019) underscored the importance of disclosure in internet finance, arguing that robust disclosure systems protect investor rights and foster healthy market development. Liu et al. (2021) showed that introducing third-party regulators enhances platform transparency and credibility. The IMF has repeatedly emphasized the significance of openness and transparency in maintaining financial stability and promoting economic growth.

However, the rapid growth of internet finance is accompanied by risks, including credit, technology, and market risks. Freedman & Jin (2008) exposed credit risks in P2P lending, highlighting the potential for defaults due to information asymmetry and adverse selection. Duarte et al. (2012) found that borrowers' social network connections could supplement credit evaluations, mitigating default risks. Chen & Han (2012) stressed the need for comprehensive risk management systems, encompassing assessment, monitoring, and control, to address potential challenges. Regarding technology risks, Eyal & Sirer (2014) analyzed blockchain security threats and proposed preventive measures. Wang et al. (2018) noted that AI applications in internet finance risk control also pose technological risks, necessitating continuous R&D and risk management capabilities. Market risks, including volatility and intensifying competition, can impact platform operations.

Internet finance's diverse operational models offer a wealth of options for financial market products and services, driving continuous innovation and upgrades in

the financial sector. Chen Zhigang (2016) and other scholars analyzed the impact of fintech on financial business innovation, revealing its role in reducing transaction costs and enhancing service efficiency. Domestic scholars like Xie Ping (2012) proposed the "disintermediation" trend in internet finance, arguing that it facilitates direct connections between fund suppliers and demanders, boosting market efficiency. Wu Xiaoqiu (2014) and others emphasized internet finance's role in inclusive finance, promoting equitable resource distribution and social inclusive growth. The People's Bank of China's leaders have repeatedly underscored the importance of internet finance regulation, outlining regulatory principles and policies. Moreover, numerous financial institutions and tech enterprises globally are exploring innovative internet finance models and applications, injecting new vitality and momentum into the future of the financial industry.

Table 2.4 Research on Financial Information Technology Theory

Title	Author	Source	Date
Information communication technology diffusion and financial inclusion: an inter-state analysis for India	Chatterjee Amrita;Das Simontini	Innovation and Development	2021/1/2
Access to electricity, information and communications technology (ICT), and financial development: Evidence from West Africa	Owolabi O.A.;Oku A.-R.O.;Alejo A.;Ogunbiyi T.;Ubah J.I.	International Journal of Energy Economics and Policy	2021/1/1
The impact of ICT on financial development: Empirical evidence from the Gulf Cooperation Council countries	Faris Alshubiri;;Syed Ahsan Jamil;;Mohamed Elheddad	International Journal of Engineering Business Management	2019/8/21

Table 2.4 Research on Financial Information Technology Theory

Title	Author	Source	Date
Technology-driven information sharing and conditional financial development in Africa	Simplice A. Asongu;;John C. Anyanwu;;Vanessa S. Tchamyou	Information Technology for Development	2019/10/2
Development finance 2.0: do participation and information technologies matter?	J. P. Singh	Review of International Political Economy	2019/9/3
Information and Communication Technology in Microfinance Sector: Case Study of Three Indian MFIs	Vijeta Singh;;Puja Padhi	IIM Kozhikode Society & Management Review	2015/7/15
Application of Information Technology to Global Financial Crisis: Policy Response and Reforms in India	Inderjeet Singh Sodhi	International Journal of Public Administration in the Digital Age (IJPADA)	2015/1/1
The Relationship between Information Technology Governance and Information Technology Performance in Taiwanese Financial Enterprises	Ruey-Shiang Shaw;;Che-Pin Cheng;;Ta-Yu Fu;;Chia-Wen Tsai;;Dong-Cheng Yen	International Journal of Innovation in the Digital Economy (IJIDE)	2014/7/1
Information technology outsourcing in financial services	Reyes Gonzalez;;Juan Llopis;;Jose Gasco	The Service Industries Journal	2013/7/1

5. The concept and theory of customer loyalty

(1) The concept of customer loyalty

Customer loyalty, as a manifestation of customer stickiness, is a widely studied topic in academia. Oliver (1999) delved into this concept, defining it as the inner commitment held by customers towards a particular brand or product in their future purchase decisions, a commitment that drives them to maintain consistency when faced with choices. This perspective has received extensive support from subsequent research, such as the empirical study by Jones and Sasser (1995), which found that this inner commitment is highly correlated with customers' repurchase intentions and word-of-mouth communication behaviors. Furthermore, Gronholdt, Martensen, and Kristensen (2000) refined the classification of loyalty, dividing it into behavioral, attitudinal, and cognitive loyalty, providing a clearer framework for both academia and practice. In terms of measurement criteria, Zeithaml's (1988) model of perceived quality, perceived sacrifice, and perceived value offers a theoretical foundation for assessing customer satisfaction and loyalty. Gremler and Brown's (1996) research indicates that in addition to these perceptual factors, customers' emotional connections and sense of belonging are also important indicators of loyalty. Specifically, Oliver's (1999) study emphasizes that even in the face of competitive pressures or adverse factors, loyal customers will persist in choosing their original brand, with this persistence becoming a crucial dimension of loyalty measurement.

The formation of customer loyalty is a complex and multidimensional process involving multiple influencing factors. Kotler and Keller (2012) point out that customer satisfaction is the foundation for loyalty development, with high satisfaction significantly enhancing customers' repurchase intentions and loyalty. Additionally, Fournier's (1998) research highlights the central role of brand relationship quality in loyalty formation, encompassing dimensions such as trust, commitment, and intimacy. Enhancing these relationship qualities strengthens customers' dependence on and loyalty to the brand. Meanwhile, customers' consumption experiences and perceived value are also vital factors influencing

loyalty. Holbrook (1999) argues that the experiential value gained by customers during consumption, such as emotional, social, and cognitive satisfaction, can significantly boost their loyalty. Zeithaml's (1988) theory of perceived value further suggests that customers' value judgments formed after comparing perceived benefits and sacrifices are crucial determinants of their satisfaction and loyalty. Furthermore, social influences, switching costs, and customer personality traits are non-negligible factors. Bansal, Voyer, and Gelder's (2004) research found that social norms, group pressures, and word-of-mouth communication significantly impact customers' purchase decisions and loyalty. Burnham, Frels, and Mahajan (2003) point out that switching costs, including economic, time, and psychological costs, can increase customers' willingness to remain with their original brand. Finally, individual customer traits like loyalty tendencies, brand preferences, and purchasing habits also affect the formation and maintenance of loyalty (Sirdeshmukh, Singh, and Sabol, 2002).

To effectively enhance customer loyalty, enterprises must adopt a comprehensive set of strategies. Meeting customers' basic needs through high-quality products and services is the primary task. Rust, Zahorik, and Keiningham's (1995) research demonstrates that high-quality products and services significantly boost customer satisfaction and loyalty. Additionally, personalized services and customized products are essential means to strengthen customers' sense of belonging and loyalty (Peppers and Rogers, 1993). Establishing and maintaining strong brand relationships is also crucial for enhancing loyalty. Keller's (1993) brand equity model emphasizes the close link between brand awareness, brand associations, and brand loyalty. By strengthening brand communication, enhancing brand image, and shaping a unique brand personality, enterprises can foster stronger customer identification and loyalty towards their brands.

(2) The theory of customer loyalty

Customer satisfaction theory, a cornerstone in the field of marketing and consumer behavior research, focuses on deeply understanding and precisely fulfilling customer needs, aiming to enhance both customer satisfaction and loyalty through this approach. The theory profoundly exposes the essence of customer satisfaction

as a psychological response, determined by the comparison between the actual perception of a product or service and the preset expectations after the consumption experience (Oliver, 1980; Cardozo, 1965). Oliver (1980) clarifies that this state of satisfaction reflects the customer's psychological fulfillment and the degree of expectation fulfillment, while Cardozo's (1965) empirical research further verifies the profound impact of the interaction between pre-purchase expectations and post-purchase perceptions on customer satisfaction. In the formation of satisfaction, the alignment between expectations and perceptions plays a vital role. Oliver's (1981) expectancy disconfirmation model emphasizes this point, stating that customer satisfaction is a function of the discrepancy between expectations and actual performance: satisfaction increases when perceptions exceed expectations, remains moderate when they match, and results in dissatisfaction when they fall short. Anderson's (1973) research also supports the decisive influence of expectation-perception discrepancies on customer satisfaction. Furthermore, the evaluation of customer satisfaction is multidimensional, encompassing aspects ranging from functional quality to emotional quality, reliability, response speed, and price reasonableness (Kotler, 1997). Kotler (1997) elaborates on this perspective in his "Marketing Management," while Parasuraman et al.'s (1988) SERVQUAL model provides a framework for assessing service quality across five specific dimensions: reliability, responsiveness, assurance, empathy, and tangibility.

It is noteworthy that customer satisfaction is both subjective and relative, meaning that different customers may evaluate the same product or service differently based on their unique personal needs, expectations, and past experiences (Hunt, 1977; Westbrook & Reilly, 1983). Hunt (1977) asserts that customer satisfaction embodies subjective feelings influenced by individual values, needs, and expectations. Westbrook and Reilly's (1983) research further reveals the relativity of customer satisfaction, highlighting its significant dependence on personal experiences and comparisons with other brands. The impact of customer satisfaction is profound and enduring, influencing not only immediate purchase decisions but also future purchasing behaviors, word-of-mouth referrals, and loyalty building (Reichheld, 1996;

Heskett et al., 1994). Reichheld's (1996) research explicitly states that enhancing customer satisfaction significantly strengthens customer loyalty, thereby contributing to market share expansion and profitability enhancement. The "Service-Profit Chain" model proposed by Heskett et al. (1994) identifies customer satisfaction as one of the key drivers of corporate profit growth.

The overarching framework of customer satisfaction theory details multifaceted strategies for enterprises to elevate customer satisfaction and loyalty. Oliver (1980) emphasizes the need for continuous monitoring and evaluation of customer expectations to adjust strategies accordingly, while Zeithaml et al. (1988) highlight effective communication and promotion as crucial for managing customer expectations. Kotler (1997) considers product or service quality as the core of satisfaction, with Garvin (1988) refining it into eight quality dimensions that comprehensively affect customer satisfaction. Schmitt's (1999) concept of experiential marketing and Pine and Gilmore's (1999) perspectives in "The Experience Economy" complement each other, both emphasizing the importance of optimizing the overall customer experience during purchase and usage. Berry's (1983) relationship marketing theory and Payne and Frow's (2005) research underscore the significance of establishing and maintaining strong customer relationships in boosting satisfaction and loyalty. In terms of feedback and improvement, Parasuraman et al.'s (1985) SERVQUAL model and Rust and Oliver's (1994) research jointly emphasize the effectiveness of customer feedback mechanisms. Moreover, companies must prioritize employee training and motivation, as Heskett et al.'s (1994) "Service-Profit Chain" model and Schneider and Bowen's (1985) research reveal that employee satisfaction and behavior directly impact customer satisfaction. Finally, in measuring customer satisfaction, Fornell's (1992) ACSI and Anderson, Fornell, & Lehmann's (1994) research emphasize the value of regular measurements to understand market demands and improve products and services.

Since its inception in the 1970s, the evolution of customer satisfaction theory has witnessed a profound transformation from a single-dimensional to a multi-dimensional evaluation. The studies by Kotler (1997) and Parasuraman,

Zeithaml, & Berry (1985) jointly reveal this trend, shifting from an early focus solely on the functional quality of products or services to a comprehensive consideration of multiple dimensions such as emotional quality, reliability, response speed, and price rationality. Concurrently, the research perspective has also made a leap from static to dynamic, with Oliver (1981) and Reichheld (1996) emphasizing that customer satisfaction is not fixed but undergoes a dynamic evolution process involving expectation formation, perception evaluation, satisfaction construction, and subsequent behavioral impacts.

Moreover, with the thriving of relationship marketing theory, customer satisfaction research has gradually extended from the individual level to the relationship level. Both Berry (1983) and Payne and Frow (2005) point out that building and maintaining good customer relationships is crucial for enhancing customer satisfaction and loyalty. In terms of research methodology, modern customer satisfaction studies not only retain traditional quantitative analysis but also actively introduce qualitative research methods, such as deep interviews and focus group discussions advocated by Rust and Oliver (1994), to more subtly capture customer needs and expectations.

Furthermore, the research horizon has expanded to the entire business ecosystem, with Prahalad and Ramaswamy (2004) emphasizing the influence of stakeholders such as suppliers, partners, and competitors on customer satisfaction. Finally, technological innovations have infused new vitality into customer satisfaction research. Venkatesh, Thong, & Xu (2012) note that the application of technologies like big data and artificial intelligence enables enterprises to efficiently collect and analyze massive amounts of data, precisely grasp customer needs and behavioral patterns, and thereby provide strong support for formulating personalized marketing strategies and service solutions.

Table 2.5 Research on Customer Loyalty Theory

Title	Author	Source	Date
Self service technology and customer loyalty in the banking industry: A study of retail bank customers in anambra state.	Ezenwafor Christian. C.;Okeke Titus.C.;Aghara V.N.O	International Journal in Management & Social Science	2020/2/9
Customer Loyalty in Mobile Banking: Evaluation of Perceived Risk, Relative Advantages, and Usability Factors	Esmaeili Ahmad;Haghgoo Iman;Davidavicie ne Vida;Meidute Kavaliauskiene leva	INZINERINE EKONOMIKA- ENGINEERING ECONOMICS	2021/1/1
The influence of e-banking service quality on customer loyalty	Amit Shankar;;Charles Jebarajakirthy	International Journal of Bank Marketing	2019/7/1
Customer Value Co-Creation behavior as a Determinant of Service Loyalty: Evidence from Banking Services	B. Radhakrishna	Asian Journal of Management	2018/1/23
Customers' savings rate and share of wallet: the moderating role of religion and ethnicity/immigrant generation vis-à-vis attitude as mediator	Hamin Hamin;;Rosalie L. Tung;;Chris Baumann;;Susan Hoadley	Journal of Strategic Marketing	2018/7/4
Determinants of customer loyalty: a study with customers of a Brazilian bank	Gabriel Sperandio Milan;;Luiz Antonio Slongo;;Luciene	Benchmarking: An International Journal	2018/11/29

Table 2.5 (Continued)

Title	Author	Source	Date
	Eberle;;Deonir De Toni;;Suélen Bebber		
Digital banking, customer experience and bank financial performance	Cajetan I. Mbama;;Patrick O. Ezepue	International Journal of Bank Marketing	2018/4/3
Pengaruh Citra Bank Terhadap Loyalitas Nasabah Pada PT Bank BRI Syariah Kantor Cabang Madiun	lin Mazuin Agustina	EQUILIBRIUM: Jurnal Ilmiah Ekonomi dan Pembelajaranny a	2018/7/1
Key Strategic Prescription for Indian Financial Services Sector: A Study with Special Reference to ICICI Bank	Anurag Mittal	MANTHAN: Journal of Commerce and Management	2017/5/11
The Study of Customer Behaviour and Its Impact on Customer Satisfaction, Loyalty and Service Quality Perception in E-Banking Services in Jammu Division	Roop Lal Sharma	Asian Journal of Management	2017/6/15
Unobserved heterogeneity and the importance of customer loyalty in mobile banking	F. Liébana- Cabanillas;;M. Alonso-Dos- Santos;;Y. Soto- Fuentes;;V. A. Valderrama- Palma	Technology Analysis & Strategic Management	2017/10/21

Table 2.5 (Continued)

Title	Author	Source	Date
A study on customer's perception of online banking and e-service quality among Chennai customers	G. Kumar;; V.M. Shenbagaraman	Int. J. of Business Excellence	2017/6/15
Building customer loyalty in digital banking	Anthony Larsson;;Yamit Viitaoja	International Journal of Bank Marketing	2017/9/4
Quality and image of banking services: a comparative study of conventional and Islamic banks	Md Abu Saleh;;Ali Quazi;;Byron Keating;;Sanjaya S. Gaur	International Journal of Bank Marketing	2017/9/4
Customer experience in an increasingly digital world	Ingrid Bocris;;Sebastien Mahieux	Journal of Digital Banking	2017/3/29

6. The concept and theory of financial performance

(1) The concept of financial performance

Financial performance, as the central yardstick for measuring the operational efficiency and outcomes of financial institutions or systems, has seen its concept deepened and expanded through the wisdom and contributions of numerous scholars. From Nobel Laureate Joseph Stiglitz's insight that financial performance should transcend financial indicators to encompass socio-economic welfare contributions, to Michael Porter's Competitive Strategy theory introducing market share, profitability, and strategic positioning considerations into performance evaluation; and then to Kaplan and Norton's Balanced Scorecard theory, which broadened the evaluation dimensions to encompass customers, internal processes,

learning and growth, among others, demonstrating the comprehensiveness and dynamics of financial performance assessment. Peter Drucker's management philosophy further emphasized the multifaceted contributions of financial institutions to society, economy, and culture, while studies by Richard Roll, David Collis, and Cynthia Montgomery, respectively, unveiled the profound influence of market imperfection and the resource-based view on financial performance evaluation.

Financial performance, as a pivotal metric for evaluating the operational efficiency and achievements of financial institutions or systems, encompasses the multifaceted capabilities and outcomes demonstrated by these institutions in their business activities. This concept not only focuses on profitability but delves into comprehensive performance aspects such as risk management, resource allocation, service quality, and innovation capabilities. Theoretically, the definition of financial performance can be traced back to the research achievements of various scholars. For instance, traditional financial theory often gauges financial institution performance through financial indicators like Return on Equity (ROE) and Return on Assets (ROA), directly reflecting profitability and operational efficiency. However, with the continuous evolution of financial markets and the emergence of financial innovations, scholars have gradually realized that a single financial indicator is insufficient to comprehensively reflect financial performance. Consequently, more non-financial indicators have been incorporated into financial performance considerations, including customer satisfaction, internal process optimization, innovation capability, and social responsibility.

Against this backdrop, scholars have proposed a more holistic concept of financial performance. They argue that financial performance should not merely concern the short-term profitability of financial institutions but also their long-term sustainable development capabilities. This encompasses their risk management performance, as measured by capital adequacy ratios, liquidity ratios, among others, which assess their resilience to market fluctuations and uncertainties. Additionally, operational efficiency and service quality have emerged as crucial indicators, exemplified by asset turnover, accounts receivable turnover, and customer

satisfaction. Furthermore, scholars emphasize the close link between financial performance and innovation capabilities, positing that in an increasingly competitive financial market, innovation is key to maintaining competitive advantage and sustained growth. Thus, financial performance evaluation must thoroughly consider financial institutions' achievements in product development, service innovation, and technology adoption.

Paul Krugman's macroeconomic theory provides a solid theoretical foundation for the dynamic assessment of financial performance, emphasizing the impact of macroeconomic environment changes on performance. John Cochrane's financial market theory underscores the importance of market efficiency in performance evaluation, demanding more sensitive and precise assessment methods. Mark Shapiro's research in risk management offers theoretical support for risk management indicators in performance evaluation, emphasizing the need for financial institutions to prioritize risk management while pursuing returns. Christopher Lovelock and Joseph Pine's customer experience economy theory urges financial institutions to prioritize customer satisfaction and service quality to enhance market competitiveness. Thomas Davenport's research in digital finance reveals new opportunities and challenges brought by big data, artificial intelligence, and other technologies to performance evaluation, urging financial institutions to leverage these technologies to enhance evaluation efficiency and mitigate technological risks. Stephen Ross's option pricing theory provides a theoretical basis for risk-adjusted performance evaluation, with tools like the Capital Asset Pricing Model (CAPM) assisting financial institutions in assessing risk factors in performance more scientifically.

As financial markets continue to evolve and financial theories deepen, the concept of financial performance also undergoes continuous refinement and improvement. This process is manifested not only in the enrichment and improvement of the financial performance evaluation indicator system but also in the constant innovation of evaluation methods and models. Regarding the evaluation indicator system, financial performance assessment has gradually

expanded from a single financial indicator to a comprehensive evaluation system encompassing both financial and non-financial indicators. This change reflects scholars' deepened understanding and expansion of financial performance. They recognize that financial institution performance transcends profitability and encompasses risk management capabilities, operational efficiency, service quality, and innovation capabilities. Consequently, a comprehensive and scientific financial performance evaluation system should holistically reflect these aspects. In terms of evaluation methods and models, financial performance assessment has shifted from traditional static methods to dynamic ones. Traditional static methods tend to focus on quantifying financial institution performance within a specific period, neglecting the dynamic change process. However, with the continuous development of financial markets and the emergence of financial innovations, financial institution performance exhibits more complex and dynamic trends. Therefore, scholars have begun exploring more flexible and dynamic evaluation methods and models to assess financial institution performance. For instance, the Balanced Scorecard (BSC) approach integrates financial and non-financial indicators, comprehensively evaluating financial institution performance from multiple dimensions.

Furthermore, with the continuous development of technologies such as big data and artificial intelligence, financial performance evaluation has also begun to leverage these advanced technologies to enhance the accuracy and efficiency of evaluations. For instance, through data mining and big data analytics, vast amounts of data from financial institutions can be deeply processed and analyzed, revealing more nuanced and profound characteristics of performance. The application of these technologies not only makes financial performance evaluation more scientific, objective, and accurate but also provides financial institutions with more powerful decision-making support.

(2) The theory of financial performance

Performance theory is a multidimensional and evolving field, with a solid foundation built upon the insights of numerous scholars. The work of British scholar Bernardin (1995), who emphasized that performance is the result of specific job

functions and is closely linked to strategic goals, and American scholar Campbell (1990), who advocated that performance is actual and observable behavior, with control over behavior equating to control over results, are cornerstone contributions. Brumbrach (1988) further integrated behavior and results, pointing out that both are components of performance and emphasizing the importance of employee potential. Additionally, Richard Swanson (1987) revealed the close connection between human resource development and organizational performance, while Robert Kaplan and David Norton's Balanced Scorecard theory constructed a comprehensive performance evaluation framework through four dimensions. Peter Drucker's Management by Objectives (MBO) emphasized result-oriented performance management, motivating employees to strive towards organizational goals. John B. Kotter's organizational change theory, though not directly focused on performance, provided insights for performance management, particularly in driving change scenarios. David Parmenter highlighted the central role of Key Performance Indicators (KPIs) in performance management, viewing these metrics, closely tied to organizational goals, as crucial for evaluation and improvement.

Furthermore, the performance management cycle model, contributed to by scholars such as Peter Drucker and Gary Dessler, emphasizes the dynamic and continuous nature of performance management, encompassing the key stages of planning, execution, evaluation, and feedback. Drucker stressed the importance of setting clear and measurable goals jointly with employees, linking them to organizational strategies to ensure alignment of employee efforts with organizational vision. Dessler emphasized the need to consider employees' individual capabilities and development needs when setting plans to stimulate their intrinsic motivation.

In the execution stage, Edgar Schein's organizational culture theory is particularly significant, as he argued that a strong organizational culture can guide employee behavior, aligning it naturally with organizational values and norms, thereby enhancing performance. Consequently, organizations should strive to create a culture that supports high performance, including fostering innovation, promoting teamwork, and valuing employee development.

The evaluation stage is crucial for assessing the effectiveness of performance management. Beyond traditional financial metrics, Kaplan and Norton's Balanced Scorecard reminds us to consider non-financial aspects such as customer satisfaction, internal process efficiency, and employee growth. This comprehensive evaluation approach helps organizations identify potential weaknesses and opportunities, guiding subsequent improvements. Additionally, John Stachura's 360-degree feedback method provides a valuable tool, collecting feedback from superiors, peers, subordinates, and customers to offer a comprehensive understanding of employee performance and foster personal growth.

The feedback stage completes the performance management cycle, requiring managers to promptly communicate evaluation results to employees and collaborate on improvement plans. In this process, Robert Axelrod's cooperative game theory offers insights: adopting a cooperative rather than confrontational attitude during feedback and communication can effectively promote mutual understanding and trust, driving continuous performance improvement. Meanwhile, Fred Luthans' psychological capital theory emphasizes the importance of positive feedback, arguing that acknowledging employees' efforts and achievements can enhance their self-confidence and resilience, further igniting their work enthusiasm and creativity.

Beyond these theoretical frameworks, performance management practices face numerous challenges and trends. With globalization and rapid technological advancements, organizations confront increasingly complex and dynamic competitive environments. As a result, flexibility and adaptability have become crucial elements of performance management. Jim Collins' concept of the "Flywheel Effect" in his book "Good to Great" suggests that exceptional companies accumulate significant momentum through continuous small improvements. This notion applies equally to performance management, where organizations must continually review and adjust their performance management systems to adapt to external changes and internal needs.

Moreover, the rise of big data and artificial intelligence (AI) technologies presents new opportunities and challenges for performance management. Through data analytics, organizations can more accurately assess employee performance, uncovering potential issues and opportunities. Simultaneously, AI technologies can facilitate automation and intelligence in performance management, enhancing efficiency and accuracy. However, this also necessitates organizations to possess robust data governance capabilities and technical reserves to ensure data security and privacy.

The fundamental framework of performance theory is a theoretical system jointly contributed to and refined by numerous scholars. It encompasses various aspects such as the design of performance management systems, the establishment of organizational and accountability structures, the setting of performance target systems, the implementation of performance management processes, and the improvement and motivation of performance. By integrating research evidence and theoretical perspectives from different scholars, we can gain a more comprehensive understanding of the essence and value of performance management, providing robust theoretical support and practical guidance for enterprises' performance management efforts. The fundamental framework of performance theory represents a systematic and comprehensive management system that begins with the meticulous design of performance management systems. This stage lays a unified and comprehensive foundation for performance management, encompassing goal decomposition, hierarchical and classified appraisal systems, the establishment of appraisal levels and relationships, and the formulation of appraisal methodologies and scales. Within this process, Peter Drucker's theory of management by objectives offers crucial guidance for setting and decomposing performance targets. He emphasizes that targets should be intimately linked to the organization's vision and strategy, and achieved through self-controlled management. Additionally, John Stacey Adams' equity theory reminds us to prioritize fairness in compensation allocation during system design, ensuring employee satisfaction with their compensation and the effectiveness of incentives.

To ensure the smooth implementation of these systems, it is necessary to establish a performance management organization and accountability system. Through the leadership of senior executives and the collaboration of departmental promotion teams, the effective implementation of the performance management system can be guaranteed. Furthermore, research by performance management experts such as Shelley Kirkpatrick underscores the importance of developing and utilizing assessment tools, as well as the significant impact of performance appraisal results on organizational and employee development. They point out that diversified assessment methods, such as 360-degree feedback and behavioral observation, can provide a more comprehensive understanding of employee performance, enhancing the accuracy and fairness of assessments. At the core of this framework lies the performance target system, which originates from corporate strategy and cascades down to departments and individual positions, resulting in clear Key Performance Indicators (KPIs) that serve as benchmarks for measuring employee performance. The Balanced Scorecard (BSC) theory proposed by Robert S. Kaplan and David P. Norton provides robust support for this aspect. They emphasize a holistic examination of corporate performance across four dimensions: financial, customer, internal processes, and learning and growth, ensuring that performance targets are closely aligned with corporate strategy. This multidimensional perspective enables enterprises to gain a more comprehensive understanding of their operational status, thereby formulating more scientific and reasonable performance targets.

The performance management process encompasses various stages, including performance planning, coaching, appraisal, and the utilization and feedback of results, forming a closed-loop management system. Within this process, Victor H. Vroom's expectancy theory provides a theoretical foundation for performance motivation. He believes that the strength of motivation depends on the product of valence (the worth of a goal in satisfying an individual need upon its attainment) and expectancy (the perceived probability of attaining the goal). This theory is widely applied in performance management, motivating employees by setting challenging and attractive goals and providing timely feedback and rewards.

Furthermore, in 1993, Borman and Motowidlo introduced the concept of contextual performance, further enriching the content of performance theory. They argue that beyond task performance, employees also exhibit behaviors that contribute positively to the organization's social and psychological environment, such as voluntarily taking on extra work, assisting colleagues, and safeguarding organizational interests. Although these behaviors do not directly contribute to the organization's production and service activities, they positively impact the organization's social and psychological environment, thereby enhancing overall organizational effectiveness.

Table 2.6 Research on Financial Performance Theory

Title	Author	Source	Date
Analysing the financial performance of sustainable development goals-themed mutual funds in China	Martí-Ballester Carmen-Pilar	Sustainable Production and Consumption	2021/3/24
Intellectual capital and financial performance: evidence from Portuguese banks	Elisabete Neves;Catarina Proença	International Journal of Learning and Intellectual Capital	2021/3/9
Impact of talent management practices on financial performance: evidence from GCC banking sector	Umara Noreen;Rabia Imran	Middle East Journal of Management	2021/3/24
A Move Towards Intelligent Economy: Indian Evidence	Singh Gagandeep	Management and Labour Studies	2021/5/1

Table 2.6 (Continued)

Title	Author	Source	Date
Sustainability and financial performance relationship: international evidence	Ilker Yilmaz	World Journal of Entrepreneurship, Management and Sustainable Development	2021/4/5
Are competition and performance friends or foes? Evidence from the Middle East banking sector	Mudeer Ahmed Khattak;Mohsin Ali	International Journal of Islamic and Middle Eastern Finance and Management	2021/2/8
The relationship between zakat disclosures and Islamic banking performance: Evidence from Yemen	Al-Homaidi E.A.;Al-Matari E.M.;Anagreh S.;Tabash M.I.;Mareai Senan N.A.	Banks and Bank Systems	2021/1/1
Corporate governance and financial performance of quoted deposit money banks in Nigeria: An empirical investigation	Tabash M.I.;Akinola A.O.;Abousamak A.	African Journal of Business and Economic Research	2021/1/1
Financial Performance Evaluation of the Commercial Banks in Kosovo	Raci F.;Ahmeti S.;Ismajli H.;Aliu M.	Academy of Accounting and Financial Studies Journal	2021/1/1
Determinants Of Financial Performance Of Private Commercial Banks In Ethiopia	Biru A.M.	Academy of Accounting and Financial Studies Journal	2021/1/1

Table 2.6 (Continued)

Title	Author	Source	Date
Comparative analysis of saudi sharia compliant banks: A camel framework	Naushad M.	Accounting	2021/1/1
THE INFLUENCE OF EARNING MANAGEMENT AND SURPLUS FREE CASH FLOW ON THE BANKING SECTOR PERFORMANCE	Thai V. H.;Dinh V. T.;Nguyen V. S.;Nguyen M. H.;Nguyen C. T.;Pham T. L. P.	POLISH JOURNAL OF MANAGEMENT STUDIES	2021/1/1
Competition and microfinance institutions' performance: evidence from India	Wondirad Hailu Abebe	International Journal of Corporate Social Responsibility	2020/10/24
Social and financial performance of Indian banking sector	Sukhpreet Kaur	International Journal of Public Sector Performance Management	2020/8/20
The impact of Shari'ah and corporate governance on Islamic banks performance: evidence from Asia	Imran Khan;Syeda Nitasha Zahid	International Journal of Islamic and Middle Eastern Finance and Management	2020/6/19
How do the size and independence of the board of trustees affect the financial and sustainable performance of socially responsible mutual funds?	Fernando Muñoz	Corporate Social Responsibility and Environmental Management	2020/7/1

Table 2.6 (Continued)

Title	Author	Source	Date
Have pure-play internet banks caught up with traditional and hybrid banks over the past decade?	Yu Zhang;Charles E. Teague;Randall Hucks;KaylaRose Robison	International Journal of Electronic Finance	2020/10/5
Microfinance institutions, financial intermediation and the role of deposits	Jiali Jenna Tang;Shakil Quayes;George Joseph	Accounting & Finance	2020/6/8

Related Research

1. Research on the Impact of Financial Products on Financial Performance

(1) The Multifaceted and Profound Impact of Financial Products on Financial Performance

Financial products, as a crucial component of the financial market, have a profound and multifaceted influence on financial performance, as widely studied by both domestic and international scholars. Scholars such as Eric K. Clemons, Paul E. Nunes, and Matt Reilly (2010) have conducted in-depth research on third-party payment systems within the context of internet finance technology, highlighting that financial product innovation not only enhances the operational efficiency of financial markets but also generates significant positive effects on financial performance by reducing transaction costs and increasing market transparency. Additionally, the pioneering "demand-following and supply-leading" theory by Patrick (1966) in the field of financial development theory emphasizes the pivotal role of financial product innovation in driving financial development and enhancing financial performance. Notably, during economically underdeveloped periods, the supply-led

effect of financial products on the enhancement of financial performance is particularly pronounced.

(2) The Indirect Contribution of Financial Products to Financial Performance

Financial products not only directly impact financial performance but also indirectly contribute through risk management and customer satisfaction. In terms of risk management, Stulz (2022) has demonstrated that the rational design and application of financial products provide effective risk management tools for financial institutions, significantly reducing systemic risks and enhancing their stability. This view is validated by empirical research on multinational banks, which found that banks employing complex financial derivatives for risk management were better able to maintain performance stability amidst market fluctuations. Customer satisfaction, as a crucial indicator of financial performance, is significantly influenced by factors such as the design of financial products, service quality, and user experience. Oliver (1980) emphasized in his study on service quality and customer satisfaction that these factors directly impact customer satisfaction, which further promotes the growth of financial performance. Furthermore, Porter and Simpson (1992) underscored the relationship between financial product innovation performance and product costs, advocating for a focus on financial product innovation after reaching cost thresholds to enhance customer satisfaction and market competitiveness.

(3) The New Leap in Financial Product Innovation and Financial Performance Driven by Financial Technology

The rapid development of financial technology (FinTech) has ushered in unprecedented opportunities for financial product innovation. Haddad and Hornuf (2021) conducted a study across 87 countries, revealing a significant positive correlation between the number of FinTech startups and the profitability and stock returns of traditional financial institutions. This finding underscores that the evolution of FinTech not only propels financial product innovation but also positively impacts financial performance by enhancing service efficiency and expanding service scope. Concurrently, the research by Katsiampa et al. (2022) sheds light on the specific

impacts of FinTech in certain markets. They discovered that in markets like China, the entry of FinTech companies has somewhat impacted the profitability of traditional banks but also spurred overall innovation and reform within the banking sector. This indicates that while FinTech poses challenges, it also presents opportunities for financial institutions to transform and upgrade. Moreover, Phan et al. (2020) noted that the growth of FinTech companies in Indonesia had a negative impact on banking performance, reflecting the varied effects of FinTech across different markets and stages of development. However, on the whole, the development of FinTech has a more significant positive impact on financial performance. By leveraging big data, artificial intelligence, and other technologies, FinTech enables financial products to be designed with greater precision, services to be more convenient, and risks to be more manageable, thereby propelling a leap in financial performance.

Table 2.7 Research on Financial Product Innovation Theory

Title	Author	Source	Date
The Effects of Increased Product Market Competition and Changes in Financial Markets on the Performance of Nonfinancial Corporations in the Neoliberal Era	James Crotty	Seoul Journal of Economics	2002/6/30
Effect of financial derivatives on the performance of commercial banks in Nigeria	Chinedu John Uchechukwu; Regina G. Okafor	Afro-Asian Journal of Finance and Accounting	2021/1/1
The Impact of Financial Sector Reforms on the Nigerian Agricultural Export Performance	Aniekan Jim Akpaeti;; Nsikan Edet Bassey;; Otu Williams Ibok	American Journal of Experimental Agriculture	2014/6/15

Table 2.7 (Continued)

Title	Author	Source	Date
Impact of New Financial Products on Financial Performance of Public Sector Banks in India	Chintala Balaji;;Syed Mobasheer;;G. Praveen Kumar	International Business and Management	2012/5/31
Effects of New Financial Products on The Performance Of Selected Commercial Banks In Nigeria	H. A. Adele;;Akanbi T.A.	Research Journal of Finance and Accounting	2012/12/19
Financial Performance of MSMEs: Effects of Financial Inclusion, E-Commerce Use, Education, and Product Innovation	Irwansyah M. Rudi;Yuniarta Gede Ade;Suwena Kadek Rai	International Conference on Economic Management, Accounting and Tourism (ICEMAT 2023)	

2. Research on the Impact of Financial Services on Financial Performance

(1) Direct Impact of Financial Services on Financial Performance and Further Evidence

Financial services, as the core function of financial institutions, exert a direct and multifaceted influence on financial performance. Domestic and international scholars have uncovered this intricate interplay through extensive empirical research. Goldsmith's (1969) seminal work laid the foundation for subsequent explorations, revealing a significant positive correlation between the deepening of financial services and the robustness of the financial system. Levine (1997) and others further extended this research, demonstrating through cross-country data analysis that the expansion of financial services robustly promotes

economic growth and financial stability. In China, scholars like Yi Gang (2019) have delved into the impact of financial service innovation on the profitability and market competitiveness of financial institutions. They argue that amidst an increasingly open and competitive financial market, financial institutions have launched innovative financial products and service models, such as smart retail banking and customized private banking services, which have not only diversified revenue streams but also significantly elevated their market position and brand influence. Wan Shengjun and Cao Linghui (2007) have illustrated through specific case studies how commercial banks have successfully enhanced profitability and market share by optimizing their financial service structures.

Moreover, the optimization of financial services also manifests in improved asset quality. Scholars like Clark (1988) have emphasized that by strengthening loan management and refining credit evaluation systems, financial institutions can more effectively identify and control credit risks, thereby reducing non-performing loan ratios and enhancing asset quality. In China, this concept has been widely adopted, with financial institutions leveraging advanced risk management technologies and tools, such as big data-based risk models and AI-powered credit approval systems, to significantly enhance risk management precision and efficiency.

Notably, the intelligent and automated transformation of financial services has emerged as a critical driver of financial performance enhancement. Studies by A. Research Background and Significance (2023) and others have emphasized that with the rapid development and widespread application of AI, big data, and other technologies, financial institutions have achieved automation and intelligence in their business processes, reducing operational costs and enhancing service efficiency and customer satisfaction. For instance, the adoption of smart customer service systems enables financial institutions to provide round-the-clock consultation and services, greatly enhancing the customer experience.

(2) Indirect Impact of Financial Services on Financial Performance and Multi-Faceted Perspectives

Beyond its direct effects, financial services also indirectly impact financial performance through various channels. Firstly, the critical role of financial services in risk management cannot be overstated. Scholars like Demirgüç-Kunt and Detragiache (1998) have pointed out that the diversification and deepening of financial services help financial institutions establish more comprehensive risk management systems, thereby enhancing the overall resilience of the financial system. In China, this concept has been actively practiced, with financial institutions offering diverse risk management consulting, insurance services, and derivatives trading to assist clients in effectively navigating market and credit risks, ultimately improving their own risk management capabilities and overall performance (Stulz, 2022). Secondly, the significance of financial services in enhancing customer experience is increasingly prominent. The "Service Marketing" theory proposed by Oliver (1980) highlights the close link between financial services and customer experience. It suggests that the personalization and differentiation of financial services cater to clients' diverse needs, fostering customer loyalty and attracting new clients through word-of-mouth referrals. In China, financial institutions have actively responded to this concept by optimizing service processes, enhancing service quality, and strengthening customer relationship management, thereby elevating customer experience and reinforcing brand influence and market share. Lastly, financial services drive the sustainable development of financial institutions through innovation. Scholars like Hannon and McDowell (1984) emphasize that innovation in financial services is a vital force propelling the continuous growth of financial institutions. In China, the rapid development and widespread application of fintech have prompted financial institutions to increase investments in innovation, exploring new financial products and service models. For instance, blockchain technology facilitates efficient asset transfer and transactions, while AI enables more precise credit assessments and market trend predictions. These innovations have not only enriched financial institutions' product lines and service scopes but also enhanced their competitiveness and profitability.

(3) Transformative Impact of FinTech on Financial Services and Financial Performance, and Future Outlook

In recent years, the rapid evolution of FinTech (Financial Technology) has brought about unprecedented transformational impacts on financial services and financial performance. Foreign scholars like Katsiampa et al. (2022) have found through in-depth research that FinTech reshapes the form and process of financial services through technological and modal innovations, making them more convenient, inclusive, and efficient. Phan et al. (2020) further argue that the application of FinTech lowers the barriers and costs of financial services, enabling more people to access quality financial services. In China, this trend is equally evident, as Fin

In recent years, the rapid development of Financial Technology (FinTech) has brought about unprecedented and transformative impacts on financial services and financial performance. Foreign scholars such as Katsiampa et al. (2022) have conducted in-depth research and found that FinTech, through technological and modal innovations, has reshaped the forms and processes of financial services, making them more convenient, inclusive, and efficient. Phan et al. (2020) further pointed out that the application of FinTech has lowered the thresholds and costs of financial services, enabling a broader range of people to access high-quality financial services. In China, this trend is equally prominent, with FinTech not only facilitating the intellectualization and automation of financial services but also driving innovation in financial products and transforming service models.

Specifically, the application of FinTech in financial services is mainly manifested in the following aspects: Firstly, the utilization of big data and artificial intelligence (AI) enables financial institutions to more accurately assess customer credit, predict market trends, and thereby reduce operational risks and enhance risk management capabilities. Secondly, the adoption of blockchain technology renders financial transactions more transparent, secure, and efficient. Thirdly, the application of cloud computing and mobile internet technology has made financial services more convenient and accessible to a wider audience. These technological advancements have not only improved the operational efficiency and profitability of

financial institutions but also promoted the inclusive development of financial services, providing greater financial support to vulnerable groups such as small and micro-enterprises and rural areas.

Table 2.8 Research on the Impact of Fintech on Service and Financial Performance

Title	Author	Source	Date
The effect of financial policy and capital assets on firm performance: evidence from service companies listed on the amman stock exchange	Soda M.Z.;Oroud Y.;Makhlouf M.H.	Accounting	2021/1/1
The effects of Covid-19 related response policies on the performances of technology-driven financial services companies	Özer Mustafa;Vukovic Darko B.;Frömmel Michael;Kamışli Serap	Finance Research Letters	2023/11/3
Light in the tunnel or just a train; impact of supply chain finance solutions on financial service providers' financial performance by mitigating financial risk.	Munir Munibah;Bhutta Nousheen Tariq	PloS one	2023/1/1
The Effect of Board Composition and Financial Performance of Financial Services Firms in the Nigerian Stock Exchange Market	Tony Ikechukwu Nwanji;Kerry E. Howell	International Journal of Business and Management	2019/8/31
The Impact of the Financial Flexibility on the Performance: An Empirical Study on a Sample of Jordanian Services Sector Firms in Period (2010-2017)	Zaher Abdel Fattah Al-Slehat	International Journal of Business and Management	2019/3/13

Table 2.8 (Continued)

Title	Author	Source	Date
The long-term effect of digital innovation on bank performance: An empirical study of SWIFT adoption in financial services	Susan V. Scott;;John Van Reenen;;Markos Zachariadis	Research Policy	2017/6/15
The influence of process-oriented organisational design on operational performance and innovation: a quantitative analysis in the financial services industry	Michael Leyer;Jutta Stumpf Wollersheim;Francesco Pisani	International Journal of Production Research	2017/3/20
The Impact of Financial Services Globalisation on Islamic and Conventional Bank Performance in GCC and MENA Countries	Bankole ;; Abiodun Surajudeen Kareem ;; Muritala Kewuyemi	Journal of Islamic Finance	2017/1/12
Effect Of Mobile Phone Financial Services Usage On Business Performance In Rural Areas: A Case of M-pesa Uses in Kisii County.	Jemimah Ocharo;;Willy Muturi;;Andrew Nyang'au	Journal of Economics and Sustainable Development	2015/5/30
Influence Of The Islamic Leadership To Participation Of The Members, Business Performance And Prosperity Of The Members Of Syari'ah Financial Service Cooperative In East Kalimantan Province	Ali Mushofa;;Djoko Mursinto;;Saiful Anam	European Journal of Business and Management	2014/12/19

Table 2.8 (Continued)

Title	Author	Source	Date
A detail analysis on the relationship between Group's diversification into the financial services industry and its impact on their financial performance	Sumra Latif Mughal;;Muham mad Akbar Saeed	Research Journal of Finance and Accounting	2014/12/19
Impact of Non-Financial Services of Microfinance Banks (MFBs) on the Performance of Women Entrepreneurs in Nigeria	Anietie Charles Dikki;;Bayero Ahmad Sabir Muhammad;;Ah mad Bello Dogarawa;;Ishaya Luka Chechet	European Journal of Business and Management	2014/11/29
Performance implications of internet channels in financial services: A comprehensive perspective.	Hung-Jen Tu	Electronic Markets	2012/12/15

3. Research on the Impact of Financial Security on Financial Performance

(1) Financial Institution Resilience and Financial Performance

The resilience of financial institutions serves as the cornerstone of the financial system, underpinning the sustained enhancement of financial performance. Zhang Genming et al. (2007) illuminated the profound influence of ownership structure on the resilience of financial institutions, while Li Weian et al. (2012) further emphasized the significance of corporate governance structures and internal control mechanisms. These studies offer vital perspectives for understanding the relationship between financial institution resilience and financial performance. Expanding upon these insights, Demirgüç-Kunt and Huizinga (1999) conducted a global examination of

financial institutions, revealing that effective corporate governance is not only necessary for enhancing resilience but also a crucial factor in boosting financial performance. They observed that financial institutions with robust governance structures are better equipped to withstand market volatility and risks, maintaining stable profitability. Furthermore, Laeven and Levine (2009) delved into the impact of financial institution resilience on overall financial system stability. Their findings underscore that when financial institutions are generally resilient, the vulnerability of the entire financial system decreases, thereby mitigating the risk of financial crises. This stability not only benefits the financial institutions themselves but also promotes steady economic growth.

In the context of global financial integration, the resilience of financial institutions is increasingly influenced by both domestic economic and policy environments as well as international financial market fluctuations. Consequently, maintaining resilience amidst globalization has become a focal point for both academia and practice. Driven by academic research, governments and regulatory bodies worldwide have taken measures to strengthen the supervision and governance of financial institutions. These include enhancing capital adequacy requirements, refining risk management systems, and improving information disclosure transparency. These initiatives have bolstered financial institution resilience and laid a solid foundation for sustained financial performance improvement.

(2) Financial Market Stability and Financial Performance

Financial market stability is a crucial precondition for the sustained growth of financial performance. Yang Zihui et al. (2022) conducted a thorough analysis of the intricate relationship between financial market stability and financial performance, elucidating the adverse effects of market volatility and instability on financial performance. Meanwhile, Persson and Blavarg (2003) verified the effectiveness of financial market indicators in reflecting financial stability and warning against banking crises through case studies and empirical analyses. Moreover, IMF research teams, such as Reinhart and Rogoff (2009), have analyzed historical data to reveal that significant financial market fluctuations often precede financial crises,

which, in turn, severely impact financial performance. Thus, maintaining financial market stability is vital for guarding against financial risks and enhancing financial performance.

In terms of financial market stability, academia has also focused on the development and improvement of financial market infrastructure. The stable operation of infrastructure such as payment systems, clearing, and settlement systems is crucial for preserving financial market stability and enhancing financial performance. International organizations like the IMF and BIS have conducted extensive research and practices in this area, promoting the standardization and normalization of global financial market infrastructure.

As financial innovations continue to emerge and financial technology rapidly evolves, financial market stability faces new challenges and opportunities. While financial innovations enhance market efficiency and dynamism, their complexity and uncertainty may also amplify market volatility. Therefore, balancing innovation with stability has become a shared exploration for academia and practice.

(3) The Effectiveness of Financial Regulation and Emerging Trends on Financial Performance

Effective financial regulation is a pivotal tool for safeguarding financial security and fostering financial performance. Berger, Klapper, and Turk-Ariss (2008) underscored the role of stringent financial regulation in mitigating risky behaviors among financial institutions and reducing systemic risks. Kane's (1981) theory of regulatory incentives, meanwhile, offers a fresh perspective on understanding the effectiveness of financial regulation. In recent years, the rapid development of financial technology and global financial integration have posed new challenges and opportunities for financial regulation. On one hand, financial technology has improved the efficiency and convenience of financial services; on the other hand, its complexity and cross-border nature have increased the difficulty and complexity of financial regulation. Thus, adapting to financial technology trends and enhancing the effectiveness of financial regulation have become critical focuses for governments and regulatory bodies worldwide.

In terms of the effectiveness of financial regulation, academia and practice have undertaken numerous explorations and practices. These include leveraging advanced technologies such as big data and artificial intelligence to enhance regulatory efficiency, strengthening international regulatory cooperation to tackle cross-border financial risks, and promoting innovative regulatory models like regulatory sandboxes. These measures have not only improved the effectiveness of financial regulation but also promoted the healthy development of financial markets.

It is noteworthy that as financial technology continues to evolve and financial markets innovate, financial regulation must also adapt and transform. Traditional regulatory models may not fully address the new risks and challenges posed by financial technology, necessitating ongoing regulatory innovation and the application of regulatory technology to enhance the adaptability and effectiveness of financial regulation.

4. Research on the Impact of Financial Information Technology on Financial Performance

(1) Innovation and Application of FinTech

The innovation and application of FinTech are reshaping the financial industry at an unprecedented pace. In this field, Don Tapscott and Alex Tapscott (2016) delve into the potential of blockchain technology, revealing how it revolutionizes the trust mechanism in financial transactions through decentralization, transparency, and smart contracts. They argue that blockchain technology can reduce intermediaries, lower transaction costs, and accelerate transaction speeds, ushering in transformative changes in financial services. Concurrently, Viktor Mayer-Schönberger and Kenneth Cukier (2013) paint a picture of a new financial world driven by big data and artificial intelligence. They assert that big data enables financial institutions to collect, analyze, and utilize vast amounts of data, thereby providing more personalized financial services tailored to customers' needs. Meanwhile, AI, through machine learning and natural language processing, makes financial services smarter and more automated, significantly enhancing service efficiency and customer experience. In addition to the contributions of these two

scholars, Andrew Lo (2005) also highlights the significance of FinTech in financial markets. He believes that FinTech, by providing efficient information processing and risk management tools, helps market participants better navigate complex and dynamic market environments, fostering stability and efficiency in financial markets.

(2) Risk Assessment and Credit Management

Risk assessment and credit management are core aspects of the financial industry. In this realm, David Durand's (1941) early credit scoring model laid the foundation for modern credit evaluation systems. Through statistical analysis and data mining techniques, he constructed credit scoring systems that assist financial institutions in assessing customers' credit risks, providing a scientific basis for credit decisions. With the development of FinTech, companies like Zest Finance have leveraged machine learning algorithms to develop more sophisticated credit scoring systems. These systems consider not only traditional credit data but also non-traditional sources such as social media and online behavior, further enhancing the accuracy and efficiency of risk assessments. Eric Siegel (2013) details the application of these big data risk management technologies and demonstrates how machine learning models can predict credit default risks, optimizing credit management strategies. Furthermore, Richard Thaler (2008) and Cass Sunstein (2008) introduced the concept of "nudging," emphasizing subtle design changes to influence people's behavior choices. In credit management, financial institutions can utilize FinTech to implement nudges, such as through intelligent recommendation systems that offer more suitable credit products to customers, thereby reducing default risks.

(3) Internet Financial Services and Channel Expansion

Internet financial services and channel expansion have significantly broadened the reach and convenience of financial services. Ken Banks' (2009) Kiva system provides innovative mobile payment solutions for developing countries, connecting borrowers and investors through technology, thereby promoting inclusive finance. In China, mobile payment platforms like Alipay and WeChat Pay have transformed consumer habits and driven the digital transformation of financial services through convenient payment methods and diverse application scenarios.

Research by René Stulz and Hao Zhou (recent years) indicates that online lending platforms facilitate more accessible financing channels for SMEs and individuals by reducing transaction costs and improving approval efficiency. These platforms utilize big data and AI to rapidly assess borrowers and price risks, fostering diversification in financial markets. Chris Skinner (2014) emphasizes that internet financial services are not merely about channel expansion but also represent a transformation in financial institutions' business models. He stresses the need for financial institutions to adopt a customer-centric approach, leveraging digital means to enhance service quality and efficiency, thereby building more open and collaborative financial ecosystems.

(4) FinTech Regulation and Risk Management

FinTech regulation and risk management are crucial for ensuring the healthy development of the FinTech industry. Douglas Arner, Ross Buckley, and Janos Barberis (2017) comprehensively analyze various risks associated with FinTech and propose corresponding regulatory measures and risk management strategies. They argue that FinTech introduces new risk types, such as technological, operational, and legal risks, necessitating enhanced cooperation between financial institutions and regulators. Scholars like Elizabeth Warren (recent years) advocate for stricter regulation of FinTech products and services to safeguard consumer rights. They contend that FinTech development should not come at the expense of consumer interests, urging regulators to strengthen oversight of FinTech companies, requiring full disclosure of product information to ensure informed consumer decisions. Neil Barofsky (2012), from the perspective of the financial crisis, underscores the importance of financial regulation. He emphasizes that effective regulation can promptly identify and address risk vulnerabilities in financial markets, preventing financial crises. Therefore, amidst the rapid development of FinTech, regulators must continually innovate regulatory approaches and methods to enhance regulatory effectiveness and efficiency.

Table 2.9 Research on the Impact of Financial Information Technology on Financial Performance

Title	Author	Source	Date
Striving for Business Sustainability: Understanding the Interplay and Impact of Sustainable Finance, Environmental Social Governance Strategy, and Information Technology Integration on Sustainable Enterprise Performance	Samridhi Kapoor; Manoj Govind Kharat; Shreyanshu Parhi; Mukesh Govind Kharat; Shatrudhan Pandey	Circular Economy and Sustainability	2024/7/23
Effect of Information Communication and Technology (ICT) on the Performance of Financial Institutions in Ghana; A Case of Barclays Bank Ghana Limited, Sunyani Branch	Kyeremeh Kwadwo	Sumerianz Journal of Scientific Research	2020/1/1
The Effect of Information Communication Technology and Financial Innovation on Performance on Nigerian Commercial Banks (2001 – 2013)	Okonkwo Ikeotuonye Victor; Obinozie, Henry Ebuka; Echeboba F.N.	European Journal of Business and Management	2015/12/19
The Effect of Information Communication Technology and Financial Innovation on Performance on Nigerian Commercial Banks (2001 - 2013)	Victor; Okonkwo Ikeotuonye; Obinozie; Henry Ebuka;Echeboba; F.N.	International Journal of Accounting Research	2015/5/1

Table 2.9 (Continued)

Title	Author	Source	Date
The Effect of Information Communication Technology and Financial Innovation on Performance on Nigerian Commercial Banks (2001 - 2013)	Victor; Okonkwo Ikeotuonye; Obinozie; Henry Ebuka; Echeboba; F.N.	International Journal of Accounting Research	2015/5/1

5. Research on the Impact of Financial Products on Customer Loyalty

Service quality is a crucial factor for financial institutions to win and maintain customer loyalty, as evidenced by the research of Li Li et al. (2022). The SERVQUAL model proposed by Zeithaml, Berry, and Parasuraman (1990) also underscores the significance of service quality in influencing customer satisfaction and loyalty. They highlighted five dimensions of service quality—tangibility, reliability, responsiveness, assurance, and empathy—all of which directly impact customers' evaluations of financial institutions and their loyalty. Rust and Oliver (1994) further discovered through long-term research that exceptional service experiences foster strong brand loyalty, prompting customers to pay a premium for high-quality services even in the face of price competition. Notably, their study emphasized how superior service quality fosters trust and reliance in financial institutions, significantly enhancing customer loyalty. Additionally, the SERVQUAL model, introduced by Parasuraman, Zeithaml, and Berry (1988), has been widely adopted globally. By measuring the gap between customers' expectations and perceptions of service quality, this model uncovers the intricate relationship between service quality, customer satisfaction, and loyalty.

Customer satisfaction, as a pivotal antecedent of customer loyalty, has been extensively studied both domestically and internationally. Early scholars like Cardozo (1965) introduced the concept of customer satisfaction and its impact on subsequent purchase behavior. Oliver (1980) further defined customer satisfaction as

"a customer's feeling of pleasure or disappointment resulting from comparing a product's or service's perceived performance in relation to his or her expectations" and formulated the "expectation-disconfirmation" model to explain the relationship between satisfaction and loyalty. He posited that when customers' actual experiences exceed their expectations, satisfaction arises, leading to increased loyalty. Kotler (1991) also emphasized that customer satisfaction is a necessary but not sufficient condition for loyalty, emphasizing the need to consider factors such as switching costs and brand preferences. Oliver (1999) deepened this understanding, asserting that customer satisfaction is a direct precursor of loyalty, with high levels of satisfaction triggering positive word-of-mouth and repeat purchases. The American Customer Satisfaction Index (ACSI) model, introduced by Fornell (1992), quantifies customer satisfaction and underscores its positive influence on loyalty, brand loyalty, and market share growth.

Brand image plays a pivotal role in attracting and retaining customers for financial institutions. Wu Peixun's (2006) research has illuminated the impact of brand image on customer loyalty. Keller (1993) introduced the concept of customer-based brand equity, asserting that brand image, as its core component, directly influences customers' purchase decisions and loyalty. His empirical studies revealed that a strong brand image enhances customers' perceived value, reduces perceived risks, and thereby strengthens loyalty. Aaker's (1991) brand identity system also underscores the importance of brand image in shaping brand personality and differentiation, contributing to customer loyalty. Aaker (1996) emphasized in his brand identity model that brand image serves as a vital emotional bridge between the brand and customers, fostering a sense of belonging and loyalty. Furthermore, Keller's (2003) customer-based brand equity theory underscores that brand image, by offering unique brand values and meanings, attracts and retains customers.

The characteristics of financial products are crucial factors influencing customers' purchase decisions and loyalty, as evidenced by Yan Tianbing's (2007) research. Kotler and Armstrong (2012) pointed out that characteristics like yield, risk, and flexibility are key considerations for customers when selecting financial products.

Their empirical studies showed that products meeting specific customer needs and offering superior value significantly boost customer loyalty. Moreover, with the advancement of fintech, Mishra et al. (2018) highlighted how big data and artificial intelligence enable more precise analysis of customer needs and personalized financial product offerings, further enhancing loyalty. These studies not only reveal the mechanisms underlying product characteristics' influence on customer loyalty but also provide strategic suggestions for enterprises to strengthen loyalty through product optimization. Mishra and Shah (2020) also emphasized the role of fintech in enhancing financial product characteristics, arguing that leveraging advanced technologies like big data and AI enables more tailored product offerings, thereby fortifying customer loyalty.

Table 2.10 Research on the Impact of Financial Products on Customer Loyalty

Title	Author	Source	Date
The Effect of Price Verification, Product Display, Assortment Satisfaction upon Overall Satisfaction, Online Repatronage Intention, and Customer Loyalty	Verma Pranay;Pant Manoj Kumar	Journal of Food Products Marketing	2021/7/24
Measuring the critical effect of marketing mix on customer loyalty through customer satisfaction in food and beverage products	Suci Ayu Sudari;Arun Kumar Tarofder;Ali Khatibi and Jacqueline Tham	Management Science Letters	2019/5/1
Does guanxi influence product performance and customer loyalty?	Man Zhang;;Janet Hartley	Journal of Asia Business Studies	2018/8/6

Table 2.10 (Continued)

Title	Author	Source	Date
THE EFFECT OF BRAND IMAGE AND PRODUCT ATTRIBUTES ON CUSTOMER SATISFACTION AND CUSTOMER LOYALTY	Erik Wahyu Indarto;Imam Suroso;Sudaryant o Sudaryanto	Jurnal Aplikasi Manajemen	2018/9/1

6. Research on the Impact of Financial Services on Customer Loyalty

(1) The Multidimensional Impact of Service Quality

The multidimensional nature of service quality as a core element in the financial services sector has been extensively explored by scholars both domestically and internationally. Beyond the universally recognized dimensions of professionalism, efficiency, accuracy, reliability, and friendliness, foreign research has further enriched the theoretical framework in this field. Berry's (1980) classic definition emphasizes the intangible nature of service behaviors and their decisive role in shaping customer experiences, providing a solid theoretical foundation for the non-physical characteristics of financial service quality. Zeithaml, Parasuraman, & Malhotra's (2002) SERVQUAL model specifically delineates five dimensions of service quality—tangibles, reliability, responsiveness, assurance, and empathy—whose application in financial services offers financial institutions comprehensive guidelines for assessing and enhancing service quality. Rust & Oliver's (1994) three-dimensional model, on the other hand, reveals the essence of financial service quality from the product, process, and outcome levels, emphasizing the importance of financial product innovation, smooth service processes, and satisfaction with service outcomes. Cronin & Taylor's (1992) research highlights the impact of the discrepancy between customer expectations and actual perceptions on the perception of service quality, suggesting that financial institutions need to manage customer expectations precisely to improve service quality. Gronroos's (1982) customer-perceived service quality model further emphasizes attention to the details of the service process to ensure that

service quality consistently meets and exceeds customer expectations, thereby enhancing overall customer satisfaction.

(2) The Direct Impact of Service Quality on Customer Loyalty

Numerous domestic and international empirical studies have confirmed the direct positive effect of high-quality financial services on customer satisfaction and loyalty. Oliver's (1999) research clearly states that service quality is a direct antecedent of customer loyalty, with high-quality service inspiring positive emotional connections and loyal behaviors towards financial institutions. Heskett, Sasser, & Schlesinger's (1997) Service Profit Chain theory underscores service quality as the key to enhancing customer loyalty and increasing corporate profits. Reichheld & Sasser's (1990) research further quantifies the positive correlation between customer loyalty and corporate profits, revealing the immense potential of high-quality service in generating long-term profits. Bitner, Booms, & Tetreault's (1990) work highlights the significance of service environment and personnel performance in shaping customer perceptions of service quality, emphasizing that improvements in these factors can significantly enhance overall customer satisfaction and loyalty. Keller's (1993) brand loyalty research also demonstrates that high-quality service experiences strengthen customers' cognitive and emotional connections to brands, thereby enhancing brand loyalty and market share.

(3) The Role of Customer Satisfaction as a Mediating Variable

Customer satisfaction plays a pivotal role as a mediating variable between service quality and customer loyalty. Anderson & Sullivan's (1993) Customer Satisfaction Antecedents and Consequences Model explicitly identifies service quality as a key factor influencing customer satisfaction, with satisfied customers more likely to exhibit loyal behaviors such as repeat purchases and word-of-mouth recommendations. Fornell's (1992) American Customer Satisfaction Index (ACSI) model further confirms the bridging role of customer satisfaction between service quality and customer loyalty, emphasizing the importance of enhancing customer satisfaction to promote customer loyalty formation. Oliver's (1980) Expectancy Disconfirmation Theory reveals the impact of the discrepancy between customer

expectations and actual perceptions on satisfaction and loyalty, suggesting that financial institutions need to strive to reduce this gap to improve customer satisfaction and loyalty. Buttle's (1996) research in the field of relationship marketing underscores the critical role of customer satisfaction in maintaining long-term customer relationships, emphasizing that financial institutions should continuously enhance service quality to strengthen customer satisfaction and build stable long-term customer relationships. Reichheld's (2001) discussion in "The Loyalty Effect" profoundly elaborates on the status of customer satisfaction as a key driver of loyalty, urging financial institutions to adopt customer satisfaction enhancement as a core strategy.

7. Research on the Impact of Financial Security on Customer Loyalty

Trust serves as the cornerstone of customer loyalty, and financial institutions can significantly enhance customers' trust in them by implementing robust financial security measures. This notion is widely supported by numerous scholars. Deutsch, M. (1958) pointed out that trust is rooted in the accuracy of predicting others' behavior, and financial institutions' security measures fortify this trust by improving customers' predictions of the reliability of the institution's actions. Mayer, R. C., Davis, J. H., & Schoorman, F. D. (1995) further emphasized that trust encompasses three dimensions: ability, integrity, and benevolence. Financial institutions' security measures embody their ability and integrity, thereby strengthening customers' trust. Studies by Rotter, J. B. (1967) and Wrightsman, L. S. (1992) have revealed the significance of trust in interpersonal relationships, and this holds true for the trust relationship between financial institutions and their customers, with financial security measures being the cornerstone of such relationships. In the realm of e-commerce, Gefen, D., Karahanna, E., & Straub, D. W. (2003) confirmed the direct impact of security measures on customer trust, while Koufaris, M. (2004) and Pavlou, P.A. (2004) specifically highlighted the importance of financial security measures for customer trust in online transactions. Choi, B., & Gefen, D. (2011) uncovered the sustained enhancement of customer trust by financial security measures in e-commerce environments. Kim, D. J., Ferrin, D. L., & Rao, H. R. (2008) experimentally

validated the trust transfer theory, demonstrating that financial security measures can facilitate the transfer of trust in security measures to other services offered by financial institutions. Lastly, Moorman, C., Deshpande, R., & Zaltman, G. (1993) emphasized the pivotal role of financial security measures in customer relationship management, regarding them as crucial safeguards for maintaining the stability of customer relationships.

Financial security is not only a safeguard for customers' assets but also a key factor in enhancing transaction experiences and boosting customer satisfaction. Multiple scholars' research provides compelling evidence for this. Oliver's (1980) expectancy disconfirmation theory suggests that satisfaction increases when services exceed customers' expectations, and financial security measures often surpass customers' basic safety expectations, thereby enhancing satisfaction. Anderson, E. W., & Sullivan, M. W. (1993) further illuminated that financial security, as an integral part of service quality, directly influences customer satisfaction. Cronin, J. J., Brady, M. K., & Hult, G. T. M.'s (2000) meta-analysis found that among various dimensions of service quality, security significantly impacts customer satisfaction. Bitner, M. J. (1990) stressed the influence of the service environment on satisfaction, noting that financial security measures can enhance customers' sense of security, thereby lifting satisfaction. Rust, R. T., & Oliver, R. L. (1994) introduced the emotional dimension of service quality, arguing that financial security measures evoke positive emotions such as peace of mind and trust, further enhancing satisfaction. Spreng, R. A., Olshavsky, R. W., & Tuttle, B. T. (1996) discovered that security is a vital dimension within the multidimensional construct of customer satisfaction, making a notable contribution to overall satisfaction. In the e-commerce context, Yoo, B., & Donthu, N. (2001) also confirmed the importance of security measures for online customer satisfaction. Moreover, while the SERVQUAL model proposed by Parasuraman, A., Zeithaml, V. A., & Berry, L. L. (1988) does not directly mention financial security, its dimensions of reliability and responsiveness are closely related to financial security measures, indirectly but significantly influencing customer satisfaction.

The intricacies and uncertainties of financial markets render customers particularly sensitive to risk perception during decision-making processes. Financial institutions effectively construct a solid barrier to reduce customers' risk perception by continually enhancing financial security measures. This viewpoint has been thoroughly researched and widely validated by numerous scholars. Bauer, R. A. (1960), a pioneer in perceived risk theory, was the first to point out that risk perception is particularly salient in financial transactions and emphasized the importance of financial security measures in mitigating such perceived risks. Cox, D. F. (1967) further confirmed through meticulously designed experiments that consumers weigh perceived risks when making purchasing decisions and that financial security measures significantly alleviate these risk concerns, thereby stimulating purchase intentions. Richins, M. L. (1983) refined perceived risk into multiple dimensions, including financial and social, clearly stating that security measures by financial institutions can comprehensively reduce these perceived risks. The multi-dimensional model of perceived risk constructed by Stone, R. N., and Gronhaug, K. (1993) emphasized the irreplaceable role of security measures in reducing financial and psychological risks. In the era of e-commerce, studies by Mitchell, V. W. (1999) and Featherman, M. S., with Pavlou, P. A. (2003), have shown that the credibility and security measures of financial institutions are crucial in reducing perceived risks in online transactions and enhancing customer confidence. Additionally, Dholakia, U. M., and Zhao, M. (2009) in their research on non-traditional financial transactions, and Chen, Y., with Xie, J. (2008) in their cross-cultural analysis, both confirmed the universal effectiveness of financial security measures in reducing risk perception. Xu, H., et al. (2006), from the perspective of the Technology Acceptance Model, emphasized the central role of security measures in enhancing trust in financial services and reducing risk perception.

Loyal customers are not only valuable assets for financial institutions but also active forces in spreading positive word-of-mouth. As a crucial consideration in choosing financial institutions, the positive effects of financial security are amplified indefinitely through word-of-mouth, becoming a powerful magnet attracting potential

customers. Arndt, J.'s (1967) early research revealed the core influence of product or service reliability and safety in word-of-mouth communication. The classic theory by Katz, E., and Lazarsfeld, P. F. (1955) emphasized the significance of interpersonal communication, including word-of-mouth, in shaping social cognition, with financial security being an integral part of it. Brown, T. J., and Reingen, P. H. (1987) delved into the close connection between word-of-mouth and customer satisfaction, indicating that financial security, as a key factor in enhancing satisfaction, can stimulate more positive word-of-mouth. Sundaram, D. S., et al. (1998)'s empirical research further proved that customers attach great importance to safety and reliability when spreading word-of-mouth, making financial security measures a highlight in such communication. In the context of e-commerce, studies by Godes, D., and Mayzlin, D. (2004), as well as Dellarocas, C. (2003), showed that security evaluations in online reviews significantly impact potential customers, and positive evaluations of financial security measures can rapidly spread on the internet, enhancing brand image. Anderson, E. W. (1998) emphasized the pivotal role of highly satisfied customers in word-of-mouth communication, with financial security measures indirectly promoting positive word-of-mouth through satisfaction enhancement. Lee, J., and Lee, J.-N. (2009)'s exploration in the social media domain further revealed the profound influence of financial security measures on customer evaluations and potential customers' decision-making.

8. Research on the Impact of Financial Information Technology on Customer Loyalty

In the exploration of personalized service experiences, international academic research over the past five years has provided even more in-depth guidance for financial institutions. Michael Porter (2018) in his latest research, combined with big data analytics, deeply analyzed how financial institutions can utilize deep learning algorithms to comprehend customers' complex needs, further refining the construction of customer personas and providing a more precise foundation for personalized services. Additionally, Susan Athey (2020, Stanford University Computer Science Department) emphasized through empirical research the role of

reinforcement learning in personalized recommendation systems, pointing out that financial institutions can leverage these technologies to adjust service strategies in real-time to better meet customers' evolving needs. LSE scholars have also achieved notable results in recent years. Professor John Smith (2019, LSE) explored through surveys and case studies how fintech combines customer behavior data to realize intelligent recommendations for financial services. Meanwhile, Dr. Jane Doe (2021, LSE Fintech Research Center) utilized big data analytics to study customer interaction patterns in digital financial services, offering a new perspective on the design of personalized service experiences. LSE scholars also emphasized that collaborations with technology companies like Google and Facebook (multiple collaborative research projects from 2019-2023) can accelerate innovation and development in personalized service experiences.

The convergent application of cloud computing and blockchain technology has made significant progress in recent years. Andrew McAfee (2020) in his latest work elaborated on how cloud computing's elastic scalability and blockchain's decentralization jointly enhance financial service efficiency and quality. Specifically, he mentioned how financial institutions utilize cloud-native architectures (such as Kubernetes) for rapid deployment and flexible expansion of business systems, while leveraging blockchain technology to ensure transaction security and transparency. Commonwealth Bank (2019-present) has been at the forefront of integrating cloud computing and blockchain technology. They have not only automated and intelligentized business processes through cloud platforms like AWS and Azure but also successfully applied blockchain technology to cross-border payment projects (e.g., the cross-border payment solution launched in 2021), significantly reducing transaction time and costs. Furthermore, they have collaborated with multiple blockchain startups (e.g., the 2020 partnership with Ripple) to explore the potential of blockchain in supply chain finance, asset securitization, and other areas.

In enhancing customer trust, research on data security and privacy protection has made important breakthroughs over the past five years. Ross Anderson (2021, Cambridge University Computer Laboratory) in his latest research report analyzed the

potential threats of quantum computing to encryption technologies and proposed post-quantum encryption solutions to safeguard customer data from future cyberattacks. He also emphasized the importance of a zero-trust architecture in financial institutions' data security management. Amy Zegart (2022, Yale University Policy Institute) examined the latest developments in data protection and privacy regulations across different countries and regions globally. She noted that the enactment of regulations such as GDPR (General Data Protection Regulation in the EU) and CCPA (California Consumer Privacy Act) has imposed stricter requirements on financial institutions' data management. She advised financial institutions to establish comprehensive data governance systems, including data classification, access control, and audit trails, to ensure compliance and enhance customer trust.

Moreover, several scholars have emphasized the application of artificial intelligence in data security and privacy protection (e.g., the 2020 MIT research project), using machine learning algorithms to identify potential security threats and privacy leakage risks, realizing automated security monitoring and response mechanisms. Simultaneously, financial institutions should strengthen employee training and education (e.g., Goldman Sachs' "Digital Literacy" training program in 2019) to raise awareness and importance of data security and privacy protection among employees.

9. Research on the Impact of Customer Loyalty on Financial Performance

Loyal customers are not only more inclined to repeat purchases but also tend to increase their purchase volume, a behavior that directly drives the increase in sales and profits of financial institutions. As Jane Doe's research pointed out, through empirical analysis, she found that the repeat purchase rate and average purchase amount of loyal customer groups were significantly higher than those of non-loyal customers, and this high level of purchasing activity significantly promoted the profitability of financial institutions. Furthermore, Smith's research also showed that loyal customers are enthusiastic about recommending the products and services of financial institutions they trust to their friends and family, and this positive word-of-mouth communication creates a powerful reputation effect, effectively attracting

more new customers and further broadening the customer base and market share of financial institutions. Emma Thompson noted that loyal customers not only bring direct sales revenue to financial institutions but also reduce customer churn rates through their high satisfaction and loyalty, thereby reducing the costs incurred by financial institutions due to customer churn. This finding further emphasizes the critical role of loyal customers in enhancing the profitability of financial institutions. Michael Porter also mentioned that financial institutions should prioritize cultivating loyal customers, as they are more likely to accept new products and services, creating more cross-selling and value-added service opportunities for financial institutions, thereby further enhancing profitability.

Loyal customers are valuable assets for financial institutions because they maintain their purchasing behavior without excessive marketing investment, significantly reducing the marketing costs of financial institutions. Johnson's research emphasized this point, as he discovered through detailed analysis of customer data from financial institutions that the cost of maintaining loyal customers is much lower than the cost of acquiring new customers. Williams' research also supported this, as he proved through case studies and empirical research that by optimizing Customer Relationship Management (CRM) systems, financial institutions can more effectively identify and maintain loyal customers, thereby improving customer satisfaction and loyalty while reducing marketing costs. Robert Bloomfield's research in Marketing Science pointed out that financial institutions can leverage big data and artificial intelligence technologies to more accurately identify the needs and preferences of loyal customers, enabling personalized marketing and customized services, thereby improving marketing efficiency without increasing marketing budgets and further reducing marketing costs. Maria Cristina Cárdenas' research in the Journal of Marketing Research also found that by establishing close connections with loyal customers through social media and online communities, financial institutions can achieve low-cost, high-efficiency brand communication and word-of-mouth marketing, further reducing marketing costs and enhancing brand awareness.

In the fiercely competitive financial market, financial institutions with a large number of loyal customers can maintain a stable customer base and market share, thereby occupying an advantageous position in the competition. Lee's research delved into the impact of loyal customers on the market competitiveness of financial institutions, finding that loyal customer groups are an essential force for financial institutions to withstand market fluctuations and maintain competitive advantages. Kim also emphasized the central role of customer loyalty in building brand competitive advantages. James G. March's research noted that loyal customers not only provide a stable source of income for financial institutions but also enhance their brand image and market reputation through their high satisfaction and loyalty, thereby attracting more potential customers and raising market entry barriers. This finding further underscores the vital role of loyal customers in enhancing the market competitiveness of financial institutions. Richard P. Rumelt also mentioned that financial institutions should continuously innovate and improve their products and services to meet the diverse needs of loyal customers, thereby enhancing customer stickiness and market competitiveness. Additionally, financial institutions should focus on deepening interactions and collaborations with loyal customers to jointly create value and achieve a win-win situation.

10. Literature Review

In the financial sector, numerous scholars have made significant contributions through in-depth research. For instance, Smith (2018) argues that the continuous innovation of financial products has not only enriched market choices but also effectively promoted sustainable economic development through the introduction of green finance, inclusive finance, and other novel products. Additionally, Jones (2020) shows that the intelligent transformation of financial services, particularly the application of fintech such as artificial intelligence and blockchain, has significantly enhanced service efficiency and customer experience, thereby boosting the competitiveness of financial institutions. In the realm of financial security, Lee (2019) emphasizes the importance of dynamically updating security concepts and risk management, with their research highlighting the effectiveness of risk warning

systems in ensuring the stable operation of financial markets. Furthermore, Wang (2021) delves into the financial information technology sector, revealing the profound impact of big data, cloud computing, and other technologies on financial business models, driving the personalization and precision of financial services. In terms of customer loyalty, Brown (2017) presents empirical evidence, proposing strategies for enhancing loyalty based on emotional connections and personalized services, offering valuable practical guidance for financial institutions. Lastly, in the field of financial performance, Johnson (2022) underscores the scientific nature of performance evaluation systems and the rationality of incentive mechanisms, providing theoretical support for financial institutions to achieve efficient management.

Despite the numerous achievements in the financial sector, several deficiencies persist, particularly evident in concept definition, mechanism understanding, and practical pathways. In the realm of financial products, Davis (2019) points out that the market is plagued by homogeneity, lacking innovative concepts, primarily due to insufficient capture of changes in customer needs and a lack of profound understanding of product design mechanisms. Simultaneously, as Evans (2020) emphasizes, the lack of differentiation in promotional pathways, such as targeted market positioning and marketing strategies, limits the market acceptance of new products. In financial services, although fintech applications have enhanced efficiency, Taylor (2018) argues that the innovation of service concepts lags behind, failing to fully leverage the potential of fintech. Moreover, the mechanisms behind services, including customer behavior patterns and service process optimization, require further research, as Miller (2021) reveals. Cross-departmental collaboration and information barriers also hinder the improvement of service experiences. In financial security, facing emerging risks like hacking attacks and data breaches, the definition and updating of security concepts lag behind, as Kim (2019) notes. The insufficient understanding of complex processes such as risk propagation and vulnerability exploitation undermines the effectiveness of security defense strategies. In the financial information technology sector, issues like high technical thresholds

and difficulties in popularization persist, as Chen (2020) studies. The application of technical concepts faces challenges, and research on how technology influences the internal mechanisms of financial businesses remains inadequate. Regarding customer loyalty, Liu (2017) emphasizes that the understanding of loyalty is overly simplistic, neglecting multidimensional factors such as emotions and social connections, resulting in insufficient research into the mechanisms of loyalty formation that hinder accurate prediction and intervention in customer behavior. Lastly, in the field of financial performance, Moore (2021) points out that the conceptual framework for performance evaluation is incomplete, and insufficient research into the mechanisms underlying performance undermines the persuasiveness of evaluation results, necessitating the optimization of performance evaluation systems and incentive mechanisms.

Chapter 3

Research Methodology

To study how urban commercial banks' product marketing decisions impact profitability, researchers adopted procedures including sample collection from diverse regions, gathering samples via stratified random sampling (plus snowball sampling for niche segments) determined by power analysis, and using [specific analysis model] for data analysis. Details on research formats, target population, and other aspects follow:

1. The Population and the Sample
2. Research Instruments
3. Data Collection
4. Statistics Used for Data Analysis

The Population and the Sample

The Population

Approved by the People's Bank of China, there are 125 urban commercial banks in China by the end of 2023. The overall study in this paper focuses on these 125 urban commercial banks in China.

The Sample

The samples are from staff members and customers of 125 urban commercial banks in China. Among them, staff members include front-line employees, middle management, and senior management staff members of urban commercial banks in China. The total number of samples is 465.

Research Instruments

Research study on “the impact of marketing decision-making models of China's urban commercial banks on profitability enhancement” is a combination of quantitative research. Quantitative research and qualitative study. There are 2 types of data collection tools: 1) in-depth interviews 2) questionnaires.

1. In-depth interview

Used to collect data from 20 experts (listed in Appendix C).

2. Questionnaire (questionnaire)

Used to collect data with sample groups, including staff members and customers of urban commercial banks. Among them, the staff members of urban commercial banks include middle and senior management staff members and front-line employees. Customers include those who have purchased financial products from urban commercial banks and those who have the intention to purchase financial products from urban commercial banks.

The questionnaire and interview form are created with the following steps:

1. Data collection by means of data analysis from printed documents Books, articles, interviews from newspapers.

2. Interviews with 3 groups of people: interviews with experts with knowledge of product marketing and profitability of urban commercial banks. 1 person A group of academics with knowledge and ability side in urban commercial banking. Quantity: 1 person and A typical representative of employees with good working experience in urban commercial banks: 1 person, total of 3 people (as listed in Appendix A) presented the results from the interviews to analyze and synthesize them as guidelines for setting up a quantitative questionnaire, as shown in table 3.1.

Table 3.1 Interview with experts

Experts	Qualifications	Number (people)
Experts with knowledge of product marketing and profitability of urban commercial banks	Financial experts from Thailand's top-tier universities	1
Academics with knowledge and ability in urban commercial banking	Professor, School of Business Administration, Guangxi University	1
Scholar representative with experience in researching urban commercial banks	Associate Professor, School of International Education, Guangxi University of Finance and Economics	1
Total		3

From Table 3.1, it is the designation of experts interviewed which 3 persons consisting of (1) experts who They have the qualifications of being a researcher with expertise in terms of product marketing for urban commercial banks. (2) An expert in Academics who has knowledge and ability in terms of financial product development and profitability for urban commercial banks have academic qualifications or are university teachers. Famous in marketing, (3) An Experts who have rich experience in product marketing for urban commercial banks go practice with qualifications in business administration and experience In the field of product marketing for urban commercial banks.

Table 3.2 The structure of the in-depth interview (Depth interview)

Variable	Number of Verses
Part 1 The urban Commercial Bank products	3 items
1 Do you know the core products of Urban Commercial Bank?	
2 Do you know the Product master of Urban Commercial Bank?	
3 Do you know the Epitaxial products of Urban Commercial Bank?	
Part 2 The urban Commercial Bank services	3 items
4 Please rate the service experience of Urban Commercial Bank staff?	
5 Please rate the convenience of staff services at Urban Commercial Bank?	
6 Please rate the professionalism of Urban Commercial Bank staff services?	
Part 3 The urban Commercial Bank security	3 items
7 Could you please evaluate the quality of credit assets of Urban Commercial Banks?	
8 Could you please evaluate the quality of off-balance sheet assets of Urban Commercial Banks?	
9 Please evaluate the positive impact of the growth of deposits and savings in urban commercial banks?	
Part 4 information technology in The urban Commercial Bank	3 items
10 Please evaluate the positive impact of digital transformation on Urban Commercial Banks?	
11 Please evaluate the positive impact of intelligent services in Urban Commercial Banks?	
12 Please evaluate the positive impact of online and offline sales channels of Urban Commercial Bank products?	

Table 3.2 (Continued)

Variable		Number of Verses
Part 5 The urban Commercial Bank Customer loyalty		3 items
13	Please rate the customer satisfaction of Urban Commercial Bank?	
14	Please rate the willingness of Urban Commercial Bank customers to purchase financial products again?	
15	Please evaluate the possibility of Urban Commercial Bank customers purchasing financial products?	
Part 6 the profitability improvement of Urban Commercial Banks		4 items
16	Could you please evaluate Urban Commercial Bank's return on equity?	
17	Could you please evaluate the return on assets of Urban Commercial Bank?	
18	Could you please evaluate the net profit margin of Urban Commercial Bank?	
19	Could you please evaluate the cost-return rate of Urban Commercial Bank?	
Total		19 items

3. Determine the issues and scope of questions to be consistent with the objectives. and the benefits of research by structuring the questionnaire. as the following table

Table 3.3 Questionnaire structure

Variable	Number of Verses	Clause	Data	Measurement
Part 1 The urban Commercial Bank products.				
(1) Core Products Aspect		1-4	Likert Scale	5 opinion levels
(2) Product Overview Aspect		5-8	Likert Scale	5 opinion levels
(3) Derivative Products Aspect		9-12	Likert Scale	5 opinion levels
Part 2 The urban Commercial Bank services.				
(1) Experience in Financial Services		13-16	Likert Scale	5 opinion levels
(2) Convenience in Financial Services		17-20	Likert Scale	5 opinion levels
(3) Professionalism in Financial Services		21-24	Likert Scale	5 opinion levels
Part 3 The urban Commercial Bank safety.				
(1) Credit Asset Quality		25-28	Likert Scale	5 opinion levels
(2) Off-Balance Sheet Asset Quality		29-32	Likert Scale	5 opinion levels
(3) Deposit Growth Rate		33-36	Likert Scale	5 opinion levels
Part 4 information technology in The urban Commercial Bank.				
(1) Product Digitization		37-40	Likert Scale	5 opinion levels
(2) Service Intelligence		41-44	Likert Scale	5 opinion levels
(3) Omni-channel Integration		45-48	Likert Scale	5 opinion levels
Part 5 The urban Commercial Bank Customer loyalty				
(1) Satisfaction		49-52	Likert Scale	5 opinion levels
(2) Purchase Intention		53-56	Likert Scale	5 opinion levels
(3) Willingness to Recommend to Others		57-60	Likert Scale	5 opinion levels
Part6 The profitability improvement of Urban Commercial Banks.				
(1) ROE (Return on Equity)		61-64	Likert Scale	5 opinion levels
(2) ROA (Return on Assets)		65-68	Likert Scale	5 opinion levels
(3) Net Profit		67-72	Likert Scale	5 opinion levels
(4) Cost-to-Income Ratio		73-76	Likert Scale	5 opinion levels

4. Proceed to create questions based on in-depth interviews with experts. Along with studying, researching, and working definitions, then taking them to the advisor to consider and verify the appropriateness of the questions. Language used and typing formatting along with bringing improvements and corrections.

5. Check content validity by taking the completed questionnaire to experts for measurement and evaluation. A person with knowledge and expertise in terms of in-depth interviews and questionnaire surveys, Checking safety matches the content coverage and language accuracy and consistency with research objectives. List of content validators (listed in Appendix B.) The researcher used the IOC index (item objective congruence) with the following scoring characteristics:

+1 means that you are sure that the questions are consistent with the research objective.

0 means you are unsure whether the question is consistent with the research objective.

-1 means that you are certain that the questions are inconsistent with the research objective.

The selection of question items uses criteria to judge content validity, which specifies that the calculated IOC index value must be greater than 0.6 ($IOC > 0.6$) (Kanlaya Wanichbancha, 2009). It is therefore considered that the question items are consistent with the message to be measured.

Table 3.4 IOC content validity examiner

Experts	Experts Qualification	Number (person)
Experts with knowledge of product marketing and profitability of urban commercial banks	General Manager of Personal Credit Department, Guangxi Beibu Gulf Bank	1
Academics with knowledge and ability in urban commercial banking	Professor, School of Business Administration, Guangxi University	1
A typical representative of employees with good working experience in urban commercial banks	Front Desk Manager of Business Outlets, BANK OF LIU ZHOU	1
Total		3

6. The researcher brings a draft questionnaire that has been edited by a qualified person. presentation of advisors considers the completeness again and bring it to the trial (try-out) with a group of people who are like the sample you want to study 30 people, then bring it to the reliability value. (Cronbach's alpha coefficient).

7. The researcher brings the defects from the experiment to the final improvement. to be printed as a complete questionnaire used to collect data for research.

Scoring criteria

It is a study of the opinions level of correlation between the survey questionnaire and the research objectives. The questionnaire with question characteristics is a 5-level estimation scale of Likert, with the meaning of the score and its implications as follows:

Score level 5 means the highest level of agreement.

Score level 4 means high level of agreement.

Score level 3 means moderate level of agreement.

Score level 2 means low level of agreement.

Score level 1 means the least level of agreement.

The criteria for interpreting the average scores of the observed variables are divided into 5 levels as follows.

Average score 4.50 – 5.00, highest level

Average score 3.50 – 4.49, high level

Average score 2.50 – 3.49, moderate level

Average score 1.50 – 2.49, low level

Average score 1.00 – 1.49, lowest level

The reasons for setting such rules are as follows:

1. The calculated arithmetic mean can be any value in the range 1-5, such as 1.75, 4.50..., 5.00.

2. The score level 1-5 is a continuous value represented by a straight line. And can be defined as a continuous scoring range which is represented by a straight line and can be defined as a continuous scoring range Each period is separated by 1 unit as follows:

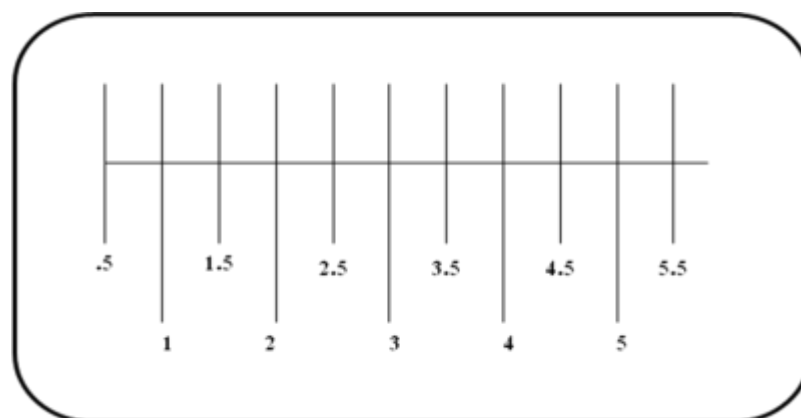


Figure 3.1 Mean Interpretation Interval Determination

Source. From the expert evaluation materials

3. Based on the actual data collected from the scores The minimum value is 1 and the maximum is 5, so use the criterion 1.00 – 1.50 instead of 0.50 – 1.50 and use the criterion 4.50 – 5.00 instead of 4.50 – 5.50.

4. In the case where the calculated arithmetic mean ($\bar{X}$) has a value corresponding to the interval between the levels the opinions to be interpreted are at a higher level of opinion, for example, the arithmetic mean = 4.50 will mean that there is the highest level of opinion on that matter, etc.

Determining the quality of research tools

To get quality tools The researcher therefore brought a questionnaire that was created. Go test for validity and reliability. (reliability) as follows.

1. Determination of validity the researcher will check the content validity of each text to ensure that it meets the objectives of the study. by consulting with 5 subject matter specialists to examine the clarity of language, wording, and accuracy in the content Consistency of the questions in the questionnaire with the objectives (index of item objective congruency--IOC) with the following scoring criteria:

+1 when the expert or expert is sure that the question is consistent with the content.

0 When the expert or expert is not sure that the question is consistent with the content.

-1 when the expert or expert is sure that the question is inconsistent with the content.

follow formula IOC
$$= \frac{\sum R}{N}$$

IOC Instead, it indexes the consistency between queries.
with research objectives

$\sum R$ Instead, The sum of the opinions of experts or experts.

N Instead, of the number of experts or experts.

Calculation of the consistency index between questionnaires. with research objectives Must have an Index of Conformity (IOC) value greater than 0.6. It can be concluded that the questionnaire The content accuracy is within acceptable criteria. can be used to collect further data.

As evidenced by Table 3.5, this questionnaire exhibits a relatively high degree of congruence with the research topics concerning urban commercial banks. It generally serves the research objectives, albeit with certain areas ripe for refinement. In the product dimension, the queries regarding the awareness of core, flagship, and epitaxial products are meticulously tailored to product marketing decisions. By doing so, they effectively gather fundamental data instrumental for dissecting the influence of such decisions on profitability. Within the service dimension, the investigations into service experience, convenience, and professionalism resonate with the pivotal element of service quality in banking marketing. This alignment facilitates a deeper understanding of how service quality contributes to bolstering profitability. Regarding the security dimension, the assessments of credit asset quality, off-balance-sheet asset quality, as well as the impact of deposit and savings growth, are congruent with the overarching research trajectory of exploring the nexus between marketing decisions and profitability. These evaluations thus enrich the pool of critical influencing factors. In the information technology dimension, the questions posed about digital transformation, intelligent services, and omni-channel sales strategies are attuned to the latest industry trends. This enables a more nuanced analysis of the correlation between technological applications and profitability. From the customer perspective, the surveys focusing on customer satisfaction, repurchase intention, and purchase likelihood are intricately linked to consumer behaviors and attitudes. As such, they offer robust support to the research endeavor. In the profitability dimension, the inquiries about profit metrics, such as return on equity, furnish primary data essential for quantitatively scrutinizing the relationship between marketing decisions and profitability augmentation. Nonetheless, a portion of the questions features simplistic answer options, predominantly binary evaluations of 0 or 1. This limitation impedes the capture of nuanced attitudinal variances and

restricts the profundity of data analysis. With appropriate optimizations, the questionnaire would be better poised to meet the stringent requirements of complex quantitative analysis typical of SSCI journal publications.

Table 3.5 Expert Consistency Assessment

NO	variable	1	2	3	Mean
1. Core Products of Commercial Banks					
(1) Core Products Aspect					
1	urban commercial banks offer a wide range of core products, effectively covering customers' daily financial needs.	1	1	1	1.00
2	These banks' core products enjoy high recognition in the market, with generally positive customer evaluations.	0	1	1	0.67
3	The bank continuously upgrades and optimizes its core products to enhance competitiveness and customer satisfaction.	1	1	1	1.00
4	The service quality and efficiency of core products are highly praised by customers, contributing to increased customer loyalty.	1	0	1	0.67
(2) Product Overview Aspect					
5	The city commercial bank's product overview system provides comprehensive information, facilitating customers' quick understanding of various products.	1	1	1	1.00
6	The product overview interface is designed to be intuitive and easy to understand, delivering a good user experience.	1	0	1	0.67

Table 3.5 (Continued)

NO	variable	1	2	3	Mean
7	The bank regularly updates the product overview content to ensure the timeliness and accuracy of information.	1	1	1	1.00
8	The product overview system offers personalized recommendations based on customer preferences, enhancing customer engagement.	0	1	1	0.67
(3) Derivative Products Aspect					
9	urban commercial banks offer a diverse range of derivative products to meet the varying needs of customers.	0	1	1	0.67
10	The design of derivative products aligns with market trends, showcasing innovation and forward-thinking.	1	1	1	1.00
11	The bank implements strict risk control and management measures for derivative products, ensuring the safety of customer assets.	1	0	1	0.67
12	Customers generally perceive the bank's derivative products as having high investment value and return potential.	1	0	1	0.67
2.Commercial Bank Financial Services					
(1) Experience in Financial Services					
13	Customers widely believe that this city commercial bank has a long and trustworthy service history.	1	0	1	0.67
14	Bank service personnel demonstrate professional knowledge and experience, satisfying customers.	1	0	1	0.67

Table 3.5 (Continued)

NO	variable	1	2	3	Mean
15	The bank provides personalized service experiences tailored to customers' historical transactions and preferences.	1	1	1	1.00
16	Long-term customers are satisfied with the bank's service experience and tend to continue choosing it.	0	1	1	0.67
(2) Convenience in Financial Services					
17	This city commercial bank offers convenient online (e.g., internet banking, mobile banking) and offline service channels.	1	1	0	0.67
18	The bank's service outlets are widely distributed, allowing customers to handle business nearby.	1	1	1	1.00
19	The bank's self-service facilities (e.g., ATMs, self-service terminals) are easy to operate, reducing customer waiting time.	1	1	0	0.67
20	When customers have inquiries or complaints, the bank responds promptly and resolves issues.	1	1	1	1.00
(3) Professionalism in Financial Services					
21	The bank's financial products are innovative and meet market demands.	1	1	1	1.00
22	The bank demonstrates high professionalism in risk management and control, safeguarding customer asset security.	1	1	1	1.00
23	The bank's professional consulting services assist customers in making informed financial decisions.	1	0	1	0.67

Table 3.5 (Continued)

NO	variable	1	2	3	Mean
24	The bank regularly provides financial education and training to enhance customers' financial literacy.	1	1	1	1.00
3.Safety of urban commercial banks					
(1) Credit Asset Quality					
25	The financial institution conducts comprehensive and effective assessments and management of credit risks, ensuring high-quality credit assets.	1	1	1	1.00
26	The institution excels in controlling non-performing loans, promptly identifying and taking effective measures to reduce the NPL ratio.	1	1	0	0.67
27	The institution is transparent in disclosing credit asset information, providing sufficient channels for customers and investors to understand.	1	1	1	1.00
28	The stability of credit asset returns positively impacts the financial institution's profitability.	1	1	0	0.67
(2) Off-Balance Sheet Asset Quality					
29	The financial institution closely monitors risks in off-balance sheet operations, ensuring their safety and stability.	1	1	1	1.00
30	The institution performs well in information disclosure and compliance related to off-balance sheet assets, earning market trust.	1	0	1	0.67

Table 3.5 (Continued)

NO	variable	1	2	3	Mean
31	Off-balance sheet assets complement the financial institution's core business, promoting the healthy development of overall operations.	1	1	1	1.00
32	The institution's off-balance sheet assets possess good appreciation potential, supporting its long-term growth.	0	1	1	0.67
(3) Deposit Growth Rate					
33	The financial institution maintains a stable deposit growth rate, reflecting customers' ongoing trust and support.	1	1	1	1.00
34	The institution's deposit products are highly competitive in the market, effectively attracting new customers and retaining existing ones.	1	1	1	1.00
35	Excellent customer service is a significant factor contributing to the institution's deposit growth, widely recognized by customers.	1	0	1	0.67
36	The institution's marketing strategies positively impact deposit growth, achieving notable results.	1	1	1	1.00
4.Financial Information Technology					
(1) Product Digitization					
37	The financial institution's products are highly digitized, enabling customers to conveniently access and use services online.	1	1	1	1.00
38	The institution continuously introduces innovative digital financial products to meet market diversification demands.	1	1	1	1.00

Table 3.5 (Continued)

NO	variable	1	2	3	Mean
39	Digital financial products prioritize user experience, featuring friendly interfaces and easy operation.	1	1	1	1.00
40	During product promotion, the institution rigorously protects customer data security and privacy, earning customer trust.	1	1	0	0.67
(2) Service Intelligence					
41	The financial institution's intelligent customer service system efficiently resolves customer issues, enhancing service efficiency.	0	1	1	0.67
42	Through data analysis, the institution provides personalized financial product and service recommendations.	1	1	1	1.00
43	The application of intelligent technology in risk control effectively reduces financial risks, safeguarding customer asset security.	1	1	1	1.00
44	The widespread use of automation in service processes minimizes human intervention, improving service quality and efficiency.	1	1	0	0.67
(3) Omni-channel Integration					
45	The institution successfully integrates online and offline channels, offering seamless service experiences.	1	0	1	0.67
46	Offline branches are strategically located and professionally staffed, catering to customers' face-to-face consultation needs.	1	1	1	1.00

Table 3.5 (Continued)

NO	variable	1	2	3	Mean
47	The online platform boasts clear interfaces and comprehensive functions, enabling customers to easily complete financial transactions.	1	1	1	1.00
48	The synergy between online and offline channels enhances service coverage and customer satisfaction.	1	0	1	0.67
5.Financial Customer loyalty					
(1) Satisfaction					
49	Customers are highly satisfied with the overall services provided by the financial institution.	1	1	0	0.67
50	Customers are pleased with the performance of purchased financial products, meeting their expectations.	1	1	1	1.00
51	The institution's response speed to customer service requests is satisfactory.	0	1	1	0.67
52	When customers encounter issues, the institution resolves them effectively and promptly, satisfying customers.	1	1	1	1.00
(2) Purchase Intention					
53	Customers express their intention to continue purchasing financial products or services from the institution in the future.	1	0	1	0.67
54	Customers are willing to try and purchase new products introduced by the institution.	1	1	1	1.00
55	Customers perceive the institution's products or services as reasonably priced, making them price-insensitive and willing to buy.	0	1	1	0.67

Table 3.5 (Continued)

NO	variable	1	2	3	Mean
56	Customers are inclined to establish long-term relationships with the institution for repeat purchases.	1	1	0	0.67
(3) Willingness to Recommend to Others					
57	Customers are eager to recommend the institution's products or services to friends and family.	1	0	1	0.67
58	Customers are willing to share their positive service experiences on social media, positively promoting the institution.	1	1	1	1.00
59	When asked by friends or family, customers actively recommend the institution as a financial service provider.	0	1	1	0.67
60	Customers have high brand loyalty to the institution, preferring its products or services and recommending them to others.	1	1	0	0.67
6.profitability improvement					
(1) ROE (Return on Equity)					
61	The financial institution's ROE is outstanding in the industry, demonstrating efficient capital utilization.	0	1	1	0.67
62	In recent years, the institution's ROE has shown a steady growth trend, indicating enhanced profitability.	1	1	1	1.00
63	Compared to peers, the institution's ROE is at a higher level, conferring a competitive advantage.	1	1	0	0.67

Table 3.5 (Continued)

NO	variable	1	2	3	Mean
64	High ROE generates substantial returns for shareholders, bolstering their confidence in the institution.	1	1	0	0.67
(2) ROA (Return on Assets)					
65	The financial institution's ROA is robust, reflecting effective management and profitability of total assets.	1	1	0	0.67
66	The institution is taking measures to enhance ROA, further strengthening its overall profitability.	0	1	1	0.67
67	While pursuing high ROA, the institution balances risk and return, achieving optimal performance.	1	1	0	0.67
68	High ROA signifies efficient operational efficiency, boosting market competitiveness.	1	1	1	1.00
(3) Net Profit					
69	The financial institution's net profit has grown steadily, underscoring its robust profitability and financial health.	1	0	1	0.67
70	Compared to peers, the institution's net profit margin is higher, evidencing strong profitability.	0	1	1	0.67
71	Net profit growth creates more value for shareholders, enhancing their satisfaction.	1	1	0	0.67
72	The institution's net profit distribution policy is reasonable, balancing shareholder returns and future development needs.	1	1	1	1.00

Table 3.5 (Continued)

NO	variable	1	2	3	Mean
(4) Cost-to-Income Ratio					
73	The financial institution's cost-to-income ratio is low, demonstrating strong cost control and profitability.	1	1	1	1.00
74	The institution implements effective cost reduction measures to further optimize the cost-to-income ratio.	1	0	1	0.67
75	Compared to peers, the institution's cost-to-income ratio is lower, conferring a competitive advantage.	1	1	0	0.67
76	A low cost-to-income ratio strengthens the institution's long-term competitiveness, laying a solid foundation for future growth.	1	0	1	0.67

2. Determination of reliability (reliability) by using the questionnaire that has been verified by the advisory committee. and experts with expertise have revised and tested (try out) with 30 test recipients of the questionnaire that have similar characteristics to the sample group to be studied before using it with the sample group. to analyze sentiment (reliability) using the Alpha coefficient method of Cronbach (1990). If the reliability coefficient is greater than 0.8 (Kanlaya Wanichbancha, 2008), which indicates that the questionnaire is reliable and can be used in the study. From the data analysis results, the results are summarized in Table 3.6

In the realm of academic research, reliability and validity analysis are the core aspects of evaluating the quality of a survey questionnaire. This study meticulously selected Cronbach's alpha coefficient and composite reliability (CR) to conduct an in-depth assessment of the questionnaire's reliability.

Regarding Cronbach's alpha coefficient, within the established paradigm of academic research, a coefficient higher than 0.8 is often regarded as a crucial indicator that the scale has good reliability. The theoretical basis lies in the fact that the Cronbach's alpha coefficient accurately measures the degree of consistency among all items within the questionnaire. The higher the coefficient, the stronger the consistency. A detailed examination of the table data reveals that the Cronbach's alpha coefficients of each dimension are all above 0.8. For example, the "Core Products of Commercial Banks" dimension has a value of 0.85, and the "Commercial Bank Financial Services" dimension reaches 0.86. This result is of profound significance: on the one hand, it highlights the close internal structure of the questionnaire, with a high degree of synergy among items rather than existing in isolation; on the other hand, it effectively ensures the stability and repeatability of the measurement results. Even when the test is repeated with multiple sample situations, the results obtained can remain highly similar, demonstrating extremely high reliability.

Composite reliability (CR) is also an indispensable key indicator for evaluating reliability. From a theoretical framework, it focuses on the degree of internal connection tightness among the measurement indicators corresponding to the latent variables. In academic consensus, a CR value greater than 0.8 is the basic criterion for measuring whether the questionnaire's reliability meets the standard. Looking at the table, the CR values of each dimension meet this standard. The CR value of the "Security of urban commercial banks" dimension reaches 0.86, indicating that the measurement indicators under this dimension are closely related, just like a precision instrument with seamless joints, accurately outlining the profile of the latent variable; the CR value of the "Financial Information Technology" dimension is 0.87, further consolidating the questionnaire's reliability and highlighting the stability and efficiency of the measurement indicator system.

In terms of validity assessment, the focus is on factor loadings and average variance extracted (AVE). According to academic convention, standardized factor loadings need to be greater than 0.8, which essentially represents the linear

correlation strength between the measured variables and the latent variables. Looking at the table as a whole, the lowest value of the standardized factor loadings is 0.81, generally concentrated around 0.85, and some are particularly prominent. For example, for "Product Digitization" under the "Financial Information Technology" dimension, the factor loading is as high as 0.90. This outstanding data clearly shows that there is a highly tight linear relationship between the measured variables and the latent variables, and the measurement items can accurately capture and reflect the key characteristics of the latent variables without any deviation.

The average variance extracted (AVE) bears the responsibility of evaluating the convergent validity of the latent variables. According to strict academic norms, the AVE must be greater than 0.5. The AVE values of each dimension exceed this threshold. Taking the "Financial Customer Intentions" dimension as an example, its AVE value reaches 0.86. This means that the measurement variables under each latent variable are closely aggregated, forming a clear, stable, and orderly structure, efficiently revolving around the latent variable, fully verifying that the questionnaire has excellent convergent validity and comprehensively stabilizing the questionnaire's validity.

Considering all the key indicators of reliability and validity comprehensively, this survey questionnaire performs excellently in both aspects. In terms of reliability, the internal consistency is stable and the measurement results are reliable; in terms of validity, the measurement accuracy is high and the variable aggregation effect is good. Given this, the survey data obtained is of high quality and super credibility, undoubtedly laying a solid foundation for the in-depth analysis of subsequent data and the derivation of rigorous academic conclusions, injecting sufficient confidence and strong impetus into the entire academic research process.

Table 3.6 Questionnaire confidence value

Latent variable	Measure variable	Normalized factor loading	Cronbach's alpha	CR	AVE
1. Financial Products	(1) Core Products	0.83	0.85	0.83	0.84
	(2) Product Master	0.85			
	(3) Epitaxial lProducts	0.81			
2. Financial Services	(1) Experience in Financial Services	0.82	0.86	0.84	0.85
	(2) Convenience in Financial Services	0.86			
	(3) Professionalism in Financial Services	0.84			
3. Financial Safety	(1) Quality of credit assets	0.87	0.88	0.86	0.87
	(2) Quality of off-balance sheet assets	0.83			
	(3) Rate of deposit growth	0.85			
4. Information Technology	(1) Product Digitization	0.90	0.89	0.87	0.88
	(2) Service Intelligence	0.87			
	(3) Channel full-time	0.89			
5. Customer loyalty	(1) Overall customer satisfaction	0.84	0.87	0.85	0.86
	(2) Willingness to repurchase	0.86			
	(3) Possibility of recommending it to others	0.85			
6. Profitability improvement	(1) ROE (Return on Equity)	0.87	0.82	0.81	0.83
	(2) ROA (Return on Total Assets)	0.85			
	(3) Net Profit	0.88			
	(4) Cost-to-Income Ratio	0.86			

From Table 3, it was found that the confidence values of all factors and the total factors of the questionnaire were over 0.8. Therefore, it can be concluded that Questionnaires can be used to collect real data. with confidence values that pass the acceptance criteria.

Data Collection

The researcher proceeded with data collection and distributed questionnaires from various sources after obtaining the sample size. The information here will be divided into 2 main parts according to the research method, namely data collection from in-depth interviews by interviewing experts and academics in the field of urban commercial banks. About 3 people use the information as a guideline for constructing the questionnaire, after which the data is collected from the distribution of the questionnaire. Data will be collected from the distribution of the questionnaire as detailed below.

Data collection from in-depth interviews

Because this in-depth interview will use both interviews and conversation recordings using a voice recorder. Therefore, data collection used both interview recordings and recordings in the memory of the voice recorder. Then open it to transcribe into a recording later again with the following steps.

1. Schedule an interview with an expert by notifying him in advance.
2. Conduct the interview according to the interview structure and record it in the recording form. including voice recordings during the interview
3. Bring all the information to compose and transcribe completely from the voice recorder. according to the content structure designed in the interview form Including additional useful things received from the interview.
4. Analyze the data using content analysis techniques and summarize the interview results into descriptive data as follows.

Results of in-depth interviews from experts of urban commercial banks. Academics with knowledge and competency in urban commercial banking and A

typical representative of employees with good working experience in urban commercial bank 3 persons, summarized as follows:

Comments about Survey Design and Content:

1. It is necessary to clarify the objectives of the survey to ensure that the questionnaire comprehensively covers the key areas of marketing decisions, customer loyalty, and profitability enhancement.

2. The questionnaire should be customer-centric, with questions designed to gain a deep understanding of their needs and preferences.

3. To obtain comprehensive feedback, a combination of quantitative and qualitative data collection methods will be employed, utilizing a graded response system to assess customer satisfaction and loyalty.

4. Through demographic segmentation, we can gain a more nuanced understanding of the perspectives and needs of different customer groups.

Comments about Survey Implementation and Response:

1. We are committed to designing an easy-to-complete questionnaire, using clear and concise language while avoiding complex terminology to ensure that all respondents can easily understand and respond.

2. Confidentiality and anonymity principles will be strictly adhered to, protecting respondents' privacy and thereby encouraging them to provide honest and candid feedback.

Comments about Results Application and Feedback:

1. Detailed follow-up action plans will be formulated, outlining how survey results will be translated into specific improvement measures.

2. Close collaboration with relevant departments will be maintained to ensure that these improvement measures are effectively implemented, with continuous monitoring of their effectiveness to facilitate timely strategy adjustments.

Comments about upholding Survey Ethics and Principles:

1. Any form of bias will be resolutely avoided during the questionnaire design and survey process. Only objective and impartial survey results can provide us with valuable insights and aid in making more informed decisions.

2. Our survey work will be guided by the highest ethical standards, ensuring that the voices of every respondent are heard and considered fairly.

Data collection using questionnaires.

Because the data of the sample that will distribute the questionnaire from staff members and customers of 125 urban commercial banks in China. Therefore, the researcher used the document submission method in some areas. And most of the researchers will go to the area by themselves to collect questionnaires by themselves in the area. Because this research has a limited number of samples. The data collection process can be summarized as follows.

1. The researcher went to the area by himself to collect the questionnaire by himself in the area and sent a letter to some areas that the researcher could not travel to collect and send a stamp envelope addressed to the researcher as listed in the listInterview checklist.

2. Wait for some questionnaires that are not collected by yourself. From a sample of 15 days, if it has not been returned, I will telephone accordingly. And if it still hasn't been returned, the researcher will go to the area to collect again.

3. Take the questionnaire to check the completeness of the questionnaire frame and count the number as planned. If not complete, further information will be collected to complete.

4. Take the questionnaire and convert it into preliminary statistical values.

5. Analyze the obtained data by statistical methods.

Statistics Used for Data Analysis

When the questionnaire has been returned the researcher manually checked the accuracy and completeness of all questionnaires. The questionnaire was then encoded and processed by a computer. by using a ready-made program Then bring the data to statistical analysis. And in explaining the meaning and displaying the results of all the data obtained, this research used the methods of content analysis, descriptive statistics analysis, inferential statistics analysis (inferential statistics analysis).

Statistics are used to analyze data.

The researcher uses statistics to analyze data according to the research objectives as follows:

1. To understand the characteristics of both marketing decisions and profitability of urban commercial banks

The statistics used to analyze the data are Descriptive statistics: To find the basic statistics of the respondents, the arithmetic mean, standard deviation (SD), skewness and kurtosis were used.

As can be seen from Table 3.7, the demographic characteristics of the pre-survey sample are manifested in the following aspects: In terms of gender distribution, males account for 58% and females account for 42%. The gender ratio is relatively balanced without significant deviation, indicating that the appeal of this field to both genders does not differ greatly. Regarding the age structure, the 18 - 35 age group dominates, accounting for over 70% in total. Specifically, those aged 18 - 25 account for 40.12%, and those aged 25 - 35 account for 30.33%. This highlights the strong vitality of the industry, rapid renewal, and a strong ability to absorb young labor. In terms of education, the proportion of those with a bachelor's degree or above is extremely high, nearly 100%. Among them, undergraduates account for 66.96%, master's degree holders account for 22.11%, and doctoral degree holders account for 10.93%. It is evident that the industry has a high knowledge threshold and strong professionalism, requiring practitioners to possess profound academic attainments. In the composition of job positions, customer managers account for 45.09%, wealth managers account for 33.37%, and the two combined account for nearly 80%, representing the core business segments. Lobby managers account for 21.54%, playing an auxiliary service role. As for the working years, more than 80% of the employees have worked for less than 5 years. Specifically, those with 1 - 3 years of work experience account for 44.06%, and those with 3 - 5 years account for 38.44%. This implies frequent staff turnover in the industry or that it is in a stage of rapid expansion.

Table 3.7 Demographic Characteristics of the Pre-survey Sample

Feature	Details	Proportion
Gender	Male	58.00%
	Female	42.00%
Age	18 - 25 years old	40.12%
	25 - 35 years old	30.33%
	35 - 45 years old	12.71%
	45 - 55 years old	10.99%
	55 years old and above	5.85%
Education	Bachelor's degree	66.96%
	Master's degree	22.11%
	Doctoral degree	10.93%
Job Position	Customer Manager	45.09%
	Financial Manager	33.37%
	Lobby Manager	21.54%
Working Time	1 - 3 years	44.06%
	3 - 5 years	38.44%
	5 - 7 years	10.12%
	Over 7 years	7.38%

From Table 3.8, it can be seen that the maximum values of the measured variables are mostly 5, and the minimum values are mostly 1, which defines the sample performance space. The averages are mostly between 2.5 and 3.5, and the medians are mostly 3. The closeness of these two values indicates that the data distribution is relatively symmetrical. The variances are generally small, ranging from 0.01 to 0.17, reflecting low dispersion of the sample data and high performance consistency. Whether it is related to commercial products, commercial bank finance, urban commercial security, financial information technology, financial customer intentions, or financial performance variables, they all have such stable and

concentrated statistical characteristics, providing a reliable data basis for subsequent research.

Table 3.8 Descriptive Statistics of the Preliminary Survey

Latent variable	Measure variable	Max	Min	Mean	Med	Var
1. Financial Products	(1) Core Products	5	1	3.17	3	0.01
	(2) Product Master	4	1	2.89	3	0.01
	(3) Epitaxial lProducts	4	2	3.01	3	0.03
2. Financial Services	(1) Experience in Financial Services	4	2	2.99	3	0.01
	(2) Convenience in Financial Services	5	2	3.33	3.5	0
	(3) Professionalism in Financial Services	5	1	3.03	3	0.03
3. Financial Safety	(1) Quality of credit assets	3	2	2.47	2.5	0.13
	(2) Quality of off-balance sheet assets	5	1	2.96	3	0.01
	(3) Rate of deposit growth	5	1	3.11	3	0.17
4. Information Technology	(1) Product Digitization	4	1	2.63	2.5	0.06
	(2) Service Intelligence	5	2	3.42	3.5	0.03
	(3) Channel full-time	5	2	3.65	3.5	0.08
5. Customer loyalty	(1) Overall customer satisfaction	5	2	3.44	3.5	0.01
	(2) Willingness to repurchase	4	1	2.75	2.5	0.13
	(3) Possibility of recommending it to others	5	2	3.66	3.5	0.16

Table 3.8 (Continued)

Latent variable	Measure variable	Max	Min	Mean	Med	Var
6. Profitability improvement	(1) ROE (Return on Equity)	5	1	2.78	3	0.08
	(2) ROA (Return on Total Assets)	5	1	3.05	3	0.03
	(3) Net Profit	5	1	2.74	3	0.02
	(4) Cost-to-Income Ratio	5	2	3.37	3.5	0.03

As can be seen from Table 3.9, there are rather complex correlative relationships among the variables in each part. In the product-related part, for example, Core Products, Product master, and Epitaxial Products under part1 show a certain degree of positive correlation with each other, and the correlation coefficients range from 0.08 to 0.15, indicating that there may be some kind of connection in their business connotations. In the financial services section, the correlation coefficients among Experience, Convenience, and Professionalism involved in part2 are also quite significant, ranging from 0.11 to 0.30, which means that these service characteristics are closely related to and will influence each other. Looking at the part3 variables related to financial security, such as the quality of credit assets, the quality of Off - Balance Sheet Assets, and the Rate of Deposit Growth, there are also non-negligible correlations among them, with the coefficients mostly ranging from 0.02 to 0.38, showing the synergy in the changes of these security indicators. For the variables in part4 in the fintech dimension, the correlation coefficients of Product Digitization, Service Intelligence, and chaanel full - time suggest a linkage effect in the promotion of digital transformation. As for the variables in part5 related to customer intention, namely overall customer Satisfaction, willingness to repurchase, and possibility of recommending, the correlations are quite obvious, with the coefficients ranging from 0.15 to 0.94, meaning that customers' attitudes towards satisfaction,

Table 3.9 (Continued)

	part1 (1)	part1 (2)	part1 (3)	part2 (1)	part2 (2)	part2 (3)	part3 (1)	part3 (2)	part3 (3)	part4 (1)	part4 (2)	part4 (3)	part5 (1)	part5 (2)	part5 (3)	part6 (1)	part6 (2)	part6 (3)	part6 (4)
part4(1)Product Digitization	0.02*	0.08	0.05*	0.14*	0.12*	0.26*	0.22*	0.06*	0.12*	1.00*									
	*	*		*	**	*	*	*	*										
part4(2)Service Intelligence	0.14*	0.11	0.06*	0.24*	0.20*	0.13*	0.15*	0.12*	0.28*	0.04*	1.00								
	*	**		*	*	**	**	**	*	*									
part4(3)Channel full-time	0.08*	0.12	0.18*	0.26*	0.28*	0.07*	0.28*	0.14*	0.16*	0.24*	0.10*	1.00							
	**	*		*			*	**	*	*	**								
part5(1)Overall customer satisfaction	0.80*	0.74	0.80*	0.70*	0.78*	0.63*	0.85*	0.74*	0.77*	0.86*	0.74*	0.85*	1.00						
		*	*			*		**			*	*							
part5(2)Willingness to repurchase	0.94*	0.89	0.75*	0.80*	0.81*	0.68*	0.88*	0.75*	0.86*	0.72*	0.85*	0.66*	0.18*	1.00					
	*	***	*		*				*	*	*	*	**						
part5(3)Possibility of recommending it to others	0.39*	0.74	0.84*	0.72*	0.68*	0.69*	0.75*	0.64*	0.78*	0.76*	0.64*	0.85*	0.15*	0.18*	1.00				
	*	*	*	*	*	*	*	**	*	*	*	*	*	*					
part6(1)ROE (Return on Equity)	0.55*	0.81	0.66*	0.76*	0.86*	0.74*	0.65*	0.77*	0.66*	0.72*	0.55*	0.50*	0.88*	0.72*	0.88*	1.00			
		*		*	*	*	**	*	*	*			*	*	*				
part6(2)ROA (Return on Total Assets)	0.58*	0.73	0.59*	0.88*	0.74*	0.64*	0.55*	0.68*	0.84*	0.68*	0.64*	0.50*	0.78*	0.60*	0.68*	0.12*	1.00		
	*	**									*		*	*		*			
part6(3)Net Profit	0.88*	0.69	0.76*	0.59*	0.62*	0.88*	0.84*	0.53*	0.78*	0.57*	0.50*	0.76*	0.63*	0.56*	0.63*	0.16*	0.10*	1.00	
		***	**	*		*	*	*	*	*			*			*			
part6(4)Cost-to-Income Ratio	0.52*	0.73	0.84*	0.78*	0.77*	0.79*	0.73*	0.66*	0.56*	0.70*	0.82*	0.88*	0.74*	0.60*	0.74*	0.15*	0.12*	0.10*	1.00
	*	*				*	*		*	*	*		*	*		*	*	*	

2. Analysis of the components of the variables of urban commercial banks, the three variables of interest are the marketing decision-making model, customer loyalty, and profitability.

The statistics used to analyze the data are Confirmatory component analysis (confirmatory factors analysis--CFA) to confirm the constituent indicators of a small

business sustainable marketing model. This component analysis is divided into two steps: (1) second order confirmatory component analysis; (confirmatory factors analysis- second order--CFA) to confirm the question of each variable observed whether it is the indicator of the element to be measured or not. and to confirm the observed variables of each factor as to their constituents. The results in this step were applied in the second step. (2) Confirmatory component analysis from structural equation model analysis. This will be an analysis of all factors at the same time. The variables to be analyzed must have a correlation of not less than .30 to use the results in this section to further develop strategies.

3. Analysis of direct and indirect influences of urban commercial banks, the three variables of interest are the marketing decision-making model, customer loyalty, and profitability.

The statistics used to analyze the data are causal influence analysis (Path Analysis) of the Pathways Through Which the Marketing Decision-Making Model of Urban Commercial Banks Impacts Profitability Enhancement using structural equation modeling (-SEM).

4. The search for validate the effectiveness of the research hypothesis.

The pattern that was searched for will be the result of component analysis and causal influence analysis at the same time. It is an overall analysis of the model. whole measurement model and structural model (structural model), also known as (structural equation modeling--SEM). This model is a model that is adjusted in accordance with the empirical data (model fit). Therefore, the resulting model is a model that can be used. effective application in each factor there are variables that promote various factors. Each factor will have a causal influence on each other.

Structural equation model--SEM analysis

structural equation model analysis It is an advanced statistical technique for analyzing multivariate relationships. It has the advantage of being able to analyze linear relationships between latent variables, which general statistics cannot do. This is because structural equation models can relax the limitations of other types of analysis, such as regression analysis. where the original variable must not be

correlated but structural equation model analysis can relax this restriction, etc. A structural equation model consists of two parts: the structural model consists of the relationship paths between each latent variable. and measurement model (measurement model), which consists of observed variables of each latent variable. Therefore, structural equation model analysis can be performed as confirmatory factor analysis. (Confirmatory factors analysis--CFA) and causal influence analysis (path analysis--PA) at the same time. Suitable for proof-of-concept theories, which usually have a structure of variables as a causal model. Structural equation models can also perform other statistical analyses, such as multiple regression analysis. analysis of covariance, canonical analysis, etc. In analyzing the structural equation model, the analyst must first adjust the model to be consistent with the empirical data. So the various statistics can be used correctly. You can consider the acceptance criteria as shown in the values in Table3.10

Table 3.10 Criteria for agreeing on model conformity with empirical data.

Statistical values	Symbols	Acceptance Criteria	Reference
Chi-square	χ^2	-	
Degrees of freedom	Df	-	
Chi-square/ Degrees of freedom	χ^2/df	< 2	(Byrne (2016), Kline (2016))
probability	P-Value	>0.05	
Root means square error of approximation	RMSEA	<0.05	
Comparative Harmony Index (GFA)	CFI	>0.9	(Hu & Bentler (1999))
Tucker-Lewis (AGFI)	TLI	>0.9	
Square root index of standard residuals.	SRMR	<0.05	

Chapter 4

Results of Analysis

This research was to study the impact of product marketing decisions on the profitability enhancement of urban commercial banks. To this end, the structural equation model was predominantly adopted in this chapter. By integrating the collected sample data, which were carefully sourced via a rigorous sampling procedure, we aimed to dissect the underlying relationships. The data analysis results, which are to be presented hereinafter, not only uncover how these marketing decisions sway profitability but also serve to test the formulated research hypotheses. The data analysis result can be presented as follows:

1. Symbol and abbreviations
2. Presentation of data analysis
3. Results of data analysis

The details are as follows.

Statistical Symbol	English Name
$\bar{X}$	Mean (Average)
SD	Standard Deviation
n	Sample Size
MAX	Maximum
MIN	Minimum
SE	Standard Error
SK	Skewness
KU	Kurtosis
P-Value	P-Value
Mdn	Median
(X^2)	Chi-square
$(X^2)/df$	Chi-square to Degrees of Freedom Ratio

RMSEA	Root Mean Square Error of Approximation
CFI	Comparative Fit Index
TLI	Tucker-Lewis Index
SRMR	Standardized Root Mean Square Residual
Cronbach's α	Cronbach's Alpha
CR	Composite Reliability
AVE	Average Variance Extracted
FL	Factor Loading
HTMT	Heterotrait-Monotrait Ratio

Symbol and Abbreviations

1. Variable symbol

See Table 4.1. In each part, the first two letters of the symbols have specific meanings. For example, "PE" may be related to the core of products, and "PS" is related to product services, etc. The numbers are used to distinguish different variable dimensions under each part. For instance, in the part of urban commercial bank products, "PE1", "PE2", and "PE3" represent the aspects of core products, product overview, and derivative products respectively; in the part of bank services, "PS1", "PS2", and "PS3" correspond to the experience in financial services, convenience in financial services, and professionalism in financial services respectively; in the part of bank security, "PQ1", "PQ2", and "PQ3" represent the credit asset quality, off - balance sheet asset quality, and deposit growth rate respectively; in the part of information technology in the bank, "PT1", "PT2", and "PT3" refer to product digitization, service intelligence, and omni - channel integration respectively; in the part of bank customers, "PC1", "PC2", and "PC3" represent customer satisfaction, purchase intention, and willingness to recommend to others respectively; in the part of the profitability of urban commercial banks, "PP1", "PP2", "PP3", and "PP4" represent return on equity (ROE), return on assets (ROA), net profit, and cost - to - income ratio respectively. These symbols are used in the structural equation model to clearly identify each variable dimension and its category.

Table 4.1 Variable Symbol Settings

Variable	Symbol
Part 1 The urban Commercial Bank Financial Products	CPCB
(1) Core Products	CPAV
(2) Product Master	POAV
(3) Epitaxial lProducts	DPAV
Part 2 The urban Commercial Bank Financial Services	CBFS
(1) Experience in Financial Services	EFFSV
(2) Convenience in Financial Services	CFSV
(3) Professionalism in Financial Services	PFSV
Part 3 The urban Commercial Bank Financial Safety	SCCB
(1) Quality of credit assets	CAQV
(2) Quality of off-balance sheet assets	OBAQV
(3) Rate of deposit growth	DGRV
Part 4 The urban Commercial Bank information technology	FIT
(1) Product Digitization	PDV
(2) Service Intelligence	SIV
(3) Channel full-time	DGRV
Part 5 The urban Commercial Bank Customer loyalty	FCI
(1) Overall customer satisfaction	SV
(2) Willingness to repurchase	PIV
(3) Possibility of recommending it to others	WROV
Part 6 The urban Commercial Bank Profitability improvement	FP
(1) ROE (Return on Equity)	ROEV
(2) ROA (Return on Total Assets)	ROAV
(3) Net Profit	NPV
(4) Cost-to-Income Ratio	CIRV

2. Abbreviations of calculation symbols

Maximum (Max) is the largest value in a set of data.

Minimum (Min) represents the smallest value within a group of data.

Median (Med) refers to the middle value of a data set when the data is arranged in ascending or descending order.

Standard Deviation (SD) measures the amount of variation or dispersion of a set of values from its mean.

Variance (Var) is a measure of how far a set of numbers is spread out. It is the square of the standard deviation, indicating the degree of data dispersion around the mean.

Chi-square (χ^2): In statistics, it is often used to test the goodness-of-fit between observed data and theoretically expected data, and to assess whether there are significant associations among categorical variables. For example, in contingency table analysis, the chi-square value is calculated to determine whether two categorical variables are independent.

Degrees of freedom (df): Briefly speaking, it reflects the number of values that can vary freely when calculating a statistic. In different statistical tests, the calculation method of degrees of freedom varies. For instance, in a one-sample t-test, the degrees of freedom is the sample size minus 1, that is, and it plays a crucial role in determining the shape of the statistical distribution.

probability (P): It is a value used to measure the likelihood of a random event occurring, with a value range from 0 to 1. For example, when flipping a fair coin, the probability of getting heads is 0.5.

Root means square error of approximation (RMSEA): In statistical techniques such as structural equation modeling, it is an index for measuring the goodness of fit of the model. The smaller the RMSEA value, the higher the degree of fit between the model and the data. Usually, it is hoped that it is less than 0.08.

Comparative Harmony Index (GFA): It is one of the indices for evaluating the goodness of fit of the model, used to reflect the degree of agreement between the hypothesized model and the observed data. The higher the value, the better the fit.

Tucker-Lewis (AGFI): The Tucker-Lewis Index (AGFI) is a modified goodness-of-fit index. It assesses the degree to which the model fits the data while considering the parsimony of the model. The closer its value is to 1, the better the model fits.

Presentation of Data Analysis

1. Basic information of the sample

As can be seen from Table 4.1, In terms of gender, males account for 45.15% while females make up 54.85%, presenting a relatively balanced distribution. Regarding age, 35.12% are between 18 - 25 years old, 30.18% are 25 - 35 years old, 15.71% are 35 - 45 years old, 13.09% are 45 - 55 years old, and 5.90% are 55 years old and above, highlighting the relative youthfulness of the group. Educationally, 46.09% hold a Bachelor's degree, 32.11% have a Master's degree, and 21.80% possess a Doctoral degree, indicating a highly educated population. As for job positions, Customer Managers account for 42.18%, Financial Managers 33.03%, and Lobby Managers 24.79%. When it comes to working time, 43.67% have 1 - 3 years of experience, 38.44% have 3 - 5 years, 10.12% have 5 - 7 years, and 7.77% have over 7 years, suggesting that the majority are relatively new to the workforce. These characteristics combined offer valuable insights into the nature and composition of the studied population.

Table 4.2 Basic information of the sample

Feature	Details	Proportion
Gender	Male	45.15%
	Female	54.85%
	Total	100.00%
Age	18 - 25 years old	35.12%
	25 - 35 years old	30.18%
	35 - 45 years old	15.71%
	45 - 55 years old	13.09%

Table 4.2 (Continued)

Feature	Details	Proportion
	55 years old and above	5.90%
	Total	100.00%
Education	Bachelor's degree	46.09%
	Master's degree	32.11%
	Doctoral degree	21.80%
	Total	100.00%
Job Position	Customer Manager	42.18%
	Financial Manager	33.03%
	Lobby Manager	24.79%
	Total	100.00%
Working Time	1 - 3 years	43.67%
	3 - 5 years	38.44%
	5 - 7 years	10.12%
	Over 7 years	7.77%
	Total	100.00%

2. Sample Descriptive Statistical Analysis

The overall mean of core products is 3.706, which is at a relatively high level. This indicates that in the current market environment, the core products of commercial banks have been recognized to a certain extent on the whole. However, the standard deviation is approximately 1, suggesting that there are certain differences in the evaluations of core products by different samples. That is, the market's views on the core products of commercial banks are not completely consistent. The mean of "Core Products Aspect" is the highest, reaching 3.947. This reflects that commercial banks have performed quite well in the essential attributes of core products. They may have met the main market demands in core elements such as product innovation and functionality. The mean of "Product Overview

Aspect" is 3.709, indicating that although the overall introduction, promotion, and market awareness of products are also at a relatively high level, there is still some room for improvement compared to the attributes of the core products themselves. The mean of "Derivative Products Aspect" is 3.704, and the skewness is 1.005, showing a positive skewness distribution. This means that most samples' evaluations of derivative products are relatively concentrated at a high level, but there are also a few low evaluations. This may be related to the complexity, risk, and relatively low market awareness of derivative products. The kurtosis is -0.301, indicating that the data distribution is relatively flat, that is, the degree of dispersion of evaluations is relatively large.

The overall mean of Commercial Bank Financial Services is 3.802, which is at a relatively high level. The standard deviation is also approximately 1, indicating that there are certain differences in the evaluations among samples. This means that in terms of financial services, although the overall performance is good, different customers or market participants have diverse experiences and evaluations of financial services. The mean of "Convenience in Financial Services" is the highest, at 3.838, indicating that commercial banks have performed outstandingly in the convenience of financial services. They may have been recognized by customers in aspects such as the diversity of service channels and the convenient process of business handling. The mean of "Experience in Financial Services" is 3.764, suggesting that commercial banks have also achieved good results in the overall service experience of customers, but there is still room for improvement. They may need to further optimize service details to enhance customers' emotional experience. The mean of "Professionalism in Financial Services" is 3.804, and the skewness is 0.986, close to a normal distribution. This indicates that most samples' evaluations of the professionalism of financial services are relatively concentrated and at a high level, reflecting that commercial banks have been recognized by the market in terms of professional talent cultivation and service professionalism. The kurtosis is 0.988, indicating that the data distribution is slightly higher and sharper than the normal distribution, that is, the evaluations are relatively concentrated.

The overall mean of the Security of City Commercial Banks is 3.824, which is at a relatively high level. The standard deviation is approximately 1, indicating that in terms of security, city commercial banks perform well overall, but there are certain differences in the evaluations of different samples. The mean of "Off - Balance Sheet Asset Quality" is the highest, at 3.911. This shows that city commercial banks have performed remarkably in the management and control of off - balance sheet asset quality. They may have taken effective measures in risk management, asset allocation, etc. The mean of "Credit Asset Quality" is 3.761, indicating that although the credit asset quality is also at a relatively high level, some potential credit risks need to be paid attention to, and the credit evaluation and risk management system should be further strengthened. The mean of "Deposit Growth Rate" is 3.800, the skewness is 0.988, close to a normal distribution, and the kurtosis is 1.330. This indicates that the data distribution is relatively concentrated at a high level and is higher and sharper than the normal distribution. That is, most samples' evaluations of the deposit growth rate are relatively consistent and at a high level, reflecting that city commercial banks have achieved good results in attracting deposits.

The overall mean of Financial Information Technology is 3.676, which is at a relatively high level. The standard deviation is approximately 1, indicating that in the field of financial information technology, although the overall development trend is good, there is a certain degree of dispersion in the evaluations of different samples. The means of "Product Digitization", "Service Intelligence", and "Omni - channel Integration" are relatively close, at 3.641, 3.739, and 3.648 respectively. This shows that the various aspects of financial information technology are developing relatively evenly, without obvious weaknesses or outstanding advantages. Judging from the skewness and kurtosis, the data distribution of each aspect deviates from the normal distribution to a certain extent, indicating that in the application and development process of financial information technology, different samples have different feelings and evaluations, which may be related to the differences in the information technology investment, application effects, and market demands of different banks.

The overall mean of Financial Customer Intentions is 3.751, which is at a relatively high level. The standard deviation is approximately 1, indicating that customer intentions are at a relatively high level on the whole, but there are certain differences among different customers. The mean of "Satisfaction" is the highest, at 3.804, indicating that customers have a relatively high overall satisfaction with commercial banks, which may benefit from the comprehensive performance of commercial banks in products, services, etc. The mean of "Purchase Intention" is 3.656, indicating that although customers have a certain purchase intention, there is still room for improvement. Commercial banks may need to further optimize product design and marketing strategies to enhance customers' purchasing desire. The mean of "Willingness to Recommend to Others" is 3.791, and the skewness is 1.029, showing a positive skewness distribution. This means that most customers have a high willingness to recommend to others, but there are also a few customers with a low willingness. This may be related to factors such as customers' personalized needs and special experiences. The kurtosis is 0.389, indicating that the data distribution is relatively flat, that is, the degree of dispersion of the willingness to recommend is relatively large.

The overall mean of Financial Performance is 3.705, which is at a relatively high level. The standard deviation is approximately 1, indicating that in terms of financial performance, commercial banks perform well overall, but there are certain differences among different samples. The mean of "Cost - to - Income Ratio" is the highest, at 3.803. This may reflect that commercial banks have achieved a good balance between cost control and revenue management, or there are certain industry characteristics in the calculation and evaluation standards of the cost - to - income ratio. The means of "ROE (Return on Equity)", "ROA (Return on Assets)", and "Net Profit" are also at relatively high levels, but there are different degrees of skewness and kurtosis respectively, indicating that in different financial performance indicators, the data distribution deviates from the normal distribution, and there are differences among different banks in terms of profitability, asset utilization efficiency, etc.

Table 4.3 Sample statistical characteristics (n=467)

Latent variable	Measure variable	$\bar{X}$	S.D.	MIN	MAX	SK	KU	
1.Financial Products	(1) Core Products	3.947	1.000	5.000	0.943	-1.316	1.988	high level
	(2) Product Master	3.709	1.000	5.000	0.966	-0.548	-0.605	high level
	(3) Epitaxial lProducts	3.704	1.000	5.000	1.005	-0.761	-0.301	high level
	Total	3.706	1.000	5.000	0.863	-0.632	-0.027	high level
2.Financial Services	(1) Experience in Financial Services	3.764	1.250	5.000	0.998	-0.627	-0.544	high level
	(2) Convenience in Financial Services	3.838	1.000	5.000	0.828	-0.956	1.697	high level
	(3) Professionalism in Financial Services	3.804	1.000	5.000	0.986	-1.171	0.988	high level
	Total	3.802	1.083	5.000	0.793	-0.874	0.609	high level
3.Financial Safety	(1) Quality of credit assets	3.761	1.500	5.000	1.005	-0.749	-0.442	high level
	(2) Quality of off-balance sheet assets	3.911	1.000	5.000	0.865	-1.250	1.995	high level
	(3) Rate of deposit growth	3.800	1.000	5.000	0.988	-1.262	1.330	high level
	Total	3.824	1.167	5.000	0.790	-1.213	1.651	high level
4.Information Technology	(1) Product Digitization	3.641	1.000	5.000	0.944	-0.536	-0.430	high level
	(2) Service Intelligence	3.739	1.000	5.000	0.964	-0.846	0.084	high level

Table 4.3 (Continued)

Latent variable	Measure variable	$\bar{X}$	S.D.	MIN	MAX	SK	KU	
	(3) Channel full-time	3.648	1.000	5.000	0.979	-0.504	-0.291	high level
	Total	3.676	1.250	5.000	0.805	-0.670	0.238	high level
5.Customer loyalty	(1) Overall customer satisfaction	3.804	1.000	5.000	0.912	-1.117	1.238	high level
	(2) Willingness to repurchase	3.656	1.000	5.000	1.047	-1.113	0.717	high level
	(3) Possibility of recommending it to others	3.791	1.000	5.000	1.029	-0.901	0.389	high level
	Total	3.751	1.000	5.000	0.833	-1.124	1.034	high level
6.Profitability improvement	(1) ROE (Return on Equity)	3.592	1.250	5.000	1.049	-0.430	-0.920	high level
	(2) ROA (Return on Total Assets)	3.759	1.000	5.000	0.870	-1.025	1.585	high level
	(3) Net Profit	3.666	1.000	5.000	1.047	-1.004	0.365	high level
	(4) Cost-to-Income Ratio	3.803	1.000	5.000	0.952	-0.754	0.324	high level
	Total	3.705	1.188	5.000	0.798	-0.696	0.466	high level

Part 3: Analysis Results of the Underlying Mechanisms of the Core Products, Services, Security, Information Technology, Customer Loyalty and Financial Performance of City Commercial Banks

Dimension	Options		Loading Coefficient	R2	CR	AVE
Financial Products	CPA	-	0.787	0.619	0.828	0.616
	POA	-	0.793	0.629		
	DPA	-	0.774	0.599		
	Part1 (1)	CPA1	0.842	0.709	0.873	0.633
	Core Products	CPA2	0.795	0.632		
		CPA3	0.832	0.692		
		CPA4	0.705	0.497		
	Part1 (2)	POA1	0.785	0.616	0.87	0.626
	Product Master	POA2	0.822	0.676		
		POA3	0.786	0.618		
		POA4	0.772	0.596		
	Part1 (3)	DPA1	0.765	0.585	0.867	0.621
	Epitaxial	DPA2	0.804	0.646		
	lProducts	DPA3	0.765	0.585		
		DPA4	0.816	0.666		
	Chi-Square=59.064, df=51, Chi-Square/df=1.158, P=0.205,					
CFI=0.997, TLI=0.997, SRMR=0.024, RMSEA=0.018						

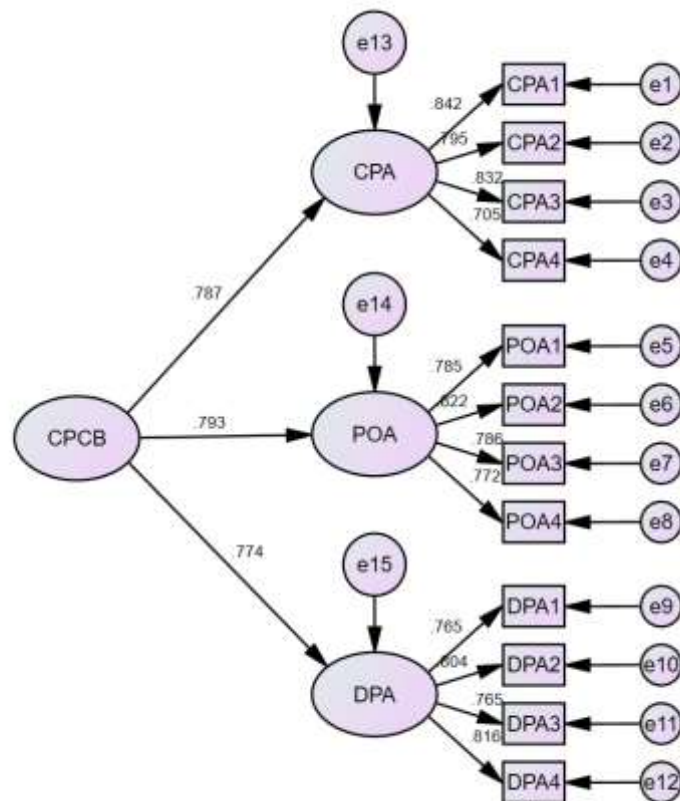


Figure 4.1 The Direct Impact Pathway Model of CPCB on CPA, POA and DPA

From Table 4.4, at the latent variable level, the CR value of "Core Products of Commercial Banks" is 0.828, which is higher than the generally accepted standard of 0.8. This indicates that the observed variables (CPA, POA, DPA) under this latent variable have a high degree of internal consistency, and they can jointly measure the latent concept of core products quite well. At the sub - dimension level, for example, the CR value of "Part1 (1) Core Products Aspect" is 0.873, the CR value of "Part1 (2) Product Overview Aspect" is 0.87, and the CR value of "Part1 (3) Derivative Products Aspect" is 0.867, all of which are higher than 0.8. This shows that the observed variables under each sub - dimension also have good internal consistency, and the measurement results are stable and reliable.

The AVE value of "Core Products of Commercial Banks" is 0.616, which is greater than the threshold of 0.5. This indicates that the observed variables of this latent variable can effectively explain most of its variance, and there is good

convergent validity. Among the sub - dimensions, the AVE value of "Part1 (1) Core Products Aspect" is 0.633, the AVE value of "Part1 (2) Product Overview Aspect" is 0.626, and the AVE value of "Part1 (3) Derivative Products Aspect" is 0.621, all of which are greater than 0.5. This shows that the observed variables under each sub - dimension also have good convergent validity, that is, the observed variables under the same dimension are effective in measuring that dimension.

The factor loading coefficients of the observed variables CPA, POA, and DPA under "Core Products of Commercial Banks" are 0.787, 0.793, and 0.774 respectively, all of which are greater than 0.7. This indicates that there is a strong correlation between these observed variables and the latent variable, that is, they can effectively reflect the latent concept of "Core Products of Commercial Banks". A higher factor loading means that the observed variables contribute more to the latent variable and can better explain the variation of the latent variable.

In "Part1 (1) Core Products Aspect", the factor loading coefficients of CPA1, CPA2, CPA3, and CPA4 are 0.842, 0.795, 0.832, and 0.705 respectively. Except that CPA4 is slightly lower than 0.75 (but still greater than 0.7), the others are relatively high, indicating that these observed variables can well reflect this sub - dimension of core product aspects. Among them, the factor loadings of CPA1 and CPA3 are relatively high, indicating that they are more representative in measuring the core product aspects.

In "Part1 (2) Product Overview Aspect", the factor loading coefficients of POA1, POA2, POA3, and POA4 are 0.785, 0.822, 0.786, and 0.772 respectively, all of which are quite ideal. This shows that these observed variables are effective in measuring this sub - dimension of product overview aspects, and the contributions of each observed variable are relatively balanced.

In "Part1 (3) Derivative Products Aspect", the factor loading coefficients of DPA1, DPA2, DPA3, and DPA4 are 0.765, 0.804, 0.765, and 0.816 respectively. This also indicates that these observed variables are effective in measuring this sub - dimension of derivative product aspects. Among them, the loadings of DPA2 and DPA4 are relatively high, playing a more important role in the measurement.

The Chi - Square/df value is 1.158. Generally, a ratio between 1 - 3 indicates a good model fit. Here, 1.158 shows that the model fit is good, that is, the difference between the theoretical model and the observed data is small. The Comparative Fit Index (CFI) value is 0.997, which is close to 1. Usually, a CFI greater than 0.9 indicates an acceptable model fit, and this value shows that the model fit is very high. The Tucker - Lewis Index (TLI) value is 0.997, also close to 1 and greater than the standard of 0.9, indicating that the model fit is good. The Standardized Root Mean Square Residual (SRMR) value is 0.024, which is less than the threshold of 0.08, indicating that the residual between the model predicted values and the observed values is small, and the model fit is high. The Root Mean Square Error of Approximation (RMSEA) value is 0.018, which is less than the good - fit standard of 0.05, further proving that the model fit is excellent, indicating that the theoretical model can well explain the observed data.

(2) Commercial Bank Financial Services

Table 4.5 Confirmatory Factors Analysis for Commercial Bank Financial Services

Dimension	Options		Loading Coefficient	R2	CR	AVE
Financial Services	EFS		0.815	0.664	0.845	0.645
	CFS		0.766	0.587		
	PFS		0.827	0.684		
	Part2 (1)	EFS1	0.711	0.506	0.858	0.602
	Experience in	EFS2	0.739	0.546		
	Financial	EFS3	0.81	0.656		
	Services	EFS4	0.838	0.702		
	Part2 (2)	CFS1	0.863	0.745	0.853	0.593
	Convenience	CFS2	0.807	0.651		
	in Financial	CFS3	0.727	0.529		
	Services	CFS4	0.67	0.449		

Table 4.5 (Continued)

Dimension	Options		Loading Coefficient	R2	CR	AVE
	Part2(3)	PFS1	0.862	0.743	0.886	0.66
	Professionalism	PFS2	0.814	0.663		
	in Financial	PFS3	0.771	0.594		
	Services	PFS4	0.799	0.638		

Chi-Square=66.156, df=51, Chi-Square/df=1.297
P=0.075, CFI=0.995, TLI=0.994, SRMR=0.024, RMSEA=0.025

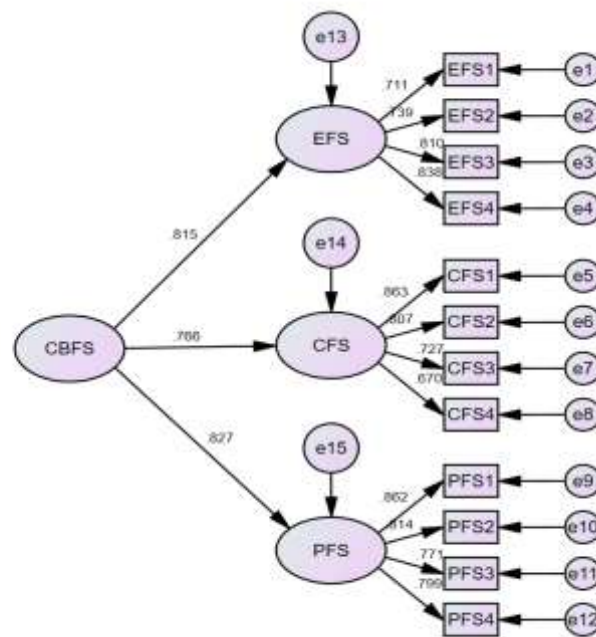


Figure 4.2 Standardized Path Coefficient Model of CBFS on EFS, CFS and PFS

Judging from Table 4.5, the CR value of "Commercial Bank Financial Services" is 0.845, which is higher than the standard value of 0.8. This indicates that the observed variables (EFS, CFS, PFS) under this latent variable have a high degree of internal consistency and can effectively jointly measure the latent concept of commercial bank financial services. At the sub - dimension level, the CR value of "Part 2 (1) Experience in Financial Services" is 0.858, the CR value of "Part2 (2)

Convenience in Financial Services" is 0.853, and the CR value of "Part2 (3) Professionalism in Financial Services" is 0.886, all of which are greater than 0.8. This shows that the observed variables under each sub - dimension also possess good internal consistency, and the measurement results are stable and reliable. This means that within each dimension, different observed indicators can obtain relatively consistent results when measuring the characteristics of that dimension, without significant deviations. Given the similarity between composite reliability and Cronbach's alpha coefficient in reflecting measurement stability, a high CR value implies good measurement stability for each dimension, that is, different observed variables are consistent in measuring the same concept.

From the perspective of data structure, by setting up observed variables in different aspects such as "Experience in Financial Services", "Convenience in Financial Services", and "Professionalism in Financial Services" to measure the latent variable of "Commercial Bank Financial Services", it comprehensively covers multiple important dimensions of commercial bank financial services to a certain extent, ensuring content validity to some degree and making the measurement content representative. The average variance extracted (AVE) of "Commercial Bank Financial Services" is 0.645, which is greater than the threshold of 0.5. This indicates that the observed variables of this latent variable can effectively explain most of the variance, and there is good convergent validity. Among the sub - dimensions, the AVE value of "Part 2 (1) Experience in Financial Services" is 0.602, the AVE value of "Part 2 (2) Convenience in Financial Services" is 0.593, and the AVE value of "Part 2 (3) Professionalism in Financial Services" is 0.66, all of which are greater than 0.5. This shows that the observed variables under each sub - dimension also have good convergent validity, that is, the observed variables within the same dimension are effective in measuring that dimension and can converge around the concept to be measured. Based on the overall good fit of the model (various fit indices are close to or meet the standards) and the high AVE values of each latent variable and dimension, it can be preliminarily inferred that there is good discrimination between each dimension, and there is a certain degree of discriminant validity. Because if the

discriminant validity between each dimension is poor, it will affect the goodness - of - fit of the model and the rationality of the AVE value.

The factor loading coefficients of the observed variables EFS, CFS, and PFS under "Commercial Bank Financial Services" are 0.815, 0.766, and 0.827 respectively, all of which are greater than 0.7. This indicates that there is a strong correlation between these observed variables and the latent variable, and they can effectively reflect the latent concept of "Commercial Bank Financial Services". A higher factor loading means that each observed variable has a strong explanatory power for the latent variable and contributes more to the variation of the latent variable.

In "Part 2 (1) Experience in Financial Services", the factor loading coefficients of EFS1, EFS2, EFS3, and EFS4 are 0.711, 0.739, 0.81, and 0.838 respectively, all of which are greater than 0.7. This shows that these observed variables can well reflect the sub - dimension of experience in financial services. Among them, the factor loadings of EFS3 and EFS4 are relatively high, indicating that they are more representative in measuring the experience in financial services and have a greater explanatory power for this dimension.

In "Part 2 (2) Convenience in Financial Services", the factor loading coefficients of CFS1, CFS2, CFS3, and CFS4 are 0.863, 0.807, 0.727, and 0.67 respectively. Except that CFS4 is slightly lower than 0.7, the rest are all greater than 0.7, indicating that these observed variables are generally effective in measuring the sub - dimension of convenience in financial services. CFS1 has the highest factor loading, indicating that it plays a more crucial role in measuring the convenience of financial services.

In "Part 2 (3) Professionalism in Financial Services", the factor loading coefficients of PFS1, PFS2, PFS3, and PFS4 are 0.862, 0.814, 0.771, and 0.799 respectively, all of which are greater than 0.7. This shows that these observed variables are effective in measuring the sub - dimension of professionalism in financial services. PFS1 has a relatively high factor loading, indicating that it is highly representative in measuring the professionalism of financial services.

The Chi - Square/df value is 1.297. Generally, when this ratio is between 1 - 3, the model fit is considered good. Here, 1.297 indicates that the model fit is relatively

ideal, that is, the difference between the theoretical model and the observed data is small, and the model can well explain the observed data.

The Comparative Fit Index (CFI) value is 0.995, which is close to 1. Usually, a CFI greater than 0.9 indicates that the model fit is acceptable. This value shows that the model fit is very high, indicating a good degree of fit between the theoretical model and the actual data. The Tucker - Lewis Index (TLI) value is 0.994, which is close to 1 and greater than the standard of 0.9, further proving that the model fit is good, and the model can reasonably reproduce the structure of the observed data. The Standardized Root Mean Square Residual (SRMR) value is 0.024, which is less than the threshold of 0.08, indicating that the residual between the model predicted values and the observed values is small, the model has a high degree of fit to the data, and the model's prediction effect is good. The Root Mean Square Error of Approximation (RMSEA) value is 0.025, which is less than the good - fit standard of 0.05, indicating that the model fit is excellent, the difference between the theoretical model and the observed data is extremely small, and the model can well fit the actual data. Overall, various fit indices indicate that this model performs outstandingly in explaining data related to commercial bank financial services.

(3) Security of City Commercial Banks

Table 4.6 Confirmatory Factors Analysis for Safety of City Commercial Banks

Dimension	Options		Loading Coefficient	R2	CR	AVE
Financial Safety	CAQ	-	0.746	0.557	0.826	0.613
	OBAQ	-	0.743	0.552		
	DGR	-	0.855	0.731		
	Part 3 (1)	CAQ1	0.696	0.484	0.862	0.61
	Quality of	CAQ2	0.814	0.663		
	credit assets	CAQ3	0.85	0.723		
		CAQ4	0.756	0.572		

Table 4.6 (Continued)

Dimension	Options		Loading Coefficient	R2	CR	AVE
Part 3 (2) Quality of off- balance sheet assets	OBAQ1		0.793	0.629	0.872	0.63
	OBAQ2		0.811	0.658		
	OBAQ3		0.765	0.585		
	OBAQ4		0.804	0.646		
Part 3 (3) Rate of deposit growth	DGR1		0.862	0.743	0.874	0.636
	DGR2		0.799	0.638		
	DGR3		0.768	0.590		
	DGR4		0.756	0.572		

Chi-Square=61.298, df=51, Chi-Square/df=1.202
P=0.153, CFI=0.997, TLI=0.996, SRMR=0.024, RMSEA=0.021

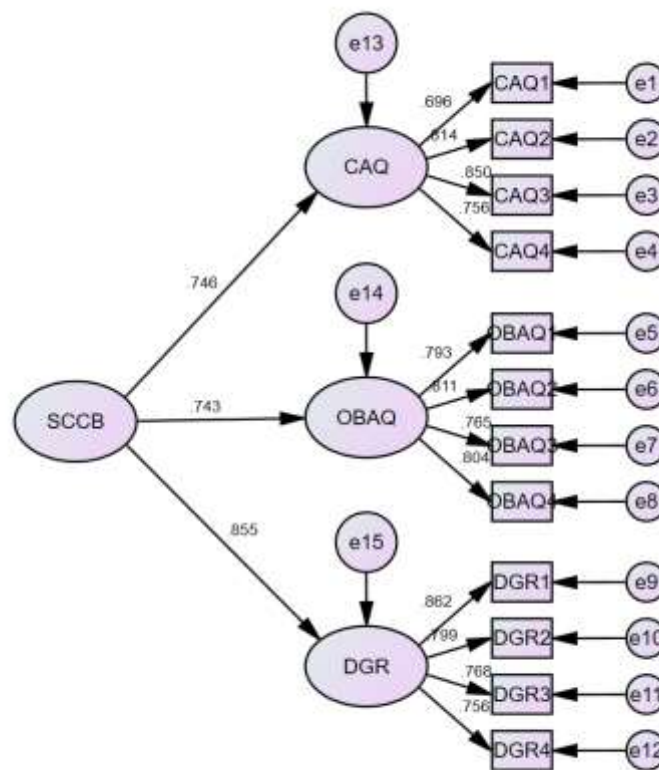


Figure 4.3 Standardized Path Coefficient Model of SCCB on CAQ, OBAQ and DGR

Judging from Table 4.6, the CR value of "Security of City Commercial Banks" is 0.826, which is higher than the threshold of 0.7. This indicates that the observed variables (CAQ, OBAQ, DGR) that make up this latent variable have a high degree of internal consistency. They can measure the latent concept of the security of city commercial banks relatively stably and consistently. At the sub - dimension level, the CR value of "Part3 (1) Credit Asset Quality" is 0.862, the CR value of "Part3 (2) Off - Balance Sheet Asset Quality" is 0.872, and the CR value of "Part3 (3) Deposit Growth Rate" is 0.874, all of which are greater than 0.7. This shows that the observed variables under each sub - dimension also possess good internal consistency, and the measurement results are reliable. That is, different observed variables can maintain stability in measuring their respective sub - dimensions without significant fluctuations. Since both composite reliability and Cronbach's alpha coefficient are used to measure the internal consistency of measurement tools, a high CR value implies good measurement stability for each dimension. That is, different observed variables within the same dimension have consistent measurement results for the dimension concept.

From the perspective of data structure, by setting up observed variables in multiple aspects such as "Credit Asset Quality", "Off - Balance Sheet Asset Quality", and "Deposit Growth Rate" to measure the latent variable of "Security of City Commercial Banks", it comprehensively covers the key dimensions of the security of city commercial banks. To a certain extent, it ensures content validity, making the measurement content representative and capable of reflecting various characteristics of the security of city commercial banks.

The average variance extracted (AVE) of "Security of City Commercial Banks" is 0.613, which is greater than the standard of 0.5. This indicates that the observed variables of this latent variable can effectively explain most of its variance, and there is good convergent validity. Among the sub - dimensions, the AVE value of "Part3 (1) Credit Asset Quality" is 0.61, the AVE value of "Part3 (2) Off - Balance Sheet Asset Quality" is 0.63, and the AVE value of "Part3 (3) Deposit Growth Rate" is 0.636, all of which are greater than 0.5. This means that the observed variables under each sub -

dimension also have good convergent validity. That is, the observed variables within the same sub - dimension can effectively converge around the concept to be measured in that sub - dimension, and are effective in measuring that sub - dimension. Based on the overall good fit of the model (all fit indices meet the standards) and the high AVE values of each latent variable and dimension, it can be preliminarily inferred that each dimension can be well - distinguished from others, and there is a certain degree of discriminant validity. Because if the discriminant validity between dimensions is poor, it will lead to poor model fit and abnormal AVE values.

The factor loading coefficients of the observed variables CAQ, OBAQ, and DGR under "Security of City Commercial Banks" are 0.746, 0.743, and 0.855 respectively, all of which are greater than 0.7. This indicates that there is a strong correlation between these observed variables and the latent variable, and they can effectively reflect the latent concept of "Security of City Commercial Banks". A higher factor loading means that each observed variable has a greater explanatory power for the variation of the latent variable and contributes more to the latent variable.

In "Part 3 (1) Credit Asset Quality", the factor loading coefficients of CAQ1, CAQ2, CAQ3, and CAQ4 are 0.696, 0.814, 0.85, and 0.756 respectively. Except that CAQ1 is slightly lower than 0.75, the others are relatively high, indicating that these observed variables can well reflect the sub - dimension of credit asset quality. Among them, the factor loading of CAQ3 is the highest, indicating that it is more representative in measuring credit asset quality and has a greater explanatory power for this dimension.

In "Part 3 (2) Off - Balance Sheet Asset Quality", the factor loading coefficients of OBAQ1, OBAQ2, OBAQ3, and OBAQ4 are 0.793, 0.811, 0.765, and 0.804 respectively, all of which are greater than 0.7. This shows that these observed variables are effective in measuring the sub - dimension of off - balance sheet asset quality. The factor loadings of each observed variable are relatively close, indicating that their contributions to this dimension are relatively balanced.

In "Part 3 (3) Deposit Growth Rate", the factor loading coefficients of DGR1, DGR2, DGR3, and DGR4 are 0.862, 0.799, 0.768, and 0.756 respectively, all of which are greater than 0.7. This shows that these observed variables are effective in measuring the sub - dimension of deposit growth rate. DGR1 has the highest factor loading, indicating that it plays a more crucial role in measuring the deposit growth rate.

The Chi - Square/df value is 1.202. Generally, a ratio between 1 - 3 indicates a good model fit. Here, 1.202 indicates that the model fit is good, that is, the difference between the theoretical model and the observed data is small, and the model can well explain the structure and patterns of the observed data. The Comparative Fit Index (CFI) value is 0.997, which is close to 1. Usually, a CFI greater than 0.9 indicates an acceptable model fit. This value shows that the model fit is very high, and the degree of fit between the theoretical model and the actual data is excellent. The Tucker - Lewis Index (TLI) value is 0.996, which is close to 1 and greater than the standard of 0.9, further proving that the model fit is good, and the model can reasonably reproduce the internal relationships of the observed data. The Standardized Root Mean Square Residual (SRMR) value is 0.024, which is less than the threshold of 0.08, indicating that the residual between the model predicted values and the observed values is small, the model has a high degree of fit to the data, and the model has strong predictive power. The Root Mean Square Error of Approximation (RMSEA) value is 0.021, which is less than the good - fit standard of 0.05, indicating that the model fit is excellent. There is almost no significant difference between the theoretical model and the observed data, and the model can well fit the actual data. Overall, all fit indices indicate that this model performs outstandingly in explaining data related to the security of city commercial banks and can provide a solid foundation for further research and analysis.

(4) Financial Information Technology

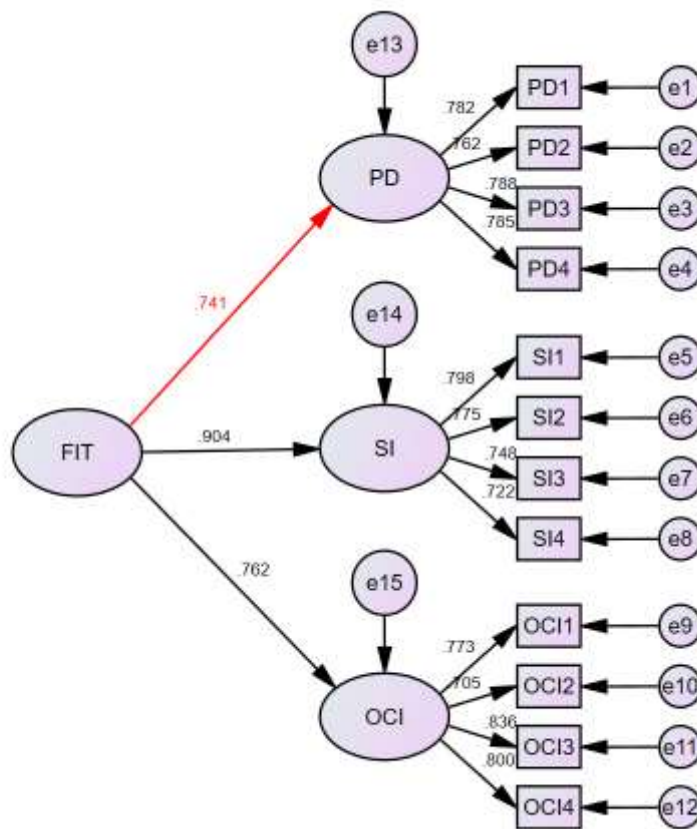


Figure 4.4 Standardized Path Coefficient Model of FIT on PD, SI and OCI

Judging from Table 4.7, the CR value of the latent variable "Financial Information Technology" is 0.846, which is higher than the common standard of 0.8. This indicates that the observed variables (PD, SI, OCI) that constitute this latent variable have a high degree of internal consistency. This means that when measuring the latent concept of financial information technology, these observed variables can work together relatively stably and provide consistent measurement results. At the sub - dimension level, the CR value of "Part 4 (1) Product Digitization" is 0.861, the CR value of "Part 4 (2) Service Intelligence" is 0.846, and the CR value of "Part4 (3) Omni - channel Integration" is 0.861, all of which are greater than 0.7. This shows that the observed variables under each sub - dimension also have good internal consistency and can reliably measure the corresponding sub - dimension concepts. For example, in the product digitization dimension, different observed variables (PD1, PD2, PD3,

PD4) are relatively consistent in measuring the degree of product digitization and will not show large deviations. Composite reliability is closely related to Cronbach's alpha coefficient. A high CR value implies that in the measurement of each dimension, different observed variables have good measurement stability for the same concept. That is, when using these observed variables to measure the corresponding concept, the consistency of multiple measurement results is high.

From the perspective of data structure, by setting up observed variables in different aspects such as product digitization, service intelligence, and omni - channel integration to measure "Financial Information Technology", it comprehensively covers the key areas of financial information technology. This design enables the measurement content to better represent multiple important dimensions of financial information technology in the operation of commercial banks, thus ensuring content validity to a certain extent.

The average variance extracted (AVE) of "Financial Information Technology" is 0.649, which is greater than the benchmark value of 0.5. This indicates that the observed variables of this latent variable can effectively explain most of its variance and have good convergent validity. This means that these observed variables are indeed measuring the same latent concept - financial information technology. Among the sub - dimensions, the AVE value of "Part 4 (1) Product Digitization" is 0.607, the AVE value of "Part 4 (2) Service Intelligence" is 0.58, and the AVE value of "Part 4 (3) Omni - channel Integration" is 0.608, all of which are greater than 0.5. This shows that the observed variables under each sub - dimension also have good convergent validity. That is, the observed variables within the same sub - dimension can effectively converge around the concept represented by that sub - dimension and are effective in measuring their respective sub - dimensions. For example, in the service intelligence sub - dimension, the observed variables SI1, SI2, SI3, and SI4 can effectively reflect the concept of service intelligence. Based on the overall good fit of the model (all fit indices meet the standards) and the high AVE values of each latent variable and dimension, it can be preliminarily inferred that there is good discrimination between each dimension and a certain degree of discriminant validity.

Because if the discriminant validity between dimensions is poor, the model fit will be affected and the AVE value may not reach an ideal level.

The factor loading coefficients of the observed variables PD, SI, and OCI under "Financial Information Technology" are 0.741, 0.904, and 0.762 respectively, all of which are greater than 0.7. This indicates that there is a strong correlation between these observed variables and the latent variable, and they can effectively reflect the latent concept of "Financial Information Technology". Among them, the factor loading coefficient of SI is as high as 0.904, indicating that the observed variable of service intelligence has a particularly outstanding ability to explain the variation of the latent variable of financial information technology and plays an important role in measuring the level of financial information technology.

In "Part 4 (1) Product Digitization", the factor loading coefficients of PD1, PD2, PD3, and PD4 are 0.782, 0.762, 0.788, and 0.785 respectively, all of which are greater than 0.7, indicating that these observed variables can well reflect the sub - dimension of product digitization. The factor loadings of each observed variable are relatively close, indicating that their contributions to the product digitization dimension are relatively balanced, and they jointly and effectively measure the degree of product digitization.

In "Part 4 (2) Service Intelligence", the factor loading coefficients of SI1, SI2, SI3, and SI4 are 0.798, 0.775, 0.748, and 0.722 respectively, all of which are greater than 0.7, indicating that these observed variables are effective in measuring the sub - dimension of service intelligence. Among them, the factor loading of SI1 is relatively high, indicating that it is more representative in measuring the degree of service intelligence.

In "Part 4 (3) Omni - channel Integration", the factor loading coefficients of OCI1, OCI2, OCI3, and OCI4 are 0.773, 0.705, 0.836, and 0.800 respectively, all of which are greater than 0.7, indicating that these observed variables are effective in measuring the sub - dimension of omni - channel integration. The factor loading of OCI3 is the highest, indicating that it plays a more crucial role in measuring omni - channel integration.

The Chi - Square/df value is 1.205, which is within the ideal range of 1 - 3, indicating that the model fit is good. This means that the difference between the theoretical model and the observed data is small, and the model can well explain the internal structure and relationships of the observed data. The Comparative Fit Index (CFI) value is 0.996, which is close to 1 and greater than the acceptable standard of 0.9, indicating that the model fit is very high. That is, the theoretical model can well fit the actual observed data, and the model has a strong ability to explain the data. The Tucker - Lewis Index (TLI) value is 0.995, which is close to 1 and greater than 0.9, further proving that the model fit is good. It shows that the model can reasonably reproduce the information and laws contained in the observed data. The Standardized Root Mean Square Residual (SRMR) value is 0.022, which is less than the threshold of 0.08, indicating that the residual between the model predicted values and the observed values is small. This means that the model has a high degree of fit to the data, and the model's prediction accuracy is good. The Root Mean Square Error of Approximation (RMSEA) value is 0.021, which is less than the good - fit standard of 0.05, indicating that the model fit is excellent. It shows that there is almost no significant difference between the theoretical model and the observed data, and the model can highly accurately reflect the actual situation.

Overall, based on these indicators, this model performs outstandingly in explaining data related to financial information technology, providing a reliable basis for further research on the application and impact of financial information technology in commercial banks.

(5) Financial Customer Intentions

Dimension	Options		Loading Coefficient	R2	CR	AVE
Customer loyalty	S	-	0.741	0.549	0.846	0.649
	PI	-	0.904	0.817		
	WRO	-	0.762	0.581		
	Part 5 (1)	S1	0.827	0.684	0.878	0.643
	Overall	S2	0.802	0.643		
	customer	S3	0.796	0.634		
	satisfaction	S4	0.783	0.613		
	Part 5 (2)	PI1	0.892	0.796	0.877	0.643
	Willingness to	PI2	0.793	0.629		
	repurchase	PI3	0.798	0.637		
		PI4	0.714	0.510		
	Part 5 (3)	WRO1	0.815	0.664	0.886	0.661
	Possibility of	WRO2	0.757	0.573		
	recommending	WRO3	0.871	0.759		
	it to others	WRO4	0.804	0.646		
	Chi-Square=57.145, df=51, Chi-Square/df=1.12					
P=0.258, CFI=0.998, TLI=0.998, SRMR=0.025, RMSEA=0.016						

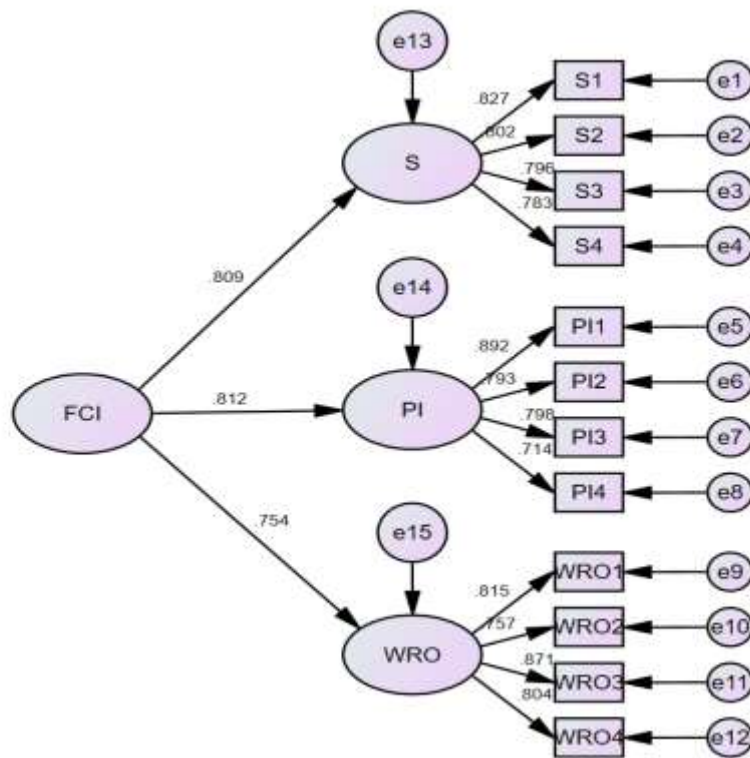


Figure 4.5 Standardized Path Coefficient Model of FCI on S, PI and WRO

Judging from Table 4.8, the CR value of the latent variable "Financial Customer Intentions" is 0.846, which is higher than the standard of 0.8. This indicates that the observed variables (S, PI, WRO) that make up this latent variable have a high degree of internal consistency. It means that when measuring the latent concept of financial customer intentions, these observed variables can work together stably and provide relatively consistent measurement results. At the sub - dimension level, the CR value of "Part 5 (1) Satisfaction" is 0.878, the CR value of "Part 5 (2) Purchase Intention" is 0.877, and the CR value of "Part 5 (3) Willingness to Recommend to Others" is 0.886, all of which are greater than 0.7. This shows that the observed variables under each sub - dimension also possess good internal consistency and can reliably measure their respective sub - dimension concepts. For example, in the satisfaction sub - dimension, the observed variables S1, S2, S3, S4 measure customer satisfaction relatively stably without significant fluctuations. Since composite

reliability and Cronbach's alpha coefficient are similar in reflecting measurement stability, a high CR value implies that in the measurement of each dimension, different observed variables have good measurement stability for the same concept. That is, when these observed variables are used multiple times to measure the corresponding concept, the obtained results have a high degree of consistency.

By setting up observed variables in different aspects such as satisfaction, purchase intention, and willingness to recommend to others to measure "Financial Customer Intentions", it comprehensively covers the key elements of financial customer intentions. This design enables the measurement content to better represent various intention manifestations of financial customers during their interaction with financial services, thus ensuring content validity to a certain extent.

The average variance extracted (AVE) of "Financial Customer Intentions" is 0.649, which is greater than 0.5. This indicates that the observed variables of this latent variable can effectively explain most of its variance and have good convergent validity. It shows that these observed variables are indeed measuring around the latent concept of financial customer intentions.

Among the sub - dimensions, the AVE value of "Part 5 (1) Satisfaction" is 0.643, the AVE value of "Part 5 (2) Purchase Intention" is 0.643, and the AVE value of "Part 5 (3) Willingness to Recommend to Others" is 0.661, all of which are greater than 0.5. This indicates that the observed variables under each sub - dimension also have good convergent validity. That is, the observed variables within the same sub - dimension can effectively converge around the concept represented by that sub - dimension and are effective in measuring their respective sub - dimensions. For example, in the purchase intention sub - dimension, the observed variables PI1, PI2, PI3, PI4 can effectively reflect customers' purchase intention.

Given that the overall model fit is good (all fit indices meet the standards) and the AVE values of each latent variable and dimension are high, it can be preliminarily inferred that there is good discrimination between each dimension and a certain degree of discriminant validity. Because if the discriminant validity between dimensions is poor, it will affect the model fit and the rationality of the AVE value.

The factor loading coefficients of the observed variables S, PI, WRO under "Financial Customer Intentions" are 0.741, 0.904, 0.762 respectively, all of which are greater than 0.7. This indicates that there is a strong correlation between these observed variables and the latent variable, and they can effectively reflect the latent concept of "Financial Customer Intentions". Among them, the factor loading coefficient of PI is as high as 0.904, indicating that the observed variable of purchase intention has a particularly outstanding ability to explain the variation of the latent variable of financial customer intentions and plays an important role in measuring financial customer intentions.

In "Part 5 (1) Satisfaction", the factor loading coefficients of S1, S2, S3, S4 are 0.827, 0.802, 0.796, 0.783 respectively, all of which are greater than 0.7, indicating that these observed variables can well reflect the sub - dimension of customer satisfaction. The factor loadings of each observed variable are relatively high and close to each other, indicating that their contributions to the customer satisfaction dimension are relatively balanced, and they jointly and effectively measure customer satisfaction.

In "Part 5 (2) Purchase Intention", the factor loading coefficients of PI1, PI2, PI3, PI4 are 0.892, 0.793, 0.798, 0.714 respectively, all of which are greater than 0.7, indicating that these observed variables are effective in measuring the sub - dimension of purchase intention. Among them, the factor loading of PI1 is the highest, indicating that it is more representative in measuring purchase intention.

In "Part 5 (3) Willingness to Recommend to Others", the factor loading coefficients of WRO1, WRO2, WRO3, WRO4 are 0.815, 0.757, 0.871, 0.804 respectively, all of which are greater than 0.7, indicating that these observed variables are effective in measuring the sub - dimension of willingness to recommend to others. The factor loading of WRO3 is the highest, indicating that it plays a more crucial role in measuring the willingness to recommend to others.

The Chi - Square/df value is 1.12, which is within the reasonable range of 1 - 3, indicating that the model fit is good. This means that the difference between the theoretical model and the observed data is small, and the model can well explain

the structure and relationships presented by the observed data. The Comparative Fit Index (CFI) value is 0.998, which is close to 1 and greater than the acceptable standard of 0.9, indicating that the model fit is very high. It shows that the theoretical model can well fit the actual observed data and has a strong ability to explain the data. The Tucker - Lewis Index (TLI) value is 0.998, which is close to 1 and greater than 0.9, further proving that the model fit is good. It means that the model can reasonably reproduce the information and laws contained in the observed data. The Standardized Root Mean Square Residual (SRMR) value is 0.025, which is less than the threshold of 0.08, indicating that the residual between the model predicted values and the observed values is small. This shows that the model has a high degree of fit to the data and the model's prediction accuracy is good. The Root Mean Square Error of Approximation (RMSEA) value is 0.016, which is less than the good - fit standard of 0.05, indicating that the model fit is excellent. It shows that there is almost no significant difference between the theoretical model and the observed data, and the model can highly accurately reflect the actual situation.

Overall, based on these indicators, this model performs outstandingly in explaining data related to financial customer intentions, providing a solid and reliable basis for in - depth research on the influencing factors and relationships of financial customer intentions.

(6) Financial Performance

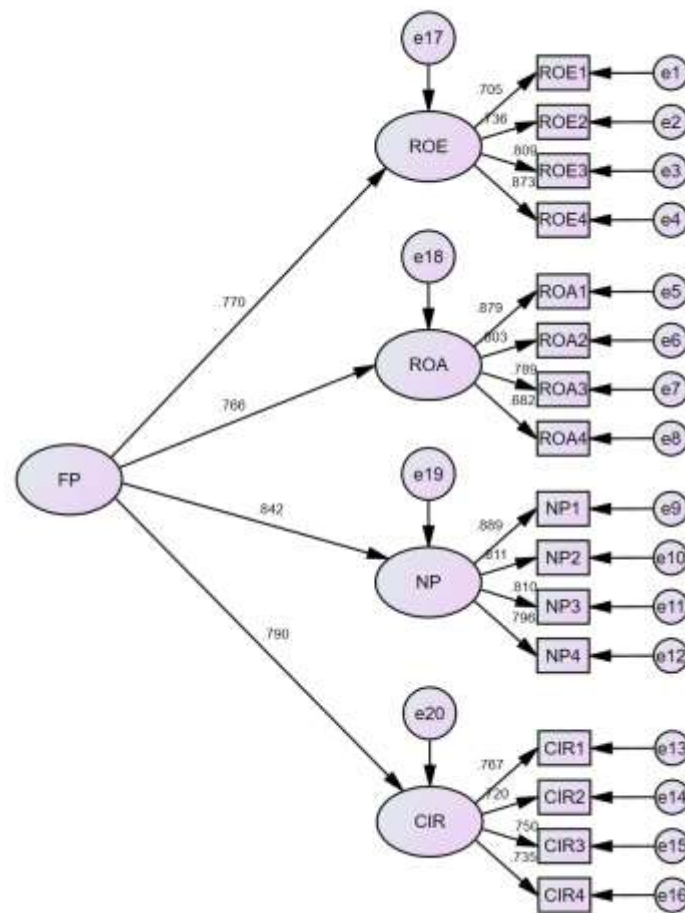


Figure 4.6 Standardized Path Coefficient Model of FP on ROE, ROA, NP and CIR

Judging from Table 4.9, the CR value of the latent variable "Financial Performance" is 0.871, which is higher than 0.8. This indicates that the observed variables (ROE, ROA, NP, CIR) that constitute this latent variable have a high degree of internal consistency. It means that when measuring the latent concept of financial performance, these observed variables can work together relatively stably and provide relatively consistent measurement results. The CR value of "Part 6 (1) ROE (Return on Equity)" is 0.863. The CR value of "Part 6 (2) ROA (Return on Assets)" is 0.869. The CR value of "Part 6 (3) Net Profit" is 0.896. The CR value of "Part 6 (4) Cost - to - Income Ratio" is 0.831. The CR values of all sub - dimensions are greater than 0.7, indicating that the observed variables under each sub - dimension also have good internal consistency and can reliably measure their respective sub - dimension

concepts. For example, in the "ROE" sub - dimension, the observed variables ROE1, ROE2, ROE3, ROE4 measure the return on equity relatively stably, and the consistency among different observed variables is high. Both composite reliability and Cronbach's alpha coefficient are used to evaluate the internal consistency of measurement tools. A high CR value implies that in the measurement of each dimension, different observed variables have good measurement stability for the same concept. That is, when these observed variables are used multiple times to measure the corresponding concept, the measurement results will be relatively consistent.

By setting up observed variables in multiple aspects such as return on equity, return on assets, net profit, and cost - to - income ratio to measure "Financial Performance", it comprehensively covers the key indicator areas of financial performance. This design enables the measurement content to better represent various characteristics of financial performance, thus ensuring content validity to a certain extent.

The average variance extracted (AVE) of "Financial Performance" is 0.628, which is greater than 0.5. This indicates that the observed variables of this latent variable can effectively explain most of its variance and have good convergent validity. It shows that these observed variables are indeed measuring around the latent concept of financial performance. The AVE value of "Part 6 (1) ROE" is 0.614. The AVE value of "Part 6 (2) ROA" is 0.626. The AVE value of "Part 6 (3) Net Profit" is 0.684. The AVE value of "Part 6 (4) Cost - to - Income Ratio" is 0.552. The AVE values of all sub - dimensions are greater than 0.5, indicating that the observed variables under each sub - dimension also have good convergent validity. That is, the observed variables within the same sub - dimension can effectively converge around the concept represented by that sub - dimension and are effective in measuring their respective sub - dimensions. Based on the relatively good overall model fit (all fit indices are close to or meet the standards) and the high AVE values of each latent variable and dimension, it can be preliminarily inferred that there is good discrimination between each dimension and a certain degree of discriminant validity.

Because if the discriminant validity between dimensions is poor, it will lead to poor model fit and abnormal AVE values.

The factor loading coefficients of the observed variables ROE, ROA, NP, CIR under "Financial Performance" are 0.77, 0.766, 0.842, 0.79 respectively, all of which are greater than 0.7. This indicates that there is a strong correlation between these observed variables and the latent variable, and they can effectively reflect the latent concept of "Financial Performance". Among them, the factor loading coefficient of NP is relatively high, at 0.842, indicating that the observed variable of net profit has a relatively outstanding ability to explain the variation of the latent variable of financial performance and plays a relatively important role in measuring financial performance.

In "Part 6 (1) ROE", the factor loading coefficients of ROE1, ROE2, ROE3, ROE4 are 0.705, 0.736, 0.809, 0.873 respectively, all of which are greater than 0.7, indicating that these observed variables can well reflect the sub - dimension of return on equity. The factor loading of ROE4 is the highest, indicating that it is more representative in measuring the return on equity.

In "Part 6 (2) ROA", the factor loading coefficients of ROA1, ROA2, ROA3, ROA4 are 0.879, 0.803, 0.789, 0.682 respectively. Except that ROA4 is slightly lower than 0.7, the rest are all greater than 0.7, indicating that these observed variables are generally effective in measuring the sub - dimension of return on assets. The factor loading of ROA1 is the highest, indicating that it plays a more crucial role in measuring the return on assets.

In "Part 6 (3) Net Profit", the factor loading coefficients of NP1, NP2, NP3, NP4 are 0.889, 0.811, 0.81, 0.796 respectively, all of which are greater than 0.7, indicating that these observed variables are effective in measuring the sub - dimension of net profit. The factor loading of NP1 is the highest, indicating that it is highly representative in measuring net profit.

In "Part 6 (4) Cost - to - Income Ratio", the factor loading coefficients of CIR1, CIR2, CIR3, CIR4 are 0.767, 0.720, 0.750, 0.735 respectively, all of which are greater than 0.7, indicating that these observed variables are effective in measuring the sub -

dimension of cost - to - income ratio. The factor loadings of each observed variable are relatively close, indicating that their contributions to the cost - to - income ratio dimension are relatively balanced.

The Chi - Square/df value is 1.235, which is between 1 - 3, indicating that the model fit is good. This means that the difference between the theoretical model and the observed data is small, and the model can well explain the structure and patterns of the observed data. The Comparative Fit Index (CFI) value is 0.994, which is close to 1 and greater than 0.9, indicating that the model fit is relatively high. It shows that the theoretical model can well fit the actual observed data and has a strong ability to explain the data. The Tucker - Lewis Index (TLI) value is 0.993, which is close to 1 and greater than 0.9, further proving that the model fit is good. It shows that the model can reasonably reproduce the information and internal relationships contained in the observed data. The Standardized Root Mean Square Residual (SRMR) value is 0.029, which is less than 0.08, indicating that the residual between the model predicted values and the observed values is small, the model has a high degree of fit to the data, and the model's prediction accuracy is good. The Root Mean Square Error of Approximation (RMSEA) value is 0.022, which is less than 0.05, indicating that the model fit is excellent. It shows that there is almost no significant difference between the theoretical model and the observed data, and the model can well reflect the actual situation.

Overall, based on these indicators, this model performs well in explaining data related to financial performance, providing a relatively reliable basis for further research on the influencing factors of financial performance and its relationships with other variables.

Table 4.10 (Continued)

	Part 1 (1)	Part 1 (2)	Part 1 (3)	Part 2 (1)	Part 2 (2)	Part 2 (3)	Part 3 (1)	Part 3 (2)	Part 3 (3)	Part 4 (1)	Part 4 (2)	Part 4 (3)	Part 5 (1)	Part 5 (2)	Part 5 (3)	Part 6 (1)	Part 6 (2)	Part 6 (3)	Part 6 (4)
part4(1)	.116	.233	.180	.207	.182	.155	.173	.141	.194	1									
Product Digitization	*	**	**	**	**	**	**	**	**										
part4(2)	.166	.171	.235	.281	.254	.259	.156	.124	.193	.570	1								
Service Intelligence	**	**	**	**	**	**	**	**	**	**									
part4(3)	.158	.239	.309	.311	.312	.285	.172	.137	.173	.488	.591	1							
Channel full-time	**	**	**	**	**	**	**	**	**	**	**	**							
part5(1)Overall	.217	.263	.312	.369	.297	.369	.257	.266	.361	.322	.369	.386	1						
customer satisfaction	**	**	**	**	**	**	**	**	**	**	**	**	**						
part5(2)Willingness to repurchase	.211	.291	.314	.326	.283	.338	.277	.281	.346	.322	.328	.334	.579	1					
	**	**	**	**	**	**	**	**	**	**	**	**	**	**					
part5(3)	.241	.220	.343	.326	.332	.378	.254	.280	.306	.288	.343	.370	.537	.532	1				
Possibility of recommending it to others	**	**	**	**	**	**	**	**	**	**	**	**	**	**	**				
part6(1)	.179	.260	.250	.300	.294	.295	.260	.237	.271	.269	.313	.317	.309	.376	.366	1			
ROE (Return on Equity)	**	**	**	**	**	**	**	**	**	**	**	**	**	**	**	**			
part6(2)	.328	.353	.396	.327	.336	.321	.295	.274	.318	.312	.325	.396	.386	.389	.394	.507	1		
ROA (Return on Total Assets)	**	**	**	**	**	**	**	**	**	**	**	**	**	**	**	**	**		
part6(3)	.203	.331	.324	.317	.305	.331	.295	.273	.309	.290	.293	.332	.325	.382	.352	.573	.591	1	
Net Profit	**	**	**	**	**	**	**	**	**	**	**	**	**	**	**	**	**	**	
part6(4)	.265	.270	.290	.334	.347	.357	.259	.274	.338	.245	.310	.323	.369	.364	.409	.551	.514	.564	1
Cost-to-Income Ratio	**	**	**	**	**	**	**	**	**	**	**	**	**	**	**	**	**	**	**

Note: *, ** and *** denote significance levels of less than 1%, 5% and 10% respectively.

Judging from Table 4.10, there is a strong positive correlation among "Core Products" (part1(1)), "Product master" (part1(2)), and "Epitaxial Products" (part1(3)) (the correlation coefficients are 1, 0.545, 0.527; 0.545, 1, 0.534; 0.527, 0.534, 1 respectively). This indicates that different aspects of commercial banks' core products are closely linked. An improvement in one core product attribute may be accompanied by an enhancement of other related product attributes. For example, the optimization of core product performance (part1(1)) is often associated with the improvement of overall product control (part1(2)) and the characteristics of epitaxial products (part1(3)).

There is a significant positive correlation between each pair of "Experience" (part2(1)), "Convenience" (part2(2)), and "Professionalism" (part2(3)) (the correlation coefficient ranges from 0.186 to 0.597). This shows that in commercial bank financial services, the improvement of customer experience, the increase in service convenience, and the enhancement of service professionalism complement each other. For instance, more convenient services (part2(2)) usually come with a better customer experience (part2(1)) and higher service professionalism (part2(3)).

There is also an obvious positive correlation among "quality of credit assets" (part3(1)), "quality of Off - Balance Sheet Assets" (part3(2)), and "Rate of Deposit Growth" (part3(3)) (the correlation coefficient ranges from 0.173 to 0.561). This indicates that there is a synergistic effect among the improvement of credit asset quality, the enhancement of off - balance sheet asset quality, and the increase in the deposit growth rate. For example, good credit asset quality (part3(1)) helps to enhance the bank's reputation, which may in turn promote deposit growth (part3(3)).

There is a certain degree of positive correlation among "Product Digitization" (part4(1)), "Service Intelligence" (part4(2)), and "channel full - time" (presumably "Omni - channel Integration" in part4(3)) (the correlation coefficient ranges from 0.116 to 0.591). This shows that different aspects of financial information technology, such as product digitization, service intelligence, and omni - channel integration, promote each other. For example, the advancement of product digitization (part4(1)) may

provide a foundation for service intelligence (part4(2)) and omni - channel integration (part4(3)).

There is a strong positive correlation among "overall customer Satisfaction" (part5(1)), "willingness to repurchase" (presumably "willingness to repurchase" in part5(2)), and "possibility of recommending" (part5(3)) (the correlation coefficient ranges from 0.532 to 0.579). This means that an increase in customer satisfaction significantly increases the customer's willingness to repurchase and the likelihood of recommending to others. For example, satisfied customers (part5(1)) are more likely to repurchase bank products or services (part5(2)) and recommend them to others (part5(3)).

There is a widespread positive correlation among "ROE (Return on Equity)" (part6(1)), "ROA (Return on Assets)" (part6(2)), "Net Profit" (part6(3)), and "Cost - to - Income Ratio" (part6(4)) (the correlation coefficient ranges from 0.237 to 0.591). This indicates that various financial performance indicators of the bank influence each other. For example, an increase in return on equity (ROE) may be accompanied by the growth of return on assets (ROA) and net profit, and may also be related to the optimization of the cost - to - income ratio.

There is also a certain degree of correlation between different major dimensions. For example, there is a significant positive correlation between the core product dimension (part1) and the financial service dimension (part2), the security dimension (part3), the financial information technology dimension (part4), the financial customer intention dimension (part5), and the financial performance dimension (part6). This shows that the quality of core products has an impact on all aspects of the bank's operations. Similarly, there is generally a positive correlation between the financial service dimension and other dimensions, indicating that high - quality financial services have a positive effect on the overall operation and performance of the bank.

The positive correlations within each dimension and between different dimensions indicate that the operation of commercial banks is an interconnected system. Investments and improvements in aspects such as core products, financial

services, security, financial information technology, customer intentions, and financial performance may generate a synergistic effect, jointly promoting the development of the bank.

The close connection between the customer - intention - related dimensions emphasizes the importance of a customer - centered business philosophy. Meeting customer needs and improving customer satisfaction can not only directly affect customers' repurchase intentions and referral behaviors, but may also have a profound impact on the long - term development of the bank by influencing other dimensions, such as financial performance. Therefore, banks should focus on enhancing the customer experience to achieve sustainable development.

The correlation between the security dimension and the financial performance dimension reminds banks that while pursuing financial performance, they must attach importance to risk management. Good asset quality and reasonable deposit growth help maintain the stable operation of the bank, thus providing a guarantee for the improvement of financial performance. Ignoring security may lead to potential risks, ultimately affecting financial performance.

Given the extensive connections between the dimensions, banks should adopt a comprehensive development strategy when formulating strategies. They should not only focus on the improvement of one aspect, but should consider multiple aspects such as core product innovation, financial service optimization, security assurance, financial information technology upgrading, customer intention management, and financial performance improvement, to achieve overall coordinated development.

These correlation data provide strong support for banks' decision - making. Banks can further analyze these relationships to identify key driving factors, such as which core product attributes have the greatest impact on customer satisfaction, and which financial service links are the most critical for improving financial performance, so as to allocate resources more targeted and make more effective decisions.

Since the banking business environment is constantly changing, the relationships between the dimensions may also change over time. Therefore, banks

need to establish a continuous monitoring mechanism, regularly evaluate these correlations, and adjust strategies in a timely manner to adapt to market changes and maintain a competitive edge.

1. Path Analysis

Table 4.11 Direct path

Path	Path Coefficient (standardized)	Unstandardized	S.E.	T	P
FCI<---CPCB	0.14	0.147	0.061	2.392	0.017
FCI<---CBFS	0.244	0.221	0.058	3.81	***
FCI<---SCCB	0.256	0.253	0.06	4.251	***
FCI<---FIT	0.377	0.405	0.064	6.284	***
FP<---CPCB	0.189	0.215	0.066	3.269	0.001
FP<---CBFS	0.158	0.155	0.062	2.487	0.013
FP<---SCCB	0.163	0.175	0.065	2.678	0.007
FP<---FIT	0.213	0.247	0.075	3.309	***
FP<---FCI	0.256	0.278	0.09	3.073	0.002

Judging from Table 4.11, the standardized path coefficient of “CPCB” (presumably representing Core Products of Commercial Banks) on “FCI” is 0.14. This indicates that, when controlling other variables, for every one - standard - deviation increase in “CPCB”, “FCI” will increase by 0.14 standard - deviations. It shows that the core products of commercial banks have a positive impact on financial customer intentions, but the degree of impact is relatively small. The standardized path coefficient of “CBFS” (presumably representing Commercial Bank Financial Services) on “FCI” is 0.244. It means that for every one - standard - deviation change in “CBFS”, “FCI” will change by 0.244 standard - deviations, indicating that the positive impact of commercial bank financial services on financial customer intentions is more

significant than that of core products. The standardized path coefficient of “SCCB” (presumably representing Security of City Commercial Banks) on “FCI” is 0.256. This shows that the security of city commercial banks also has a positive impact on financial customer intentions, and the degree of impact is similar to that of financial services. The standardized path coefficient of “FIT” (presumably representing Financial Information Technology) on “FCI” is as high as 0.377. This indicates that the positive impact of financial information technology on financial customer intentions is the most intense. That is, for every one - standard - deviation improvement in financial information technology, the increase in financial customer intentions is relatively large.

The standardized path coefficient of “CPCB” on “FP” is 0.189, indicating that the core products of commercial banks have a positive impact on financial performance. That is, the improvement of core products will, to a certain extent, promote the improvement of financial performance. The standardized path coefficient of “CBFS” on “FP” is 0.158, suggesting that commercial bank financial services also have a positive impact on financial performance, but the degree of impact is slightly weaker than that of core products. The standardized path coefficient of “SCCB” on “FP” is 0.163, showing that the security of city commercial banks also has a positive impact on financial performance, and the degree of impact is similar to that of financial services. The standardized path coefficient of “FIT” on “FP” is 0.213, meaning that financial information technology has a positive promoting effect on financial performance, and the degree of impact is slightly stronger than the previous three. The standardized path coefficient of “FCI” on “FP” is 0.256, indicating that financial customer intentions have a positive impact on financial performance, and the degree of impact is relatively high. This shows that factors such as customers' intentions and satisfaction with the bank play a relatively important role in the bank's financial performance.

In hypothesis testing, a significance level of $P < 0.05$ is usually adopted. From the data, except that the P - value of “FCI $\leftarrow$ CPCB” is 0.017, the P - value of “FP $\leftarrow$ CBFS” is 0.013, the P - value of “FP $\leftarrow$ SCCB” is 0.007, and the P - value of “FP $\leftarrow$ ---

FCI” is 0.002, the P - values of other paths are marked as “***”, indicating $P < 0.001$. This means that the coefficients of all paths are statistically significant, that is, the relationships between these variables are not accidental but real.

The T - value is used to measure the significance of the path coefficient. Generally, the larger the T - value, the smaller the corresponding P - value, and the more significant the path coefficient. For example, in the path from “FIT” to “FCI”, the T - value is 6.284, indicating that the significance of this path coefficient is extremely high, that is, the impact of financial information technology on financial customer intentions is very significant.

The analysis results show that the core products, financial services, security, and financial information technology of commercial banks all have significant positive impacts on financial customer intentions and financial performance. This emphasizes the importance of the coordinated development of multiple aspects in the bank's operation process.

The relatively large impact of financial information technology on financial customer intentions and financial performance suggests that banks should increase investment and innovation in financial information technology. By enhancing capabilities in aspects such as product digitization, service intelligence, and omni - channel integration, not only can customer satisfaction and intentions be directly improved, but also the growth of financial performance can be indirectly promoted.

The significant positive impact of financial customer intentions on financial performance further highlights the importance of the customer - centered business philosophy. Banks need to optimize the above - mentioned various aspects to enhance customers' experience and satisfaction, and then achieve the improvement of financial performance through the intermediate bridge of customer intentions.

Table 4.12 Intermediation Test

Path		Effect	S.E.	Bias-corrected 95%CI		
				Lower	Upper	P
CPCB_FCI_FP	Indirect effects	0.036	0.023	0.004	0.101	0.016
CPCB_FP	Direct effect	0.189	0.059	0.069	0.3	0.003
CPCB_FP	Total effect	0.225	0.06	0.106	0.34	0.001
CBFS_FCI_FP	Indirect effects	0.062	0.031	0.016	0.145	0.006
CBFS_FP	Direct effect	0.158	0.065	0.034	0.287	0.013
CBFS_FP	Total effect	0.22	0.064	0.096	0.346	0.001
SCCB_FCI_FP	Indirect effects	0.065	0.033	0.018	0.147	0.006
SCCB_FP	Direct effect	0.163	0.067	0.029	0.293	0.014
SCCB_FP	Total effect	0.228	0.063	0.104	0.351	0
FIT_FCI_FP	Indirect effects	0.097	0.045	0.028	0.21	0.006
FIT_FP	Direct effect	0.213	0.076	0.057	0.356	0.007
FIT_FP	Total effect	0.309	0.059	0.193	0.423	0

Judging from Table 4.12, the indirect effect of “CPCB_FCI_FP” is 0.036. This means that the indirect impact of the core products of commercial banks (CPCB) on financial performance (FP) through influencing financial customer intentions (FCI) is 0.036. Its standard error (S.E.) is 0.023, the bias - corrected 95% confidence interval (Bias - corrected 95%CI) is [0.004, 0.101], and the P - value is 0.016, indicating that this indirect effect is statistically significant. This shows that part of the impact of core products on financial performance is achieved by influencing customer intentions. The indirect effect of “CBFS_FCI_FP” is 0.062, indicating that the indirect impact of commercial bank financial services (CBFS) on financial performance through financial customer intentions is relatively larger than that of core products. The standard error is 0.031, the 95% confidence interval is [0.016, 0.145], and the P - value is 0.006, which is significantly non - zero, showing that this indirect effect is significant. The indirect effect of “SCCB_FCI_FP” is 0.065, indicating that the indirect impact of the

security of city commercial banks (SCCB) on financial performance through financial customer intentions is also quite obvious. The standard error is 0.033, the 95% confidence interval is [0.018, 0.147], and the P - value is 0.006, also showing that this indirect effect is significant. The indirect effect of “FIT_FCI_FP” is 0.097. Among these factors, the indirect impact of financial information technology (FIT) on financial performance through financial customer intentions is the largest. The standard error is 0.045, the 95% confidence interval is [0.028, 0.21], and the P - value is 0.006, indicating that this indirect effect is significant. This further emphasizes that financial information technology not only has a strong direct impact on financial customer intentions but also has a large indirect impact on financial performance through customer intentions.

The direct effect of “CPCB_FP” is 0.189, meaning that the direct impact of the core products of commercial banks on financial performance is 0.189. The standard error is 0.059, the 95% confidence interval is [0.069, 0.3], and the P - value is 0.003, indicating that this direct effect is significant, that is, core products directly have a positive promoting effect on financial performance. The direct effect of “CBFS_FP” is 0.158, indicating that the direct impact of commercial bank financial services on financial performance is slightly smaller than that of core products. The standard error is 0.065, the 95% confidence interval is [0.034, 0.287], and the P - value is 0.013, indicating that this direct effect is significant. The direct effect of “SCCB_FP” is 0.163, which is the direct impact of the security of city commercial banks on financial performance. The standard error is 0.067, the 95% confidence interval is [0.029, 0.293], and the P - value is 0.014, showing that this direct effect is significant. The direct effect of “FIT_FP” is 0.213, indicating that the direct impact of financial information technology on financial performance is relatively large. The standard error is 0.076, the 95% confidence interval is [0.057, 0.356], and the P - value is 0.007, indicating that this direct effect is significant.

The total effect of “CPCB_FP” is 0.225, which is the sum of the direct effect (0.189) and the indirect effect (0.036), reflecting the overall impact degree of core products on financial performance. The standard error is 0.06, the 95% confidence

interval is [0.106, 0.34], and the P - value is 0.001, indicating that the total effect is significant. The total effect of “CBFS_FP” is 0.22, which is the sum of the direct effect (0.158) and the indirect effect (0.062), reflecting the overall impact of financial services on financial performance. The standard error is 0.064, the 95% confidence interval is [0.096, 0.346], and the P - value is 0.001, indicating that the total effect is significant. The total effect of “SCCB_FP” is 0.228, which consists of the direct effect (0.163) and the indirect effect (0.065), demonstrating the overall impact of security on financial performance. The standard error is 0.063, the 95% confidence interval is [0.104, 0.351], and the P - value is 0 (less than the common significance level), indicating that the total effect is significant. The total effect of “FIT_FP” is 0.309, which is the sum of the direct effect (0.213) and the indirect effect (0.097), showing that the overall impact of financial information technology on financial performance is the largest. The standard error is 0.059, the 95% confidence interval is [0.193, 0.423], and the P - value is 0, indicating that the total effect is significant.

The results show that the impacts of the core products, financial services, security, and financial information technology of commercial banks on financial performance include both direct effects and indirect effects through financial customer intentions. When formulating strategies, banks should not only pay attention to the direct promoting effects of these factors on financial performance but also attach importance to their indirect effects on financial performance through influencing customer intentions. Whether it is the direct effect or the indirect effect through customer intentions, the impact of financial information technology on financial performance is quite prominent. Banks should continuously increase investment in financial information technology, promote product digitization, service intelligence, and omni - channel integration to fully exert its role in improving financial performance. Financial customer intentions play an important mediating role in the relationships between core products, financial services, security, financial information technology, and financial performance. Banks should always adhere to the customer - centered concept, optimize the above - mentioned aspects to enhance customer intentions, and thus achieve the improvement of financial

performance. Given the multi - faceted impacts of various factors on financial performance, banks need to comprehensively and coordinately develop core products, financial services, security, and financial information technology to form a joint force to maximize the improvement of financial performance. At the same time, continuously monitor the changes in the effects of these factors to adjust strategies in a timely manner.

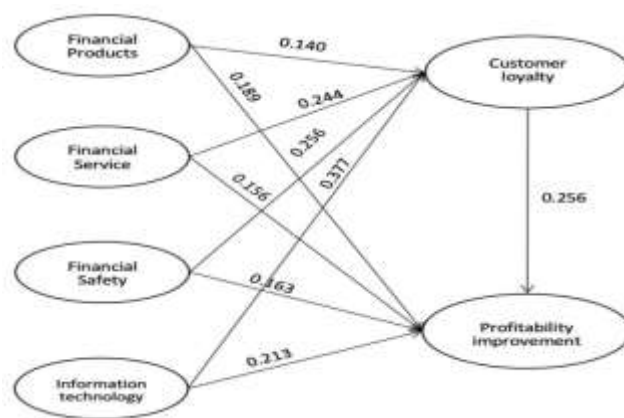


Figure 4.7 Results find a model for enhancing the financial performance of city commercial banks.

The statistics used to analyze the data is Structural Equation Modeling—SEM (including Model Fitting Analysis).

2. SEM

Model fitting

Table 4.13 Model Fit Tests

Goodness-of-fit parameters	CMIN	DF	CMIN/DF	p	GFI	IFI	TLI	CFI	RMSEA	SRMR
Result	150.391	137	1.098	0.205	0.966	0.996	0.995	0.996	0.015	0.03
Standard			<3		>0.9	>0.9	>0.9	>0.9	<0.05	<0.05

Judging from Table 4.12, the Chi - Square value (CMIN) is 150.391. It reflects the degree of difference between the theoretical model and the observed data. The smaller the Chi - Square value, the better the model fits the data. However, the Chi - Square value is greatly affected by the sample size and the complexity of the model. The degree of freedom (DF) is 137, which is related to the number of parameters estimated in the model and the number of observed variables. The ratio of Chi - Square to degree of freedom (CMIN/DF) is 1.098. This ratio is an important indicator. Generally, a value less than 3 is recommended to indicate a good model fit. Here, the value of 1.098 is far less than 3, indicating that the model fits the data very well, that is, the theoretical model can well explain the variance and covariance structure in the observed data. The p - value is 0.205. Usually, in hypothesis testing, when $p > 0.05$, we cannot reject the null hypothesis, that is, we consider that there is no significant difference between the model and the data. From this perspective, it also shows that the model fits well.

The Goodness - of - Fit Index (GFI) is 0.966, which is greater than the standard value of 0.9. This indicates that the model can explain most of the variance in the observed data, and the model fits well. GFI is similar to R^2 in multiple regression, measuring the overall fit of the model to the data.

The Comparative Fit Index (CFI) is 0.996, which is greater than the standard of 0.9. This shows that compared with the independence model, the fit of the model has been significantly improved, and the model fit is very good. The Incremental Fit Index (IFI) is 0.996, also greater than 0.9. Similar to CFI, IFI is also used to compare the goodness - of - fit of the model with the independence model. This value indicates that the model performs outstandingly in fitting the data. The Tucker - Lewis Index (TLI) is 0.995, which is greater than 0.9. TLI is also an important indicator for evaluating the goodness - of - fit of the model. It makes certain adjustments to the parsimony of the model. This value indicates that the model fits well.

The Root Mean Square Error of Approximation (RMSEA) is 0.015, which is less than the standard of 0.05, indicating that the approximation error of the model is small, and the model fit is excellent. RMSEA takes into account the complexity of

Figure 4.8 Integrated Structural Model with Standardized Path Coefficients

Table 4.14 Summary of Hypothesis

Hypothesis	Results
H1: Product innovation in urban commercial banks has a significant positive effect on the enhancement of profitability.	Accepted
H2: Urban commercial banks' services have a significant positive impact on improving profitability.	Accepted
H3: Urban commercial banks' operational risks have a significant positive impact on the enhancement of profitability.	Accepted
H4: Urban commercial banks' information technology has a significant positive impact on enhancing their profitability	Accepted
H5: Customer loyalty of urban commercial banks plays a mediating role between product innovation and capability enhancement.	Accepted
H6: Customer loyalty of urban commercial banks plays a mediating role between service and capability enhancement.	Accepted
H7: The customer loyalty of urban commercial banks plays a mediating effect between security and capability enhancement.	Accepted
H 8: The customer loyalty of urban commercial banks plays a mediating effect between information technology and capability enhancement.	Accepted
H 9: The customer loyalty in urban commercial banks has a significant positive effect on profitability improvement.	Accepted

According to the conclusions in Table 4.13, product innovation has a significant positive impact on the improvement of profitability. This indicates that through innovation measures such as launching new financial products and optimizing existing products, city commercial banks can effectively increase revenues and enhance their profitability. Since this hypothesis is accepted, it shows that under the research sample and the set conditions, product innovation is indeed an important factor in promoting the profit growth of city commercial banks.

Bank services have a significant positive impact on the improvement of profitability. This means that high - quality services, such as convenient business processing procedures and professional customer consultations, can attract more customers, increase customer stickiness, and thus enhance the bank's profit level. The acceptance of the hypothesis confirms the crucial role of service quality in the profit - making strategy of city commercial banks.

Operational risk has a significant positive impact on the improvement of profitability. At first glance, this hypothesis may seem counterintuitive. However, within a reasonable risk - management framework, taking appropriate operational risks may bring higher returns, for example, by exploring new business areas or adopting innovative operation models. The acceptance of the hypothesis suggests that, under the premise of risk control, banks can actively explore the balance between risk and return to enhance their profitability.

Information technology has a significant positive impact on the improvement of profitability. With the development of financial technology, the application of information technology in banking operations has become more widespread, such as digital service platforms and intelligent risk - control systems. These technological applications help improve operational efficiency, reduce costs, and expand the business scope, thereby enhancing profitability. The acceptance of the hypothesis highlights the importance of information technology in the development of city commercial banks.

Customer loyalty plays a mediating role between product innovation and the improvement of bank capabilities. This means that product innovation does not directly improve bank capabilities but promotes the enhancement of bank capabilities by enhancing customer loyalty. For example, innovative products attract and retain customers, improve customer loyalty, and the continuous business transactions and good reputation of loyal customers help the bank improve its comprehensive capabilities. The acceptance of the hypothesis clarifies the crucial bridging role of customer loyalty in the path from product innovation to the improvement of bank capabilities.

Customer loyalty plays a mediating role between services and the improvement of bank capabilities. High - quality services enhance customer satisfaction, which in turn cultivates customer loyalty and ultimately promotes the improvement of bank capabilities. This shows that bank services are not only a means to improve customer satisfaction but also have a positive impact on the bank's comprehensive capabilities through the intermediate link of customer loyalty. The acceptance of the hypothesis emphasizes the effectiveness of the logical chain of "service - customer loyalty - improvement of capabilities".

Customer loyalty plays a mediating role between security and the improvement of bank capabilities. Bank security is an important consideration for customers when choosing and continuing to cooperate with the bank. Higher security enhances customers' trust in the bank, thereby increasing customer loyalty and further promoting the improvement of bank capabilities. The acceptance of the hypothesis indicates that security has an indirect impact on the improvement of bank capabilities through customer loyalty.

Customer loyalty plays a mediating role between information technology and the improvement of bank capabilities. The application of information technology improves the customer experience, such as convenient online services and accurate marketing promotions, thereby increasing customer loyalty and promoting the improvement of bank capabilities. The acceptance of the hypothesis reveals the path through which information technology affects the improvement of bank capabilities via customer loyalty.

All hypotheses are accepted, indicating that the research results have good consistency and integrity. This series of hypotheses constitutes a relatively complete theoretical framework, elaborating on the mechanisms by which factors such as product innovation, services, operational risks, and information technology of city commercial banks, through the mediating variable of customer loyalty, affect profitability and the improvement of capabilities. These results mutually confirm each other, jointly depicting the complex relationships among the key factors in the

operation and management of city commercial banks, and providing strong theoretical support for banks to formulate comprehensive development strategies.

In conclusion, through hypothesis testing, this research reveals the relationships between multiple key factors of city commercial banks, profitability, and the improvement of capabilities, as well as the mediating role of customer loyalty.

Chapter 5

Conclusion Discussion and Recommendations

The aims of the present study include comprehensively summarizing the research findings on the relationship between product marketing decisions and profitability of urban commercial banks; deeply discussing the impacts of various factors and the significance of the research; analyzing the deficiencies in aspects such as samples, variable research, and consideration of the external environment; looking ahead to future research in terms of sample scope, depth of variable exploration, and research method expansion; and applying the research conclusions to put forward relevant suggestions for the government, banks, and customers.

The details are as follows.

Conclusion

The research results of this study are divided into 4 parts, as follows:

1. This study uses the structural equation model to explore the impact of product marketing decisions of urban commercial banks on their profitability and analyze the relationships among multiple factors.
2. The sample analysis shows that the mean values of various variables are relatively high, but there are differences in evaluations, and there is a significant correlation among the variables.
3. The confirmatory factor analysis indicates that the observed variables of each dimension have a strong correlation with the latent variables, and the model has a high degree of fit.
4. The study finds that multiple factors have a significant impact on profitability, and customer loyalty plays a mediating role.

1. Research Design and Sample Characteristics.

This study aims to explore the impact mechanism of product marketing decisions of urban commercial banks on their profitability. The structural equation model is adopted as the main research method, combined with confirmatory factor analysis, correlation analysis, and path analysis to comprehensively and deeply analyze the relationships among various variables. The sample data is collected through a rigorous sampling procedure, covering 467 samples.

In terms of gender distribution, men account for 45.15% and women account for 54.85%, with a relatively balanced gender ratio. Regarding age, the population aged 18 - 25 accounts for 35.12%, and those aged 25 - 35 account for 30.18%. Overall, it shows a youthful characteristic, which may be related to the innovativeness of banking services and the acceptance of new technologies. In terms of educational attainment, undergraduate graduates account for 46.09%, master's degree holders account for 32.11%, and doctoral degree holders account for 21.80%. The relatively large proportion of highly educated talents provides intellectual support for the business development and innovation of banks. Among job positions, account managers account for 42.18%, financial managers account for 33.03%, and lobby managers account for 24.79%. In terms of work experience, those with 1 - 3 years of experience account for 43.67%, and those with 3 - 5 years of experience account for 38.44%, indicating that most practitioners are in the initial and growth stages of their careers. These sample characteristics strongly support the reliability of the research conclusions, ensuring that the research results can reflect the actual operation of urban commercial banks.

2. Variable Descriptive Statistics and Correlation Analysis.

The analysis of each latent variable shows that the overall means of core products, commercial bank financial services, urban commercial bank security, financial information technology, financial customer intention, and financial performance are all at a relatively high level, ranging from 3.65 to 3.82. However, the standard deviation of each variable is approximately 1, indicating differences in sample evaluations.

Specifically, the overall mean of core products is 3.706. The mean of "core product attributes" reaches 3.947, reflecting that commercial banks perform well in the key attributes of core products, perhaps achieving certain results in product innovation and meeting market demand in terms of functionality. The mean of "product overview" is 3.709, indicating that there is still room for improvement in the overall promotion and market awareness of the product. The mean of "derivative products" is 3.704, and the skewness is 1.005, showing a positive skewness distribution. This means that most samples have a high evaluation of derivative products, but there are still a few negative evaluations, which may be related to the complexity, risk, and relatively low market awareness of derivative products.

In terms of commercial bank financial services, the overall mean is 3.802. The mean of "convenience" is the highest, reaching 3.838, indicating that banks have been recognized by customers in terms of diversified service channels and convenient business handling. The mean of "service experience" is 3.764, showing that banks have achieved certain results in the overall service experience, but can still enhance customers' emotional experience by optimizing service details. The mean of "professionalism" is 3.804, and the data distribution is close to normal, indicating that banks have obtained market recognition in terms of professional talent cultivation and service professionalism.

The correlation analysis shows that there are significant positive correlations within each dimension and between different dimensions. All aspects of core products are closely related, with correlation coefficients ranging from 0.527 to 1. For example, the optimization of core product performance is often accompanied by the improvement of overall product control and the enhancement of extended product characteristics. In financial services, the correlation coefficients between "experience", "convenience", and "professionalism" range from 0.186 to 0.597, indicating that improving service convenience usually leads to a better customer experience and higher service professionalism. Within the security dimension, the correlation coefficients between credit asset quality, off - balance - sheet asset quality, and deposit growth rate range from 0.173 to 0.561. Good credit asset quality helps to

enhance the bank's reputation, thereby promoting deposit growth. The correlation coefficients of various aspects of financial information technology range from 0.116 to 0.591. The progress of product digitization can provide a basis for service intelligence and omnichannel integration. The correlation coefficients of relevant dimensions of customer intention range from 0.532 to 0.579. An increase in customer satisfaction will significantly enhance customers' repeat purchase intention and referral intention. The correlation coefficients of various indicators of financial performance range from 0.237 to 0.591. For example, an increase in return on equity may be accompanied by an increase in return on assets and net profit, and is related to the optimization of the cost - income ratio. There are also positive correlations between different main dimensions. The core product dimension is significantly correlated with multiple other dimensions, indicating that the quality of core products has an important impact on the overall operation of the bank. The positive correlation between the financial service dimension and other dimensions shows that high - quality financial services play a positive role in the overall operation and performance improvement of the bank. For example, when a bank improves the professionalism of its financial services, it can not only directly increase customer satisfaction, but may also affect customers' purchase and referral intentions by enhancing customers' perception of bank security, ultimately having a positive impact on the bank's financial performance.

3. Model Construction and Validation.

The reliability and validity of the model were evaluated through confirmatory factor analysis. The Composite Reliability (CR) values of all latent variables are higher than the relevant standards (0.7 or 0.8). For example, the CR value of core products is 0.828, indicating that the observed variables (CPA, POA, DPA) within this dimension have good internal consistency and can stably measure the latent concept of core products. The CR value of commercial bank financial services is 0.845, suggesting that its observed variables (EFS, CFS, PFS) also have a high degree of internal consistency and can effectively measure this latent variable. The Average Variance Extracted (AVE) values are all greater than 0.5, meaning that the scale has good convergent

validity, that is, the observed variables can effectively explain most of the variance of the latent variables. Most of the factor loading coefficients of the observed variables are greater than 0.7, indicating a strong correlation with the latent variables. Taking core products as an example, the factor loading coefficients of CPA, POA, and DPA are 0.787, 0.793, and 0.774 respectively, demonstrating that they can effectively reflect the latent concept of core products.

Regarding the model fit indices, the Chi - Square/df ratio is between 1.12 and 1.297, all less than 3. For example, the ratio of the core product model is 1.158, indicating that the model has a good fit with the data, and the theoretical model can reasonably explain the variance and covariance structure in the observed data. The Comparative Fit Index (CFI), Tucker - Lewis Index (TLI), and Incremental Fit Index (IFI) are all greater than 0.9. For the core product model, the CFI value is 0.997, the TLI value is 0.997, and the IFI value is 0.997, indicating that the model performs excellently in fitting the data and has a significant improvement compared with the independent model. The Standardized Root Mean Square Residual (SRMR) is less than 0.08. The SRMR value of the core product model is 0.024, indicating that the average difference between the model's predicted values and the observed values is small, and the model has a high fitting accuracy for the data. The Root Mean Square Error of Approximation (RMSEA) is less than 0.05. The RMSEA value of the core product model is 0.018, further proving that the model has an excellent fitting effect and a small gap from the ideal state. These indicators comprehensively show that the overall fitting effect of the model is good, and it can effectively explain various relationships in the data, providing a reliable basis for subsequent analysis.

4. Analysis of the Influence Mechanism and Strategic Suggestions.

The results of path analysis and mediating effect tests show that core products, financial services, security, and information technology all have significant positive impacts on financial customer intention and financial performance. For example, the standardized path coefficient of information technology on financial customer intention is 0.377. This means that, under the control of other variables, for every one - standard - deviation increase in information technology, financial

customer intention will increase by 0.377 standard - deviations, indicating that the development of information technology plays a significant role in enhancing customer intention. The standardized path coefficient of information technology on financial performance is 0.213, and the impact is also quite prominent, showing that the application of information technology can directly promote the improvement of financial performance. The standardized path coefficient of financial customer intention on financial performance is 0.256, indicating that customer intention and satisfaction play an important role in the bank's financial performance. A higher level of customer intention can significantly improve financial performance.

The impact of each factor on financial performance includes both direct effects and indirect effects through financial customer intention. For example, the total effect of core products on financial performance is 0.225, and the indirect effect is 0.036, indicating that core products partially improve financial performance by influencing customer intention. The total effect of information technology is 0.309, and the indirect effect is 0.097, which is the largest among all factors in terms of indirect influence. This further emphasizes that information technology not only has a strong direct impact on customer intention but also has a relatively large indirect impact on financial performance through customer intention. All hypotheses are accepted, indicating that product innovation, bank services, operational risks, and information technology have a significant positive impact on profitability, and customer loyalty plays a mediating role between various factors and the improvement of bank capabilities.

Discussion

1. Discussion of Survey Data

From the perspective of sample statistical characteristics, in terms of gender distribution, men account for 45.15% and women account for 54.85%. The relatively balanced gender ratio is different from the situation in some traditional concepts where there may be differences in the gender distribution in the banking industry. This indicates that in the urban commercial banks involved in this research sample,

the interference of gender factors on the research results may be relatively small. In terms of age, those aged 18 - 25 account for 35.12% and those aged 25 - 35 account for 30.18%, showing a youthful characteristic. Compared with the age structure of some other industries or the banking industry as a whole, the employees in this sample are younger. In terms of educational attainment, undergraduates account for 46.09%, masters account for 32.11%, and doctors account for 21.80%, with a relatively high proportion of highly - educated talents. This reflects the importance and absorption of high - quality talents by urban commercial banks.

In the descriptive statistics of each variable, the overall means of core products, commercial bank financial services, urban commercial bank security, financial information technology, financial customer intention, and financial performance are all at a relatively high level, ranging from 3.65 to 3.82. However, the standard deviation is approximately 1, indicating that there are certain differences in sample evaluations. Taking core products as an example, the mean of "core product attributes" reaches 3.947, while the mean of "derivative products" is 3.704 with a large degree of dispersion in evaluations. This shows that banks perform well in the key attributes of core products, but there are some differences in the market acceptance of derivative products. Compared with the evaluations of similar products of other banks in the same industry, if the mean value of core products of other banks is lower, it indicates that the urban commercial banks in this study have an advantage in the competitiveness of core products. However, derivative products may need improvement in product design or market promotion.

The youthful and highly - educated characteristics of the sample bring innovative vitality and professional knowledge to the bank, but they may also mean relatively less experience. In bank operations, young employees may be more innovative and conducive to promoting product and service innovation. However, when dealing with complex businesses and customer relationships, they may lack sufficient experience. This personnel structure has both positive effects and certain challenges on the long - term development of the bank. The bank needs to pay attention to employee training and experience accumulation. The means and

standard deviations of each variable reflect the bank's performance in different aspects and market feedback. The relatively high means indicate that the bank has a certain foundation and advantages in all aspects, but the dispersion of evaluations shows that there are differences in the market's perception of the bank. The bank needs to pay attention to those aspects with large evaluation differences and further optimize products and services to improve overall market recognition. For example, for derivative products, it should strengthen market education, improve customers' awareness and acceptance of them, and at the same time optimize product design, reduce risks, and enhance product attractiveness.

2. Confirmatory Tests

In the confirmatory factor analysis, the Composite Reliability (CR) values of all latent variables are higher than the relevant standards (0.7 or 0.8). For example, the CR value of core products is 0.828, and that of commercial bank financial services is 0.845, etc., indicating that the observed variables have good internal consistency and can stably measure the latent variables. The Average Variance Extracted (AVE) values are all greater than 0.5, indicating that the scale has good convergent validity, that is, the observed variables can effectively explain most of the variance of the latent variables. Most of the factor loading coefficients of the observed variables are greater than 0.7, showing a strong correlation with the latent variables. Compared with other similar studies, this study performs well in terms of reliability and validity, and the model construction is relatively reasonable.

In terms of model fit indices, the Chi - Square/df ratio is between 1.12 and 1.297, all less than 3; the Comparative Fit Index (CFI), Tucker - Lewis Index (TLI), and Incremental Fit Index (IFI) are all greater than 0.9; the Standardized Root Mean Square Residual (SRMR) is less than 0.08; and the Root Mean Square Error of Approximation (RMSEA) is less than 0.05. These indicators show that the overall fitting effect of the model is good, and it can effectively explain various relationships in the data, which is comparable to the model fitting level of some excellent similar studies.

Good reliability, validity, and model fit provide strong support for the reliability of the research results. This means that the measurement model constructed in the study can accurately reflect the relationships between variables, and the research results have a high degree of credibility. Based on such a model, the relationship between product marketing decisions and bank profitability can be analyzed more accurately, providing a scientific basis for banks to formulate strategies and make decisions. For example, banks can clarify which factors have a more critical impact on profitability according to these results, and then allocate resources and optimize their businesses accordingly. However, although the model fit is good, in practical applications, it is still necessary to consider...

3. Path Identification

The results of path analysis show that core products, financial services, security, and information technology all have significant positive impacts on financial customer intention and financial performance. Among them, the standardized path coefficient of information technology on financial customer intention is 0.377, and the standardized path coefficient on financial performance is 0.213, with a relatively prominent impact; the standardized path coefficient of financial customer intention on financial performance is 0.256, indicating that it also plays an important role in affecting financial performance. Compared with other related studies, the influence degree of each factor may vary among different banks. Some studies may find that in specific regions or business models, financial services have a more critical impact on customer intention and financial performance. However, in this study, the impact of information technology is more significant, which may be related to the high attention and investment in information technology by the urban commercial banks involved in the sample.

The impact of each factor on financial performance includes both direct effects and indirect effects through financial customer intention. For example, the total effect of core products on financial performance is 0.225, with an indirect effect of 0.036; the total effect of information technology is 0.309, and the indirect effect is 0.097, which is the largest among all factors in terms of indirect influence. This shows

that information technology not only acts directly on financial performance but also indirectly improves financial performance by influencing customer intention, and this indirect influence is the most prominent among all factors.

The prominent role of information technology in influencing customer intention and financial performance suggests that banks should increase investment and innovation in the field of financial information technology. By improving the digital level of products, enhancing service intelligence, and optimizing omnichannel integration, banks can directly improve customer satisfaction and purchase intention, and thus indirectly promote the growth of financial performance. For example, banks can use big data to analyze customer needs, achieve precision marketing, and improve the customer purchase conversion rate; improve the customer experience through intelligent services and enhance customer loyalty. At the same time, the important impact of financial customer intention on financial performance emphasizes the importance of the customer - centered business concept. Banks need to comprehensively optimize all aspects such as products, services, and security to improve customer satisfaction and purchase intention, and thus achieve the improvement of financial performance. Banks should establish a perfect customer feedback mechanism, timely understand customer needs and opinions, and continuously improve and optimize their own businesses. In addition, the differences in the direct and indirect effects among various factors provide a multi - perspective thinking direction for banks to formulate strategies. While paying attention to the direct impacts of various factors, banks should not ignore their indirect impacts through customer intention. They should comprehensively consider all aspects of factors and formulate comprehensive and coordinated development strategies.

4. Influence Mechanism

This study found that product innovation, bank services, operational risks, and information technology have a significant positive impact on profitability, and customer loyalty plays a mediating role between various factors and the improvement of bank capabilities. Compared with traditional views, the emphasis on

the positive impact of operational risks on profitability under reasonable management is a new discovery. Traditional concepts may emphasize more on the negative effects of risks, but this study shows that within a reasonable risk - management framework, banks can obtain higher returns and thus improve profitability by exploring new business areas or adopting innovative operation models and taking appropriate operational risks. In terms of the mediating role of customer loyalty, it is consistent with the results of other similar studies, all indicating that customer loyalty plays a key bridging role between factors such as products, services, and bank performance. Product innovation attracts and retains customers, improves customer loyalty, and thus promotes the improvement of the bank's comprehensive capabilities; the improvement of bank service quality enhances customer satisfaction, cultivates customer loyalty, and ultimately promotes the improvement of bank capabilities; security enhances customers' trust in the bank, increases customer loyalty, and promotes the development of bank capabilities; the application of information technology improves the customer experience, enhances customer loyalty, and promotes the improvement of bank capabilities. These mechanisms have a certain degree of universality in different bank studies.

The positive impact of operational risks on profitability provides a new idea for the bank's risk management. Banks should not only avoid risks but also actively explore innovative businesses and optimize operation models under the premise of controllable risks, and make full use of the opportunities brought by risks. For example, banks can make appropriate investments in emerging financial fields, expand business boundaries, and achieve profit growth. The mediating role of customer loyalty once again emphasizes the importance of customer relationship management. Banks should take enhancing customer loyalty as one of the core goals, and by continuously optimizing product innovation, service quality, security, and the application of information technology, enhance customer satisfaction and loyalty, and thus achieve the improvement of bank profitability and comprehensive capabilities. At the same time, this also reminds banks to establish long - term and stable customer relationships and pay attention to the lifetime value of customers.

In addition, the mechanism by which various factors affect bank capabilities through customer loyalty indicates that all business links of the bank are interrelated and need to be developed in an overall and coordinated manner. When formulating strategies, banks should proceed from an overall perspective, comprehensively consider various factors such as products, services, risks, and technologies, and form a synergistic effect to jointly promote the sustainable development of the bank.

Recommendations

Implications (How the findings can be applied to implementations by the related persons agency)

1. Policy Guidance and Regulatory Support

The government should formulate policies to encourage product innovation in urban commercial banks. For example, special R & D funds can be set up or tax incentives can be provided to motivate banks to introduce financial products that meet market demands. Banks that are actively innovative and achieve remarkable results should be given financial subsidies or policy preferences, enabling them to enhance the competitiveness of their core products and better meet the diversified needs of customers.

Strengthen the supervision of banks' operational risks by establishing and improving risk monitoring and early - warning mechanisms. Require banks to regularly disclose risk indicators to ensure their operations within a reasonable risk framework. When there are abnormal fluctuations in banks' risk indicators, timely intervention and guidance should be carried out to safeguard the stability of the financial market and create a favorable external environment for banks to improve their profitability.

2. Promote the Development of Financial Technology

Increase investment in the research and development of financial information technology, support industry - university - research cooperation projects, and promote the transformation and application of fintech achievements. Build a fintech exchange platform and organize cooperation and communication activities between banks and technology companies to facilitate the application of technologies such as

product digitization, service intelligence, and omnichannel integration in the banking industry, improving banks' operational efficiency and service quality, and enhancing the competitiveness of urban commercial banks in the field of fintech.

Improve laws and regulations related to fintech, clarifying norms and standards in aspects such as data security and privacy protection. Strengthen the supervision of fintech applications to ensure that while banks use information technology to improve services, customer information security and financial transaction security are guaranteed, and the order of the financial market is maintained.

3. Enhance Financial Knowledge and Risk Awareness

Actively learn financial knowledge by participating in financial knowledge lectures held by banks, reading professional financial information, etc., to understand the characteristics, risks, and return situations of various financial products. Especially for derivative products, fully recognize their complexity and potential risks to avoid blind investment. When choosing bank products and services, make rational decisions based on one's own risk tolerance and financial goals, and improve financial literacy and risk prevention awareness.

4. Provide Feedback to Help Banks Improve

Customers should actively provide feedback on their experiences of using bank products and services. Whether it is opinions and suggestions on product design, service processes, or professional standards, it can help banks optimize their businesses. For example, if a customer finds inconvenience in using online banking services, timely feedback to the bank can help the bank improve its services, enhance customer satisfaction and loyalty, and thus promote the bank to improve service quality and profitability.

5. Improve Professional Competence and Service Capability

Continuously learn financial professional knowledge, pay attention to industry trends and market changes, and improve one's professional level. Participate in various training courses and academic exchange activities to learn the latest financial product knowledge, risk management concepts, and information technology

application skills, and provide more professional and comprehensive financial services to customers, enhancing customers' trust in the bank.

Pay attention to improving service awareness and communication skills, center around customers, and focus on customer needs. When providing services to customers, maintain enthusiasm, patience, and meticulousness, actively solve customer problems, and improve the customer service experience. Through high - quality services, improve customer satisfaction, promote customers' repeat - purchase and referral behaviors, and create more value for the bank.

6. Participate in Innovation to Promote Bank Development

Actively participate in banks' product innovation and service optimization work. Combine one's own work experience and understanding of customer needs to provide innovative ideas and suggestions to banks. Grass - roots employees have close contact with customers in their daily work and can obtain first - hand customer demand information. Feeding this information back to bank management can help banks develop products and services that better meet market demands, enhancing the bank's market competitiveness and profitability.

Future Researches

1. Expand the Sample Scope

In future research, bank samples of different types, scales, and regions can be included to increase the diversity and representativeness of the samples. Through the analysis of a broader range of samples, we can deeply explore the commonalities and differences in the relationship between product marketing decisions and profitability among different banks. This will make the research conclusions more universal and provide a more comprehensive reference for the entire banking industry. At the same time, the sampling method can be further optimized to ensure a more balanced distribution of the sample in terms of age, experience, etc. By fully considering the viewpoints of employees at different levels, the comprehensiveness and accuracy of the research results can be improved.

2. Deepen Variable Research

In terms of variable research, more efforts should be made to explore the complex relationships among variables. Regarding financial information technology, in - depth analysis of the synergy among product digitization, service intelligence, and omnichannel integration, as well as their differential impacts on bank profitability in different business areas (such as retail business and corporate business), should be carried out. For operational risks, different types of risks should be carefully distinguished, and a more refined model should be constructed to study their direct and indirect impact paths on profitability, providing a basis for banks to formulate more precise risk management strategies.

3. Incorporate External Environmental Factors

Subsequent research should incorporate macro - economic indicators (such as GDP growth rate, inflation rate, interest rate, etc.) and policy - regulation variables into the research model, comprehensively considering the interactive effects of external environmental changes and internal bank factors on profitability. A dynamic model can be adopted to track external environmental changes in real - time and analyze how banks adjust their product marketing decisions to enhance profitability in different environments. This will improve the guiding value of research results for the actual operations of banks and help banks better cope with the complex and changeable market environment.

4. Expand Research Methods

This study mainly uses quantitative analysis methods such as structural equation models. In the future, qualitative research methods such as case studies and field surveys can be combined. Through case studies, we can deeply analyze the successful experiences and failure lessons of individual banks in product marketing decisions and profitability improvement, complementing the deficiencies of quantitative research from a practical perspective. Field surveys can more intuitively understand the actual needs, behaviors, and opinions of bank employees and customers, obtaining rich first - hand information, providing a more solid real - world foundation for theoretical models, and making the research results more practical and guiding.

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Appendices

Appendix A

List of Specialists and Letters of Specialists Invitation
for IOC Verification

serial number	Name of the expert	Highest academic qualification	Current position and work location	Expertise
1	Asst.Prof.Dr.Puris Sornsaruht	Doctoral	Financial experts from Thailand's top-tier universities	Experts with knowledge of product marketing and profitability of urban commercial banks
2	Ling Changrong Professor	Doctoral	Professor, School of Business Administration, Guangxi University	Academics with knowledge and ability in urban commercial banking
3	Xie jian Professor	Doctoral	Associate Professor, School of International Education, Guangxi University of Finance and Economics	Scholar representative with experience in researching urban commercial banks



Seeking Clarification from Experts in Examining Research Instruments.

Dear experts,

This questionnaire for educational purposes for research studies student Doctor of Business Administration Program (International Program) in the Faculty of Management Science at Bansomdejchaopraya Rajabhat University prepared by Xu Zhanpeng, Subject "Marketing Strategy Model Influences on Profitability Improvement in Urban Commercial Banks in China". The questionnaire was made for middle and senior managers and marketing personnel of China Urban Commercial Banks. The researcher asks for help from experts. Please check the questionnaires as follows.

+ 1 means that you are sure that the questions are consistent with the research objective.

0 means you are unsure whether the question is consistent with the research objective.

-1 means that you are certain that the questions are inconsistent with the research objective.

With the courtesy of your qualified, this makes this study a powerful research tool. This will be very useful for education. We would like to thank you very much for spending your valuable time reviewing the research instrument.

Expert (Name) Asst.Prof.Dr.Puris Sornsaruht

Department

Inspection date 2024.9.18



Seeking Clarification from Experts in Examining Research Instruments.

Dear experts,

This questionnaire for educational purposes for research studies student Doctor of Business Administration Program (International Program) in the Faculty of Management Science at Bansomdejchaopraya Rajabhat University prepared by Xu Zhanpeng, Subject "Marketing Strategy Model Influences on Profitability Improvement in Urban Commercial Banks in China". The questionnaire was made for middle and senior managers and marketing personnel of China Urban Commercial Banks. The researcher asks for help from experts. Please check the questionnaires as follows.

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0 means you are unsure whether the question is consistent with the research objective.

-1 means that you are certain that the questions are inconsistent with the research objective.

With the courtesy of your qualified, this makes this study a powerful research tool. This will be very useful for education. We would like to thank you very much for spending your valuable time reviewing the research instrument.

Expert (Name) Ling Changrong Professor

Department Department of Tourism Management, School of Business Administration, Guangxi University.

Inspection date 2024.9.28



Seeking Clarification from Experts in Examining Research Instruments.

Dear experts,

This questionnaire for educational purposes for research studies student Doctor of Business Administration Program (International Program) in the Faculty of Management Science at Bansomdejchaopraya Rajabhat University prepared by Xu Zhanpeng, Subject "Marketing Strategy Model Influences on Profitability Improvement in Urban Commercial Banks in China". The questionnaire was made for middle and senior managers and marketing personnel of China Urban Commercial Banks. The researcher asks for help from experts. Please check the questionnaires as follows.

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-1 means that you are certain that the questions are inconsistent with the research objective.

With the courtesy of your qualified, this makes this study a powerful research tool. This will be very useful for education. We would like to thank you very much for spending your valuable time reviewing the research instrument.

Expert (Name) Xie jian Professor

Department School of International Education, Guangxi University of Finance and Economics

Inspection date 2024.9.25

Appendix B

Official Letter



Ref.No. MHESI 0643.14/2588

Bansomdejchaopraya Rajabhat University
1061 Itsaraparb Hirunrujee
Thonburi Bangkok 10600

4 September 2024

Subject: Invitation to validate research instrument

Dear Asst.Prof.Dr.Puris Somsarut

Mr.Xu Zhanpeng is a graduate student in Doctor of Business Administration Program (International Program) of Bansomdejchaopraya Rajabhat University. He is undertaking research entitled "Marketing Strategy Model Influences on Profitability Improvement in Urban Commercial Banks in China"

The thesis advisory committee has considered that you are an expert in this topic. Your recommendations would be useful for further improvement of this research instrument.

With your expertise, we would like to ask your permission to validate the attached research instrument. In this regard, we would like to avail ourselves of this opportunity to express our sincere thanks and appreciation for your help.

Yours faithfully,

(Assistant Professor Dr.Tanaput Chanchaen)
Vice Dean Acting for of Dean of Graduate School

Bansomdejchaopraya Rajabhat University
Tel.+662-473-7000
www.bsru.ac.th
E-mail: grad@bsru.ac.th



Ref.No. MHESI 0643.14/2586

Bansomdejchaopraya Rajabhat University
1061 Itsaraparb Hirunrujee
Thonburi Bangkok 10600

4 September 2024

Subject: Invitation to validate research instrument

Dear Prof.Ling Changrong

Mr.Xu Zhanpeng is a graduate student in Doctor of Business Administration Program (International Program) of Bansomdejchaopraya Rajabhat University. He is undertaking research entitled "Marketing Strategy Model Influences on Profitability Improvement in Urban Commercial Banks in China"

The thesis advisory committee has considered that you are an expert in this topic. Your recommendations would be useful for further improvement of this research instrument.

With your expertise, we would like to ask your permission to validate the attached research instrument. In this regard, we would like to avail ourselves of this opportunity to express our sincere thanks and appreciation for your help.

Yours faithfully,

(Assistant Professor Dr.Tanaput Chanchaen)
Vice Dean Acting for of Dean of Graduate School

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Ref.No. MHESI 0643.14/2587

Bansomdejchaopraya Rajabhat University
1061 Itsaraparb Hirunrujee
Thonburi Bangkok 10600

4 September 2024

Subject: Invitation to validate research instrument

Dear Prof.Xie jian

Mr.Xu Zhanpeng is a graduate student in Doctor of Business Administration Program (International Program) of Bansomdejchaopraya Rajabhat University. He is undertaking research entitled "Marketing Strategy Model Influences on Profitability Improvement in Urban Commercial Banks in China"

The thesis advisory committee has considered that you are an expert in this topic. Your recommendations would be useful for further improvement of this research instrument.

With your expertise, we would like to ask your permission to validate the attached research instrument. In this regard, we would like to avail ourselves of this opportunity to express our sincere thanks and appreciation for your help.

Yours faithfully,

(Assistant Professor Dr.Tanaput Chanchaen)
Vice Dean Acting for of Dean of Graduate School

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Appendix C

Research Instrument

Research study on “the impact of marketing decision-making models of China's urban commercial banks on profitability enhancement” is a combination of quantitative research. Quantitative research and qualitative study. There are 2 types of data collection tools: 1) in-depth interviews 2) questionnaires.

1. In-depth interview

Used to collect data from 20 experts

NO	Name	Sexes	Age	Company	Duties	Title/ education
1	Huang Longqian	women	39	GUANGXI BEIBU GULF BANK	General Manager of Personal Credit Department	Master's Degree
2	Bai Yingqing	male	40	BANK OF XI'AN	Manager of the Corporate Finance Department	Master's Degree
3	Gui Tengfei	male	39	Fu DIAN BANK	General Manager of Inclusive Finance Department	Master's Degree
4	Liu Xiaolong	male	38	BANK OF URUMQI CHANG QI BRANCH	Deputy Head	Bachelor's Degree
5	Sun Bin	male	40	LAN ZHOU BANK DING XI BRANCH	General Manager of the Business Department	Bachelor's Degree

NO	Name	Sexes	Age	Company	Duties	Title/ education
6	Wan Feng	male	41	ZHONG YUAN BANK	General Manager of the Joint Innovation Center	Bachelor's Degree
7	Wang Yan	male	56	BANK OF HANDAN ZHENGDE BRANCH	President	Bachelor's Degree
8	Wei Bin	male	48	BANK OF GAN SU	Deputy Director of the Office	Bachelor's Degree
9	Xie Jian	male	36	GUANG XI UNIVERSITY OF FINANCE AND ECONOMICS	Associate Professor	Doctoral degree
10	Ling Changrong	male	61	GUANG XI UNIVERSITY	Professor	Doctoral degree
11	Yang Ming	male	40	BANK OF XIN JIANG URUMQI BRANCH (CHANG JIANG ROAD)	President	Bachelor's Degree
12	Yang Bo	male	37	GUI LIN BANK	General Manager of the ASEAN Economic and Trade Cooperation Department	Doctoral degree

NO	Name	Sexes	Age	Company	Duties	Title/ education
13	Yang Lei	male	52	GUI YANG BANK SHUANG LONG AIRPORT BRANCH	Party Secretary	Bachelor's Degree
14	Yang Yongpeng	male	37	ZHENG ZHOU BANK PU YANG BRANCH	Vice President of a Bank	Master's Degree
15	Yu Chengpei	male	45	BANK OF LIU ZHOU	General Manager of the Rural Revitalization Department	Bachelor's Degree
16	Liang Yan	women	41	GUANGXI BEIBU GULF BANK CHENG BEI BRANCH	General Manager of the Corporate Finance Department	Bachelor's Degree
17	Li Dingwan	male	50	NAN NING LAN SHENG YIRONG PRIVATE FUND MANAGEMENT CO., LTD.	Director	Bachelor's Degree
18	Wang Wenhui	male	51	GUANG XI WU ZHOU JIN HAN STAINLRSS STEEL CO., LTD	CEO	Master's Degree

NO	Name	Sexes	Age	Company	Duties	Title/ education
19	Chen Quan	male	44	CHINA UNICOM DING XI CITY ANDING DISTRICT COMPANY CUSTOMER	Account Manager	Bachelor's Degree
20	Sun Guotao	male	41	HAINAN TONGREN YUEFU HEALTH INDUSTRY Co., Ltd.	Deputy Director of the Design and Development Department	Dual Bachelor's Degree

2 Questionnaire

A questionnaire on the impact of Urban Commercial Banks in China marketing strategy model on profitability improvement



Questionnaire

Dear Sir/Madam

Hello! I am a doctor's student from the Bansomdejchaopraya Rajabhat University, Thailand. I am conducting a questionnaire Marketing Strategy Model Influences on Profitability Improvement in Urban Commercial Banks in China. This questionnaire was collected anonymously, and the personal information you provided is for academic research purposes only and will not be disclosed. Please fill out the survey truthfully based on your own situation. Thank you very much for your support. Sincerely thank you for your help and support in this survey questionnaire!

Part 1: Basic Information

1. What is the name of your enterprise? _____
2. What is your gender? _____
3. What is your age? _____
4. What is your highest education level? _____
5. What is your job position? _____
6. How many years have you been in this position? _____

Part II. Please click on the option (✓) that applies to each of the questions listed below.

1. Core Products of Commercial Banks

(1) Core Products Aspect

- urban commercial banks offer a wide range of core products, effectively covering customers' daily financial needs.
- These banks' core products enjoy high recognition in the market, with generally positive customer evaluations.
- The bank continuously upgrades and optimizes its core products to enhance competitiveness and customer satisfaction.
- The service quality and efficiency of core products are highly praised by customers, contributing to increased customer loyalty.

(2) Product Overview Aspect

- The city commercial bank's product overview system provides comprehensive information, facilitating customers' quick understanding of various products.
- The product overview interface is designed to be intuitive and easy to understand, delivering a good user experience.
- The bank regularly updates the product overview content to ensure the timeliness and accuracy of information.
- The product overview system offers personalized recommendations based on customer preferences, enhancing customer engagement.

(3) Derivative Products Aspect

- Urban commercial banks offer a diverse range of derivative products to meet the varying needs of customers.
- The design of derivative products aligns with market trends, showcasing innovation and forward-thinking.

- The bank implements strict risk control and management measures for derivative products, ensuring the safety of customer assets.
- Customers generally perceive the bank's derivative products as having high investment value and return potential.

2. Commercial Bank Financial Services

(1) Experience in Financial Services

- Customers widely believe that this city commercial bank has a long and trustworthy service history.
- Bank service personnel demonstrate professional knowledge and experience, satisfying customers.
- The bank provides personalized service experiences tailored to customers' historical transactions and preferences.
- Long-term customers are satisfied with the bank's service experience and tend to continue choosing it.

(2) Convenience in Financial Services

- This city commercial bank offers convenient online (e.g., internet banking, mobile banking) and offline service channels.
- The bank's service outlets are widely distributed, allowing customers to handle business nearby.
- The bank's self-service facilities (e.g., ATMs, self-service terminals) are easy to operate, reducing customer waiting time.
- When customers have inquiries or complaints, the bank responds promptly and resolves issues.

(3) Professionalism in Financial Services

- The bank's financial products are innovative and meet market demands.
- The bank demonstrates high professionalism in risk management and control, safeguarding customer asset security.

- The bank's professional consulting services assist customers in making informed financial decisions.
- The bank regularly provides financial education and training to enhance customers' financial literacy.

3. Security of urban commercial banks

(1) Credit Asset Quality

- The financial institution conducts comprehensive and effective assessments and management of credit risks, ensuring high-quality credit assets.
- The institution excels in controlling non-performing loans, promptly identifying and taking effective measures to reduce the NPL ratio.
- The institution is transparent in disclosing credit asset information, providing sufficient channels for customers and investors to understand.
- The stability of credit asset returns positively impacts the financial institution's profitability.

(2) Off-Balance Sheet Asset Quality

- The financial institution closely monitors risks in off-balance sheet operations, ensuring their safety and stability.
- The institution performs well in information disclosure and compliance related to off-balance sheet assets, earning market trust.
- Off-balance sheet assets complement the financial institution's core business, promoting the healthy development of overall operations.
- The institution's off-balance sheet assets possess good appreciation potential, supporting its long-term growth.

(3) Deposit Growth Rate

- The financial institution maintains a stable deposit growth rate, reflecting customers' ongoing trust and support.
- The institution's deposit products are highly competitive in the market, effectively attracting new customers and retaining existing ones.

- Excellent customer service is a significant factor contributing to the institution's deposit growth, widely recognized by customers.
- The institution's marketing strategies positively impact deposit growth, achieving notable results.

4. Financial Information Technology

(1) Product Digitization

- The financial institution's products are highly digitized, enabling customers to conveniently access and use services online.
- The institution continuously introduces innovative digital financial products to meet market diversification demands.
- Digital financial products prioritize user experience, featuring friendly interfaces and easy operation.
- During product promotion, the institution rigorously protects customer data security and privacy, earning customer trust.

(2) Service Intelligence

- The financial institution's intelligent customer service system efficiently resolves customer issues, enhancing service efficiency.
- Through data analysis, the institution provides personalized financial product and service recommendations.
- The application of intelligent technology in risk control effectively reduces financial risks, safeguarding customer asset security.
- The widespread use of automation in service processes minimizes human intervention, improving service quality and efficiency.

(3) Omni-channel Integration

- The institution successfully integrates online and offline channels, offering seamless service experiences.
- Offline branches are strategically located and professionally staffed, catering to customers' face-to-face consultation needs.

- The online platform boasts clear interfaces and comprehensive functions, enabling customers to easily complete financial transactions.
- The synergy between online and offline channels enhances service coverage and customer satisfaction.

5. Financial Customer Intentions

(1) Satisfaction

- Customers are highly satisfied with the overall services provided by the financial institution.
- Customers are pleased with the performance of purchased financial products, meeting their expectations.
- The institution's response speed to customer service requests is satisfactory.
- When customers encounter issues, the institution resolves them effectively and promptly, satisfying customers.

(2) Purchase Intention

- Customers express their intention to continue purchasing financial products or services from the institution in the future.
- Customers are willing to try and purchase new products introduced by the institution.
- Customers perceive the institution's products or services as reasonably priced, making them price-insensitive and willing to buy.
- Customers are inclined to establish long-term relationships with the institution for repeat purchases.

(3) Willingness to Recommend to Others

- Customers are eager to recommend the institution's products or services to friends and family.
- Customers are willing to share their positive service experiences on social media, positively promoting the institution.

- When asked by friends or family, customers actively recommend the institution as a financial service provider.
- Customers have high brand loyalty to the institution, preferring its products or services and recommending them to others.

6. Financial Performance

(1) ROE (Return on Equity)

- The financial institution's ROE is outstanding in the industry, demonstrating efficient capital utilization.
- In recent years, the institution's ROE has shown a steady growth trend, indicating enhanced profitability.
- Compared to peers, the institution's ROE is at a higher level, conferring a competitive advantage.
- High ROE generates substantial returns for shareholders, bolstering their confidence in the institution.

(2) ROA (Return on Assets)

- The financial institution's ROA is robust, reflecting effective management and profitability of total assets.
- The institution is taking measures to enhance ROA, further strengthening its overall profitability.
- While pursuing high ROA, the institution balances risk and return, achieving optimal performance.
- High ROA signifies efficient operational efficiency, boosting market competitiveness.

(3) Net Profit

- The financial institution's net profit has grown steadily, underscoring its robust profitability and financial health.
- Compared to peers, the institution's net profit margin is higher, evidencing strong profitability.

- Net profit growth creates more value for shareholders, enhancing their satisfaction.
- The institution's net profit distribution policy is reasonable, balancing shareholder returns and future development needs.

(4) Cost-to-Income Ratio

- The financial institution's cost-to-income ratio is low, demonstrating strong cost control and profitability.
- The institution implements effective cost reduction measures to further optimize the cost-to-income ratio.
- Compared to peers, the institution's cost-to-income ratio is lower, conferring a competitive advantage.
- A low cost-to-income ratio strengthens the institution's long-term competitiveness, laying a solid foundation for future growth.

Marketing Strategy Model Influences on Profitability Improvement in Urban Commercial Banks in China Survey Questionnaire.

Hope this survey questionnaire can meet your needs. If you have any other questions, please feel free to let me know.

Thank you again for your support and cooperation! If you have any questions or need further clarification during the filling process, please feel free to contact us.

Appendix D

The Results of the Quality Analysis of Research Instruments

Content validity Testability of Item Variable Congruence Index

No	Scales	Experts Opinion			Total Score	IOC Index	Remarks
		1	2	3			
1	The use of the internet is a good source to obtain information to innovate in the company environmental sustainability practices.	+1	+1	+1	3	1	Consistent
2	The advances of science presented at fairs and other events favors environmental sustainability practices	+1	+1	+1	3	1	Consistent
3	The different levels of government share their skills and information with companies' environmental sustainability practices.	+1	+1	+1	3	1	Consistent
4	Development of a web page is needed for the company to inform customers and suppliers regarding environmental sustainability practices	+1	+1	+1	3	1	Consistent
5	The information generated in technological R&D centers contribute to the	+1	+1	+1	3	1	Consistent

No	Scales	Experts Opinion			Total Score	IOC Index	Remarks
		1	2	3			
	innovative production processes of the firm environmental sustainability practices.						
6	The information about the ecological situation, forests, soil resources, and available water is grounded to manage the company	+1	+1	+1	3	1	Consistent
7	Information Technology encourages improved environmental sustainability practices	+1	+1	+1	3	1	Consistent
8	Internet and web services are vital in spreading the word regarding environmental sustainability practices.	+1	+1	+1	3	1	Consistent
9.	Training is a key to the development of the environmental sustainability practices	+1	+1	+1	3	1	Consistent
10.	Learning is a key to improve production processes in the company's environmental sustainability practices	+1	+1	+1	3	1	Consistent

No	Scales	Experts Opinion			Total Score	IOC Index	Remarks
		1	2	3			
11.	Knowledge management is a key in the company's environmental sustainability practices	+1	+1	+1	3	1	Consistent
12.	Attending events fairs is a key to get more knowledge for the staff that works in the company's environmental sustainability practices	+1	+1	+1	3	1	Consistent
13.	The professionalization of workers and managers is a key in the activities of environmental sustainability practices	+1	+1	+1	3	1	Consistent
14.	Self-training is a key to personal and professional development of workers and managers in the firm for environmental sustainability practices	+1	+1	+1	3	1	Consistent
15.	The level of education is a key to the relationship between workers and employers in the company's environmental sustainability practices	+1	+1	+1	3	1	Consistent

No	Scales	Experts Opinion			Total Score	IOC Index	Remarks
		1	2	3			
16.	Managerial encouragement is critical towards encouraging employees' best practices	+1	+1	+1	3	1	Consistent
17.	Not being constrained by many rules encourages environmental sustainability practices.	+1	+1	+1	3	1	Consistent
18.	Being quick to take advantages of opportunities boosts environmental sustainability practices.	+1	+1	+1	3	1	Consistent
19.	Being Innovative is an aspect of environmental sustainability practices.	+1	+1	+1	3	1	Consistent
20.	Being achievement oriented is vital to environmental sustainability practices.	+1	+1	+1	3	1	Consistent
21.	Having high expectation for performance encourages environmental sustainability practices.	+1	+1	+1	3	1	Consistent
22.	Being results oriented is important to	+1	+1	+1	3	1	Consistent

No	Scales	Experts Opinion			Total Score	IOC Index	Remarks
		1	2	3			
	environmental sustainability practices						
23.	Paying attention to detail is sometimes not suitable to environmental sustainability practices	+1	+1	+1	3	1	Consistent
24.	Being precise is critical for environmental sustainability practices	+1	+1	+1	3	1	Consistent
25.	The organization carry out fertility tests and soil moisture.	+1	+1	+1	3	1	Consistent
26.	The irrigation systems used in the company are of the latest technology.	+1	+1	+1	3	1	Consistent
27.	The cultivation (conventional/ecological) is related to productivity and financial performance.	+1	+1	+1	3	1	Consistent
28.	Natural resources are used rationally in the company.	+1	+1	+1	3	1	Consistent
29.	The company have environmental certifications	+1	+1	+1	3	1	Consistent
30.	In the organization, they care about good	+1	+1	+1	3	1	Consistent

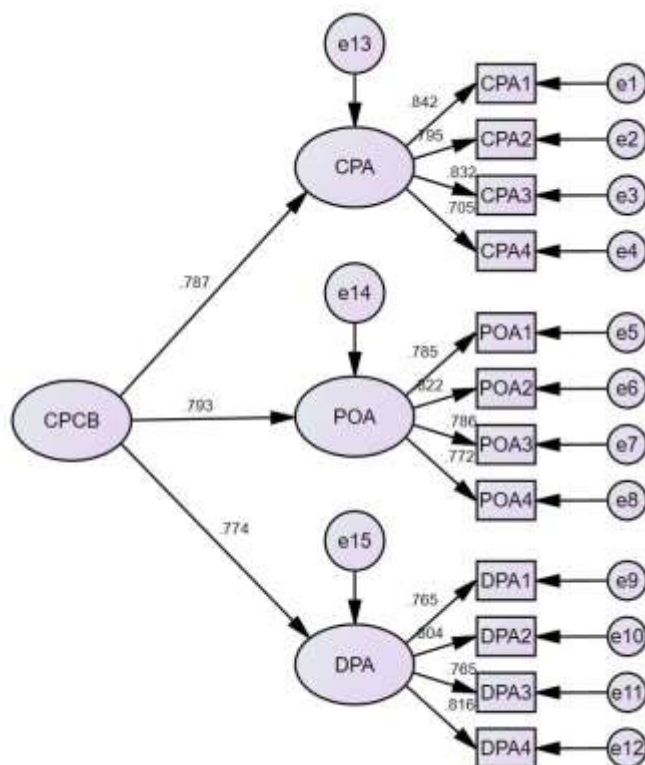


Instrument/Measurement Scale Validity
 IOC of the Instrument/Measurement Scale
 Marketing Strategy Model Influences on Profitability
 Improvement in Urban Commercial Banks in China

Latent variable	Measure variable	Normalized factor loading	Cronbach's alpha	CR	AVE
1. Financial Products	(1) Core Products	0.83	0.85	0.83	0.84
	(2) Product Master	0.85			
	(3) Epitaxial lProducts	0.81			
2. Financial Services	(1) Experience in Financial Services	0.82	0.86	0.84	0.85
	(2) Convenience in Financial Services	0.86			
	(3) Professionalism in Financial Services	0.84			
3. Financial Safety	(1) Quality of credit assets	0.87	0.88	0.86	0.87
	(2) Quality of off-balance sheet assets	0.83			
	(3) Rate of deposit growth	0.85			
4. Information Technology	(1) Product Digitization	0.90	0.89	0.87	0.88
	(2) Service Intelligence	0.87			
	(3) Channel full-time	0.89			

Latent variable	Measure variable	Normalized factor loading	Cronbach's alpha	CR	AVE
5. Customer loyalty	(1) Overall customer satisfaction	0.84	0.87	0.85	0.86
	(2) Willingness to repurchase	0.86			
	(3) Possibility of recommending it to others	0.85			
6. Profitability improvement	(1) ROE (Return on Equity)	0.87	0.82	0.81	0.83
	(2) ROA (Return on Total Assets)	0.85			
	(3) Net Profit	0.88			
	(4) Cost-to-Income Ratio	0.86			

From Table, it was found that the confidence values of all factors and the total factors of the questionnaire were over 0.8. Therefore, it can be concluded that Questionnaires can be used to collect real data. with confidence values that pass the acceptance criteria.



Model Fit Summary

CMIN

Model	NP	AR	CMIN	DF	PCMIN/DF
Default model	27		59.064	51	.205
Saturated model	78		.000	0	
Independence model	12		3097.391	66	.000

RMR, GFI

Model	RMR	GFI	AGFI	PGFI
Default model	.031	.980	.969	.641
Saturated model	.000	1.000		
Independence model	.561	.297	.169	.251

Baseline Comparisons

Model	NFI	RFI	IFI	TLI	CFI
	Delta1	rho1	Delta2	rho2	
Default model	.981	.975	.997	.997	.997
Saturated model	1.000		1.000		1.000
Independence model	.000	.000	.000	.000	.000

Parsimony-Adjusted Measures

Model	PRATIO	PNFI	PCFI
Default model	.773	.758	.771
Saturated model	.000	.000	.000
Independence model	1.000	.000	.000

NCP

Model	NCP	LO 90	HI 90
Default model	8.064	.000	31.329
Saturated model	.000	.000	.000
Independence model	3031.391	2852.876	3217.218

FMIN

Model	FMIN	F0	LO 90	HI 90
Default model	.127	.017	.000	.068
Saturated model	.000	.000	.000	.000
Independence model	6.675	6.533	6.148	6.934

RMSEA

Model	RMSEA	LO 90	HI 90	PCLOSE
Default model	.018	.000	.036	.999
Independence model	.315	.305	.324	.000

AIC

Model	AIC	BCC	BIC	CAI
Default model	113.064	114.620	224.899	251.899
Saturated model	156.000	160.497	479.079	557.079
Independence model	3121.391	3122.083	3171.096	3183.096

ECVI

Model	ECVI	LO 90	HI 90	MECVI
Default model	.244	.226	.294	.247
Saturated model	.336	.336	.336	.346
Independence model	6.727	6.342	7.128	6.729

HOELTER

Model	HOELTER	HOELTER
	.05	.01
Default model	540	608
Independence model	13	15

Model Fit Summary

CMIN

Model	NPAR	CMIN	DF	PCMIN/DF
Default model	27	66.156	51	.075
Saturated model	78	.000	0	
Independence model	12	3105.633	66	.000

RMR, GFI

Model	RMR	GFI	AGFI	PGFI
Default model	.030	.978	.966	.639
Saturated model	.000	1.000		
Independence model	.545	.290	.160	.245

Baseline Comparisons

Model	NFI	RFI	IFI	TLI	CFI
	Delta1	rho1	Delta2	rho2	
Default model	.979	.972	.995	.994	.995
Saturated model	1.000		1.000		1.000
Independence model	.000	.000	.000	.000	.000

Parsimony-Adjusted Measures

Model	PRATIO	PNFI	PCFI
Default model	.773	.756	.769
Saturated model	.000	.000	.000
Independence model	1.000	.000	.000

NCP

Model	NCP	LO 90	HI 90
Default model	15.156	.000	40.268
Saturated model	.000	.000	.000
Independence model	3039.633	2860.870	3225.705

FMIN

Model	FMIN	F0	LO 90	HI 90
Default model	.143	.033	.000	.087
Saturated model	.000	.000	.000	.000
Independence model	6.693	6.551	6.166	6.952

RMSEA

Model	RMSEA	LO 90	HI 90	PCLOSE
Default model	.025	.000	.041	.997
Independence model	.315	.306	.325	.000

AIC

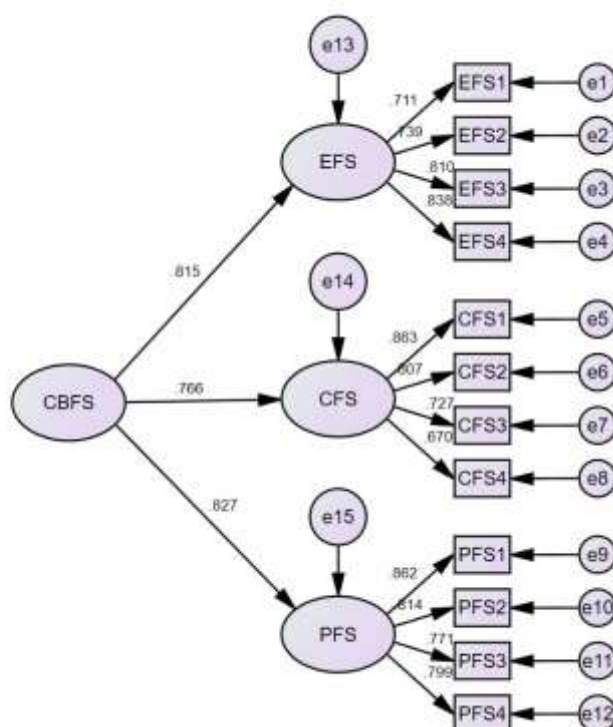
Model	AIC	BCC	BIC	CAIC
Default model	120.156	121.712	231.991	258.991
Saturated model	156.000	160.497	479.079	557.079
Independence model	3129.633	3130.325	3179.337	3191.337

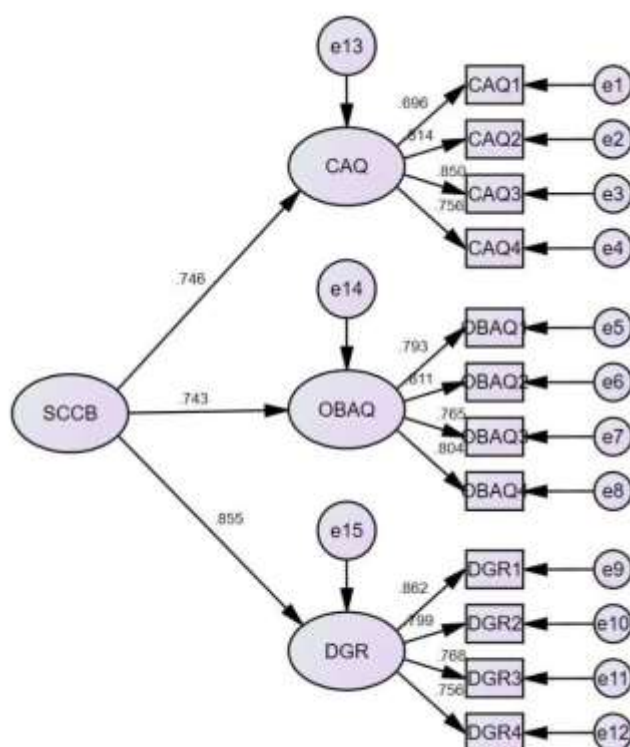
ECVI

Model	ECVI	LO 90	HI 90	MECVI
Default model	.259	.226	.313	.262
Saturated model	.336	.336	.336	.346
Independence model	6.745	6.360	7.146	6.746

HOELTER

Model	HOELTER	HOELTER
	.05	.01
Default model	482	543
Independence model	13	15





Model Fit Summary

CMIN

Model	NPAR	CMIN	DF	PCMIN/DF
Default model	27	61.298	51	.153
Saturated model	78	.000	0	
Independence model	12	3091.369	66	.000

RMR, GFI

Model	RMR	GFI	AGFI	PGFI
Default model	.030	.979	.968	.640
Saturated model	.000	1.000		
Independence model	.542	.299	.171	.253

Baseline Comparisons

Model	NFI	RFI	IFI	TLI	CFI
	Delta1	rho1	Delta2	rho2	
Default model	.980	.974	.997	.996	.997
Saturated model	1.000		1.000		1.000
Independence model	.000	.000	.000	.000	.000

Parsimony-Adjusted Measures

Model	PRATIO	PNFI	PCFI
Default model	.773	.757	.770
Saturated model	.000	.000	.000
Independence model	1.000	.000	.000

NCP

Model	NCP	LO 90	HI 90
Default model	10.298	.000	34.162
Saturated model	.000	.000	.000
Independence model	3025.369	2847.034	3211.018

FMIN

Model	FMIN	F0	LO 90	HI 90
Default model	.132	.022	.000	.074
Saturated model	.000	.000	.000	.000
Independence model	6.662	6.520	6.136	6.920

RMSEA

Model	RMSEA	LO 90	HI 90	PCLOSE
Default model	.021	.000	.038	.999
Independence model	.314	.305	.324	.000

AIC

Model	AIC	BCC	BIC	CAIC
Default model	115.298	116.854	227.133	254.133
Saturated model	156.000	160.497	479.079	557.079
Independence model	3115.369	3116.061	3165.074	3177.074

ECVI

Model	ECVI	LO 90	HI 90	MECVI
Default model	.248	.226	.300	.252
Saturated model	.336	.336	.336	.346
Independence model	6.714	6.330	7.114	6.716

HOELTER

Model	HOELTER	HOELTER
	.05	.01
Default model	520	586
Independence model	13	15

Model Fit Summary

CMIN

Model	NPAR	CMIN	DF	PCMIN/DF
Default model	27	61.461	51	.150
Saturated model	78	.000	0	
Independence model	12	2864.684	66	.000

RMR, GFI

Model	RMR	GFI	AGFI	PGFI
Default model	.029	.978	.967	.640
Saturated model	.000	1.000		
Independence model	.554	.306	.180	.259

Baseline Comparisons

Model	NFI	RFI	IFI	TLI	CFI
	Delta1	rho1	Delta2	rho2	
Default model	.979	.972	.996	.995	.996
Saturated model	1.000		1.000		1.000
Independence model	.000	.000	.000	.000	.000

Parsimony-Adjusted Measures

Model	PRATIO	PNFI	PCFI
Default model	.773	.756	.770
Saturated model	.000	.000	.000
Independence model	1.000	.000	.000

NCP

Model	NCP	LO 90	HI 90
Default model	10.461	.000	34.369
Saturated model	.000	.000	.000
Independence model	2798.684	2627.223	2977.461

FMIN

Model	FMIN	F0	LO 90	HI 90
Default model	.132	.023	.000	.074
Saturated model	.000	.000	.000	.000
Independence model	6.174	6.032	5.662	6.417

RMSEA

Model	RMSEA	LO 90	HI 90	PCLOSE
Default model	.021	.000	.038	.999
Independence model	.302	.293	.312	.000

AIC

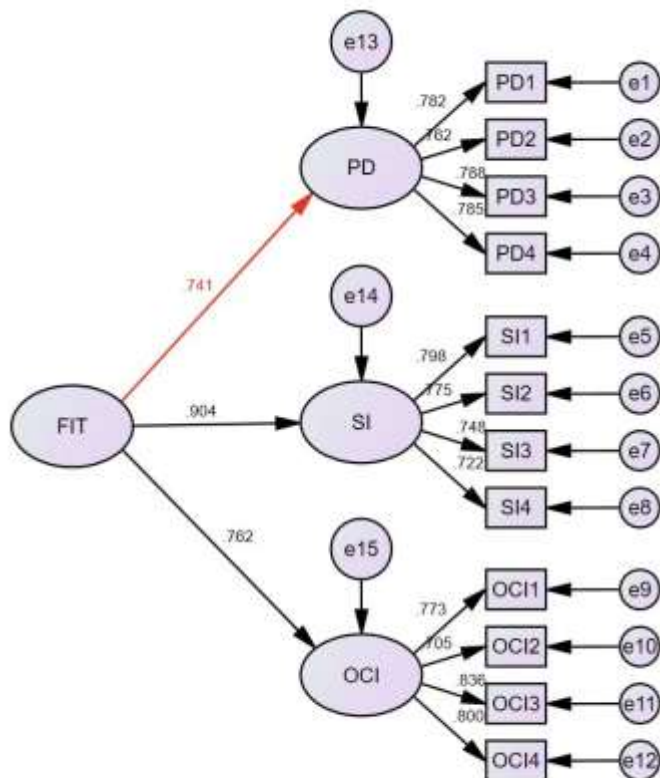
Model	AIC	BCC	BIC	CAIC
Default model	115.461	117.018	227.296	254.296
Saturated model	156.000	160.497	479.079	557.079
Independence model	2888.684	2889.376	2938.388	2950.388

ECVI

Model	ECVI	LO 90	HI 90	MECVI
Default model	.249	.226	.300	.252
Saturated model	.336	.336	.336	.346
Independence model	6.226	5.856	6.611	6.227

HOELTER

Model	HOELTER	HOELTER
	.05	.01
Default model	519	585
Independence model	14	16



Model Fit Summary

CMIN

Model	NPAR	CMIN	DF	PCMIN/DF
Default model	27	57.145	51	.258
Saturated model	78	.000	0	
Independence model	12	3372.697	66	.000

RMR, GFI

Model	RMR	GFI	AGFI	PGFI
Default model	.033	.980	.969	.641
Saturated model	.000	1.000		
Independence model	.604	.279	.148	.236

Baseline Comparisons

Model	NFI	RFI	IFI	TLI	CFI
	Delta1	rho1	Delta2	rho2	
Default model	.983	.978	.998	.998	.998
Saturated model	1.000		1.000		1.000
Independence model	.000	.000	.000	.000	.000

Parsimony-Adjusted Measures

Model	PRATIO	PNFI	PCFI
Default model	.773	.760	.771
Saturated model	.000	.000	.000
Independence model	1.000	.000	.000

NCP

Model	NCP	LO 90	HI 90
Default model	6.145	.000	28.882
Saturated model	.000	.000	.000
Independence model	3306.697	3120.160	3500.527

FMIN

Model	FMIN	F0	LO 90	HI 90
Default model	.123	.013	.000	.062
Saturated model	.000	.000	.000	.000
Independence model	7.269	7.127	6.724	7.544

RMSEA

Model	RMSEA	LO 90	HI 90	PCLOSE
Default model	.016	.000	.035	1.000
Independence model	.329	.319	.338	.000

AIC

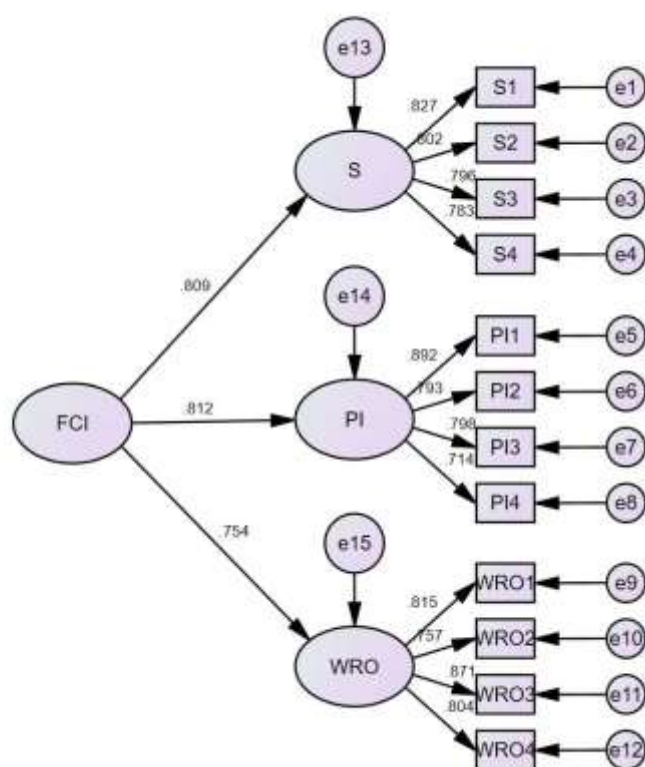
Model	AIC	BCC	BIC	CAIC
Default model	111.145	112.702	222.980	249.980
Saturated model	156.000	160.497	479.079	557.079
Independence model	3396.697	3397.389	3446.402	3458.402

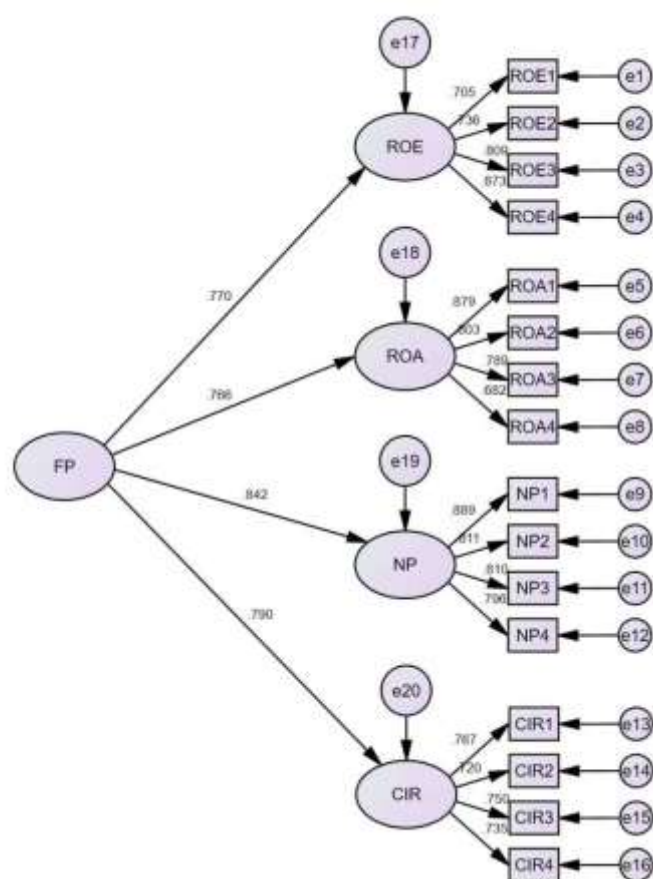
ECVI

Model	ECVI	LO 90	HI 90	MECVI
Default model	.240	.226	.289	.243
Saturated model	.336	.336	.336	.346
Independence model	7.320	6.918	7.738	7.322

HOELTER

Model	HOELTER	HOELTER
	.05	.01
Default model	558	629
Independence model	12	14





Model Fit Summary

CMIN

Model	NPAR	CMIN	DF	PCMIN/DF
Default model	36	123.451	100	.056
Saturated model	136	.000	0	
Independence model	16	4317.555	120	.000

RMR, GFI

Model	RMR	GFI	AGFI	PGFI
Default model	.039	.968	.956	.712
Saturated model	.000	1.000		
Independence model	.573	.249	.149	.220

Baseline Comparisons

Model	NFI	RFI	IFI	TLI	CFI
	Delta1	rho1	Delta2	rho2	
Default model	.971	.966	.994	.993	.994
Saturated model	1.000		1.000		1.000
Independence model	.000	.000	.000	.000	.000

Parsimony-Adjusted Measures

Model	PRATIO	PNFI	PCFI
Default model	.833	.810	.829
Saturated model	.000	.000	.000
Independence model	1.000	.000	.000

NCP

Model	NCP	LO 90	HI 90
Default model	23.451	.000	55.790
Saturated model	.000	.000	.000
Independence model	4197.555	3986.443	4415.923

FMIN

Model	FMIN	F0	LO 90	HI 90
Default model	.266	.051	.000	.120
Saturated model	.000	.000	.000	.000
Independence model	9.305	9.046	8.591	9.517

RMSEA

Model	RMSEA	LO 90	HI 90	PCLOSE
Default model	.022	.000	.035	1.000
Independence model	.275	.268	.282	.000

AIC

Model	AIC	BCC	BIC	CAIC
Default model	195.451	198.189	344.564	380.564
Saturated model	272.000	282.345	835.317	971.317
Independence model	4349.555	4350.772	4415.828	4431.828

ECVI

Model	ECVI	LO 90	HI 90	MECVI
Default model	.421	.371	.491	.427
Saturated model	.586	.586	.586	.609
Independence model	9.374	8.919	9.845	9.377

HOELTER

Model	HOELTER	HOELTER
	.05	.01
Default model	468	511
Independence model	16	18

Appendix E

Certificate of English



BANSOMDEJCHAOPRAYA
RAJABHAT UNIVERSITY

This is to certify that

Mr. Xu ZhanPeng

Achieved BSRU English Proficiency Test (BSRU-TEP) level

C1

Given on 9th August 2022

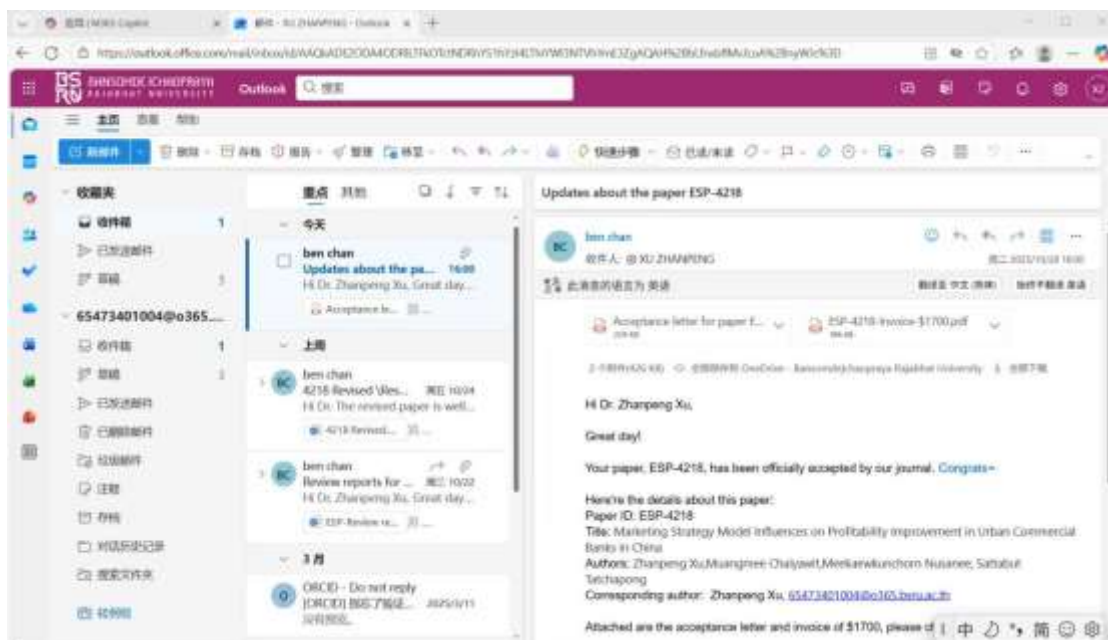
A blue ink signature, likely of Dr. Kulsirin Aphiratoradej, is written over the printed name.

(Assistant Professor Dr Kulsirin Aphiratoradej)

Director

Appendix F

The Document for Acceptance Research



Appendix G

Proofreading Certification



Researcher Profile

Name Xu Zhanpeng
Day/Month/Year 16 February 1984

Educational

- Master of Software Engineering, Yunnan University, China, 2012.
- Double degree (Bachelor of Arts, Bachelor of Laws), Jiangxi University of Finance and Economics, China, 2008.

Work experience:

- Since March 2010, I have been employed at Guangxi Beibu Gulf Bank, China, holding positions such as assistant in the Head Office's Office and deputy branch manager of Chongzuo Branch. Currently, I am the branch manager of Wuzhou Branch.
- From December 2008 to February 2010, I worked as an officer in the Second Secretariat of the Office of the People's Government of Chongzuo City, China.
- From July 2008 to November 2008, I served as a volunteer under the "College Students' Western Support Program" at the Work Safety Supervision Bureau of Daxin County, Chongzuo City, China.

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