



The Risk Challenges and Countermeasures of Commercial Banks under Digital Transformation

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Abstract. Starting from the analysis of the connotation and development trend of digital transformation, this article analyzes the inherent logic and current development status of digital transformation in commercial banks, and analyzes the difficulties faced by commercial banks during transformation from macro and micro levels. It points out the four risks faced by commercial banks, including "digital transformation strategy risk, compliance risk of innovative business, model and algorithm risk, data security and privacy protection risk". Thus proposing national macro level strategies for "three enhancements" and micro level digital transformation strategies for commercial banks for "four comprehensives".

Keywords: Digital transformation of commercial banks, risks, challenges, and development strategies.

1 Introduction

This study will help commercial banks achieve sustainable development under the digital transformation. 1, Background of research project: In recent years, the application of digital technology in the financial field has become increasingly widespread, changing the business model and customer interaction of banks. The digital transformation of commercial banks has become an inevitable trend. 2, Current research issues: Through a review of existing literature, we have found that the following issues still exist in the current research. 1. Lack of systematicity: Existing research mostly focuses on a certain aspect and lacks comprehensive and systematic analysis of digital transformation. 2. Emphasizing technology over strategy: Overly focusing on technology application and insufficient attention to strategic planning. 3. Data security risks: Research on data utilization and protection is still incomplete. 3, The significance and purpose of this study: 1 Provide comprehensive guidance: systematically analyze the key factors and implementation paths of digital transformation in commercial banks. 2. Emphasize strategic importance: Encourage banks to focus on strategic leadership when promoting digital transformation. 3. Pay attention to data security: provide suggestions to ensure data security and compliant utilization.

Productivity determines production relations! Technology, as the primary productive force, is undoubtedly developing at a rapid pace, driving the global economy and society to erupt in rounds of technological revolution and industrial transformation. Digital technology, as the most important and dynamic field of technology, is also continuously driving the comprehensive transformation of global economic and social production, lifestyle, and governance in all aspects. The financial industry with natural digital genes should naturally become the leading industry in digital transformation in various sectors of society. In the post pandemic era, the "home economy" is heating up, and the demand for online, mobile, and intelligent services is gradually solidifying. Customer consumption habits and psychology have changed, becoming the most powerful driving force for promoting the transformation of banking business and comprehensively accelerating online, digital, and intelligent services. The digital transformation of commercial banks is not only an important measure for building a digital economy and implementing digital industrialization strategies, but also a key measure to improve the quality and efficiency of financial services, fill traditional shortcomings, and is the internal logic of the development of commercial banks themselves. What impact will digital technology bring to commercial banks? As an industry closely integrated with digital technology, what risks and challenges will commercial banks face, and how should they seize new opportunities and meet new challenges in the context of digitalization? These are all the answers that commercial banks must submit for digital transformation under high-quality development.

2 The connotation and development trend of digital transformation

2.1 Interpretation of the connotation of digital transformation

Digital transformation is a high-level transformation established on the basis of digital transformation and upgrading, further touching on the core business of the company, with the goal of rebuilding a new business model. Therefore, the goal of digital transformation is to develop digital technologies and support capabilities to create a dynamic digital business model. Digital transformation is not simply about digitizing traditional enterprise operations, management, marketing, sales, and other aspects. Instead, it involves forming a "digital" mindset within the enterprise, constructing a "digital" operation and management model, revising enterprise development strategies and business models around "digitalization," formulating "digitalization" implementation plans and plans based on the actual situation of the enterprise, and building the digital assets of the enterprise Digital credit and digital service system, etc. The ultimate goal is to achieve (Internet, big data, cloud technology, artificial intelligence, blockchain, virtual and augmented reality, underlying technology, peripheral technology, integrated application technology and other aspects) a comprehensive system of new products and services for enterprises through digital technology research and development, design, production, and operation.

2.2 Analysis of digital transformation trends

With the promotion of national industrial digitization and digital industrialization strategies, digital transformation has become a rolling wave in the development of the national economy. Firstly, it is reflected in the comprehensive awakening and improvement of digital literacy and skill application among citizens and enterprises, which leads to a more urgent demand for digital technology talents; Secondly, the aggregation effect of the iterative upgrading and accumulation coupling of traditional business elements driven by data elements is becoming increasingly evident, driving the emergence of new tracks brought about by industrial innovation in various industries; The third aspect is that the development path of "digitalization+platformization" has become a basic standard for digital transformation. Taking mobile banking as an example, currently mobile banking has changed from "old three types" to "new three types". "old three types" refer to heavy construction, strong maintenance, and strict risk control; The "new three types" refer to intelligent operation, intelligent risk control, and emotional experience. The fourth aspect is reflected in the stricter requirements for the security, standardization, and compliance of the entire digital process. Under the dual drive of "data+technology", financial risk control is showing a trend of three aspects: first, from post monitoring to real-time monitoring before and during the event; second, from single point risk control and local risk control to full chain and full process risk control; third, from risk control based on management systems and expert experience to super-imposed AI and intelligence.

3 The internal logic and development status of digital transformation in commercial banks

3.1 The inherent logic driving the digital transformation of commercial banks

Firstly, digital transformation is an inevitable result of technological change. Those who follow the digital wave will prosper, while those who go against it will perish! If commercial banks cannot shorten the time and space distance of providing services to customers through digital transformation, truly making services ubiquitous and available all the time, it will be a matter of time before commercial banks are eliminated or replaced by new financial formats.

Secondly, digital transformation is an objective need to address the uneven development of commercial banks and improve the overall level of financial services. Objectively speaking, the development level of commercial banks is often closely related to the development level of their respective regions. Compared to developed regions, commercial banks in underdeveloped areas tend to lag behind in terms of both business volume and service level, resulting in supply-demand structural contradictions in their business models and a more pronounced imbalance and insufficient development. In addition, due to the profit oriented nature, the financial service level of commercial banks in small and micro enterprises, private enterprises, agriculture, rural areas, and poverty alleviation needs to be further improved. Our research findings indicate a pos-

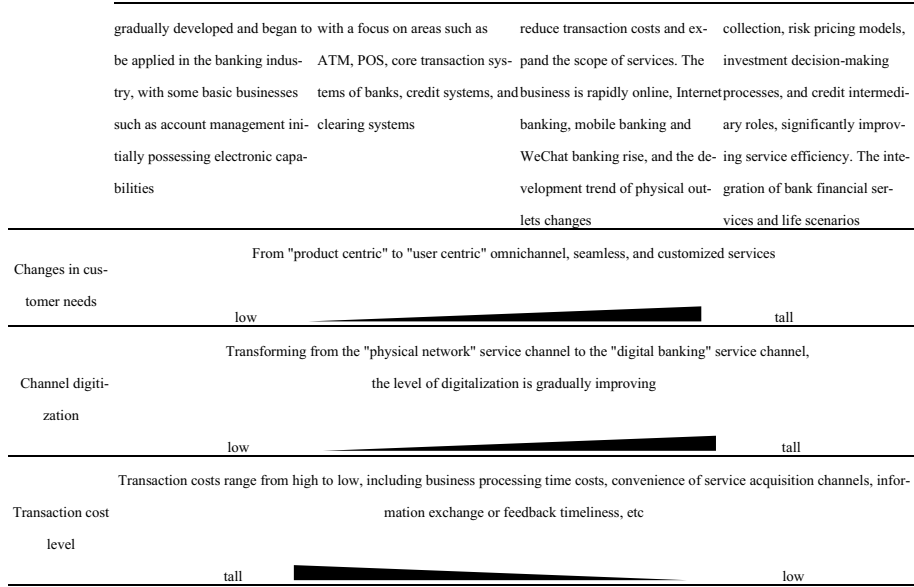
itive relationship between digital transformation and customer relationship management. The current study recommends measures that guide the development of digital transformation processes within the banking sector. This research is important as it provides solutions, which can assist management and contact centres for commercial banks to manage customer relationships in modern business. [1]Therefore, promoting the digital transformation of commercial banks is conducive to more efficient allocation of financial resources in key areas and weak links of economic and social development, and more fully meeting the diversified financial needs of the people and the real economy under the new situation.

Thirdly, digital transformation is the self demand of commercial banks for cross-border integration and development. With the development of Internet finance, if traditional commercial banks do not make full digital transformation, it will be difficult to adapt to the changes in consumer demand for the banking industry in the digital economy era. In particular, the third-party payment function of the Internet giant has restructured consumer payment modes and payment habits, especially the extensive use of algorithm models, which enables Internet companies to accurately depict user profiles according to user behavior Provides unlimited possibilities for further serving users. With the development of financial technology, a large number of non bank financial institutions use big data technology to build user profiles and evaluate user credit. With their professional research and development team and low customer acquisition costs, they reduce loan risks while shortening lending time, quickly occupy the personal consumer market, accelerate the phenomenon of financial disintermediation, and squeeze the business scale and operating profits of traditional commercial banks. Therefore, commercial banks must accelerate their digital transformation and quickly adjust their strategic positioning to more effectively respond to cross-border competition. For example, combining retail business with financial technology, artificial intelligence, big data technology, and biotechnology to launch new financial products and services to meet the personalized and diversified needs of customers. (Reference Table 1)

Table 1. The Digital Transformation Route of Commercial Banks[2]

	Bank1.0	Bank2.0	Bank3.0	bank4.0
	Highly dependent on physical branches	E-Banking	Online banking/ mobile banking	Open Bank/Digital Bank
	1942-1960	1960-1995	1990-2014	Since 2015
	The business form is basically based on physical branches, highly dependent on physical branches and manual operations, with low overall operational efficiency, single products and services, and high homogenization. Transaction settlement is the most important business. After the 1940s, information technology	Electronic information technology has broadened the reach of banking services, and the trend of electronic technology replacing manual labor is preliminarily emerging. Mainly utilizing electronic information technology to improve formation technology to improve business efficiency and computerization, self completing simple transactional banking services,	The equal development of online channels and physical branches has become an important way to obtain business. The Internet or mobile terminals are mainly used to realize the interconnection of the asset end, transaction end, payment end and capital end in the commercial banking business,	Traditional physical branches are accelerating their transformation towards smart branches, shifting from "product centric" to "user centric". They utilize information technologies such as big data, cloud computing, artificial intelligence, and blockchain to change the sources of bank information

Roadmap for
Digital Transfor-
mation of Com-
mercial Banks



3.2 The current status of digital transformation in commercial banks

In the past three years, with the promotion of the national industrial digitalization strategy, commercial banks have accelerated their pace in introducing financial technology investment, technology professionals, and other aspects, accelerating the empowerment of financial technology, and presenting a diverse trend of digital transformation. State owned large banks have made comprehensive breakthroughs in digital platform construction, technology architecture layout, intelligent risk control, and other aspects with their own first mover advantages; Joint stock banks, relying on their own resource endowments, have made distinctive progress in different financial technology sub sectors; Small and medium-sized banks, based on local advantages and regional economic development, also exhibit a competitive digital transformation style.

1). The investment in digital transformation continues to increase. State owned commercial banks started their digital transformation early and laid out quickly. Due to their absolute advantages in financial strength, customer base, and market size, they have invested heavily in digital transformation and achieved considerable results. The progress in high-quality promotion of financial digital transformation is quite significant. According to the 2022 annual report, not only state-owned commercial banks continue to increase their investment in financial technology, but also commercial banks such as joint-stock banks and urban commercial banks have seen a significant increase in their investment in technology. (Reference Table 2).

Table 2. Investment and proportion of financial technology by some commercial banks

Unit: 100 million yuan				
	Financial technology investment in 2021	Financial technology investment in 2022	Year-on-year growth rate	The proportion of financial technology investment to revenue in 2022
Industrial and Commercial Bank of China	259.87	262.24	0.91%	2.86%
China Construction Bank	235.76	232.90	-1.21%	2.835
postal savings bank of china	100.30	106.52	6.20%	3.18
China Merchants Bank	132.91	141.68	6.60%	4.51%
China CITIC Bank	75.37	87.49	16.08%	4.14%

(Organize based on public information)

2). The demand for technological talents is constantly increasing. From the perspective of the talent recruitment structure of commercial banks in the past three years, the efforts of various commercial banks to introduce, reserve, and cultivate talents for digital transformation are increasing day by day. In 2022, there are 5 banks with over 10000 technology employees. Except for China Merchants Bank, the other 4 are all state-owned large banks. The five banks are Industrial and Commercial Bank of China (36000 employees), Construction Bank of China (15811 employees), Bank of China (13318 employees), China Merchants Bank (10846 employees), and Agricultural Bank of China (10021 employees). [3] (Reference Table3).

Table 3. Statistics on the number of fintech employees in some banks

Unit: 10000(Organize based on public information)			
	Number of fintech employees in 2021	Number of fintech employees in 2022	Proportion to the total number of employees
Industrial and Commercial Bank of China	3.50	3.60	8.30%
China Construction Bank	1.51	1.58	4.20%
postal savings bank of china	0.54	0.64	3.27%
China Merchants Bank	1.00	1.08	9.60%
China CITIC Bank	0.43	0.48	8.40%

3). Digital transformation has its own characteristics. Due to the lack of unified standards for industry digital transformation at the national level, various commercial banks also exhibit different characteristics in their digital transformation. State owned large banks strengthen the construction of digital transformation professional strength by establishing fintech subsidiaries, joint-stock banks focus on developing in fintech sub sectors based on their own resource endowments, and small and medium-sized banks develop according to local economic aggregate and relevant support policies. The result shows that the digital transformation has a positive impact on the performance of Vietnamese commercial banks. Besides, we also find that the larger the banks, the greater the positive impact of digital transformation on bank performance. Therefore, the efficiency of digital transformation depends on a bank scale. [4]

4 The challenges and risks faced by commercial banks in their digital transformation

4.1 Dilemma Analysis

1). At the macro level. on the one hand, it is reflected in the relatively lagging conceptual concepts, that is, there is a cognitive gap in the application of digital technology empowerment among local governments, regulatory agencies, financial institutions, and others. On the one hand, this is reflected in the lack of standards for digital transformation in the financial industry. In terms of implementation and implementation, there objectively exists a lack of relatively unified industry standards and more specific implementation opinions when the country issues relevant guidance and policies for digital transformation in industries. As a result, commercial banks can only cross the river by feeling the stones when promoting digital transformation. The third issue is reflected in the lack of technical standards at the national level, especially in the areas of "cloud sharing", "cloud data", and data security in commercial banks, which lack the necessary system standards. In addition, there is a lack of compliance protection for digital assets, data permissions, technical standards, and other aspects at the national legal level.

2). At the micro level. due to the different software and hardware conditions of each commercial bank, in addition to facing internal shortcomings such as insufficient digital transformation ability, weak overall business collaboration ability, lack of scientific and technological talents, lack of systematic design ability, and difficulties in organizational structure adjustment, they also need to face external situations such as insufficient support from relatively conservative observation by local governments and regulatory departments.

4.2 Facing risks

The Guiding Opinions of the General Office of the China Banking and Insurance Regulatory Commission on the Digital Transformation of the Banking and Insurance Industry clearly state the need to strengthen risk prevention in seven aspects, Specifically,

it includes strengthening strategic risk management, enhancing compliance management of innovative businesses, enhancing liquidity risk management in digital environments, enhancing operational and outsourcing risk management, preventing model and algorithm risks, strengthening network security protection, and enhancing data security and privacy protection. [5] Undoubtedly, the risk prevention mentioned in the guidance covers the risks that may occur in the digital transformation of commercial banks across all business, processes, and aspects. It not only includes the risks of digital technology itself transforming in the business cycle of commercial banks, but more risks come from the occasional technical risks brought by the constantly evolving technology itself to the rigorous and conservative business of commercial banks, the security risks in data production, circulation, and preservation, and the systemic and global comprehensive risks caused by multi-point scattering. Just like a truly mature drug, it requires a considerable amount of clinical testing and long-term observation to obtain safe and reliable market access. However, due to the rapid development of digital technology itself, commercial banks do not have sufficient time to repeatedly practice their digital transformation until it is 100% secure. Based on the above, the risks faced by commercial banks in digital transformation can be summarized as follows:

1). Risk of digital transformation strategy. This mainly refers to the fact that commercial banks must ensure that the digital transformation strategy and implementation process match the operational development needs, technological strength, and risk control capabilities of the institution when formulating digital transformation strategic plans. If the transformation goal plan formulated does not match one's own abilities and there are errors, the execution results will inevitably lead to erroneous results, and the more advanced the technology, the more the strategy may fail. The strategic plan for digital transformation is ultimately determined by the executive decision-making team. Due to factors such as cognitive limitations, personal preferences, and balancing personal interests of decision-makers, the final transformation plan may deviate from the correct operating trajectory. [6] Therefore, grasping the relationship between digital transformation strategy and commercial bank risk preferences, and incorporating digital transformation related risks into a comprehensive risk management system, is the primary risk bottom line that all commercial banks must firmly adhere to in promoting digital transformation.

2). Compliance risks of innovative businesses. The power of social progress stems from innovation! The high-quality development of commercial banks relies more on establishing sustainable innovation mechanisms. However, data-driven transformation brings more compliance risks to innovative businesses. Effective business change management processes need to be re established in all aspects and links, including consumer protection, data security, compliant sales, product and service pricing, reputation risk, anti money laundering, and counter-terrorism financing, under full business, full process, and full coverage. It is necessary to address the technological and business logic changes brought about by new products, new businesses, and new models Assess changes in service delivery relationships to implement targeted risk management strategies.

3). Model and algorithm risks. Models and algorithms are the fundamental framework for digital transformation and the most important implementation path for digital

technology. Commercial banks not only face the risk of algorithm leakage and tampering, but also security risks caused by the accuracy of the model itself based on the algorithm. At the same time, due to the existence of algorithmic "blind boxes" in artificial intelligence, it is easy to prevent potential issues in transparency and interpretability of the model from being discovered. Even if cross validation and regular evaluation of the accuracy and adequacy of the model data are carried out according to the "opinions", Due to the significant human nature of parameters in models such as customer screening and risk assessment, algorithms and models cannot fully cover major market risks during use, leading to limitations and lagging risks, which may result in serious losses.

4). Data security and privacy protection risks. The risk of data security and privacy protection is the primary prerequisite and inevitable requirement for the stable and sustainable development of digital transformation, and it is also a key issue for the high-quality development of commercial banks. The digital transformation of commercial banks will inevitably bring about the production, flow, and storage of massive data. With this geometric growth of massive data, various risks such as hacker attacks, virus intrusions, illegal leaks, and unstable new technologies come one after another. How to ensure data security and privacy protection not only poses higher security standards for individual commercial banks, but also poses new challenges for the national industrial digitization strategy. In addition, strengthening the prevention of network security risks is also an aspect that commercial banks must attach great importance to in their digital transformation. It is necessary to comprehensively build a network security protection system from three aspects: technical system, prevention mechanism, and emergency response.

5 Analysis of digital transformation strategies for commercial banks

The Central Financial Work Conference clearly proposed to do a good job in five major articles, namely "technology finance, green finance, inclusive finance, pension finance, and digital finance", each of which is closely related to the digital transformation of commercial banks. The digital transformation of commercial banks is not only an inherent demand for their own industry development, but also a necessary path to promote high-quality financial development. It is also an important component of implementing the central government's plan to build a strong financial country and a modern financial system with Chinese characteristics. From the two dimensions of national macro level and commercial bank micro level, the digital transformation of commercial banks should do well in the following aspects.

5.1 National macro level

1). Strengthen the construction of an interactive and integrated mechanism between finance and technology. Commercial banks are undergoing digital transformation. During the process, the top-level design of the interaction and integration mechanism

between finance and technology should be done well at the national level. We need to layout the funding chain around the innovation chain and industrial chain, continuously improve the credit infrastructure and exclusive mechanism of science and technology finance, and improve the comprehensive service system that covers science and technology innovation activities and the entire life cycle of science and technology innovation entities. We need to establish a more specific "government led, industry led, and commercial bank fully involved" up and down linkage mechanism, standing from the perspective of the financial industry as a whole and based on the unique laws of commercial banks, to implement the requirements of the national industrial digitization strategy into the comprehensive service of commercial bank digital transformation. We need to further improve the construction of laws and regulations related to the digital transformation of commercial banks, especially in the new situations and problems that arise in the process of data production, circulation, and storage. We need to continuously improve relevant laws and regulations and build a more comprehensive and practical legal and regulatory system as a guarantee.

2). Strengthen the iterative upgrading of digital infrastructure. To comprehensively promote the construction of information network infrastructure, we will accelerate the expansion of backbone networks by building intelligent and comprehensive digital information infrastructure that is high-speed, ubiquitous, integrated with heaven and earth, cloud network integration, intelligent and agile, green and low-carbon, and safe and controllable, [7] Provide the most powerful information network guarantee for the digitalization of the financial industry. We must make every effort to promote the construction pace of cloud network collaboration and orderly integration of computing networks, accelerate the construction of a national big data center system tailored for the financial industry to coordinate computing power, algorithms, data, and application resources, especially to solve the common needs of "cloud platforms, cloud storage" and other aspects in the digital transformation of commercial banks, and promote the country to accelerate infrastructure, industry standards, and other aspects at the industry level The pace of construction in terms of security and other aspects. Cloud deployment in banks is a systematic and long-term project, and classification management is required for different business priorities, matching of cloud deployment methods, and selection of cloud service platforms to meet the requirements of business stability, compliance, and security. [8] At the same time, it is necessary to formulate an intelligent upgrade plan for the infrastructure of commercial banks, orderly promote the networked, intelligent, service-oriented, and collaborative level of infrastructure of various commercial banks, and build advanced, inclusive, and intelligent collaborative digital integration scene facilities for life services. With the acceleration of China's entry into an aging society, it is necessary to fully meet the special needs of the elderly and other groups in the process of intelligent upgrading of infrastructure, and create a new digital life scene for commercial banks that is shared by everyone, intelligent and harmonious. [9]

3). Strengthen the construction of digital transformation security system. We must effectively strengthen the construction of network security protection capabilities. Relevant functional departments of the state should strengthen commercial banks to propose more practical and targeted industry requirements when implementing network

security technology measures, ensuring the safe and orderly operation of important systems and facilities. We need to strengthen the network security emergency response capabilities of commercial banks throughout their entire business, process, and coverage, support regular security risk assessments, strengthen network security level protection, and evaluate password application security. Secondly, we need to comprehensively improve the level of data security protection. Establish a classification and classification protection system for commercial bank data, standardize the full lifecycle management of data collection, transmission, storage, processing, sharing, and destruction, accelerate the construction of industry cloud platforms, cloud storage sharing systems, and security guarantee systems, and promote the application of network security technologies such as simulated defense and data encryption. At the same time, attention should also be paid to the prevention of personal privacy risks brought about by artificial intelligence, big data application, and other aspects. Thirdly, we must effectively prevent other types of risks. Commercial banks should integrate the risk awareness of digital transformation strategy into the entire implementation process, constantly strengthen the comprehensive assessment of digital economy security risks, and resolutely prevent the economic, technical, and industry risks that may arise from the combination of various risks such as "innovative business risks, process compliance risks, and data technology risks" in digital transformation. (Reference Table4).

Table 4. Construction of Digital Transformation Indicator System for Commercial Banks
(Organize based on public information)

Primary indicators	Secondary indicators	Specific indicator connotations
Strategic digitization	Digital technology mentioned	Calculate the frequency of keywords related to digital transformation in bank annual reports. Use machine learning methods to identify six major categories of keywords, including artificial intelligence blockchain, cloud computing, big data, online, and mobile.
Business digitization	Digital channels	Did the bank launch mobile banking (App) and WeChat banking in the same year.
	digitalized product	Whether the bank carries out Internet financing, Internet credit and e-commerce.
	Digital R&D	The number of patent applications related to digital technology in banks.
manage digitalization	Digital architecture	Does the bank establish digital finance related departments or fintech subsidiaries.
	Digital alent	The proportion of personnel with information technology background in the board of directors and senior management of banks.
	digital collaboration	Did the bank cooperate with external technology companies in the same year.

5.2 At the micro level of commercial banks

1). *Comprehensively and scientifically formulate digital transformation goals.* There is a fundamental difference between the digital transformation of commercial banks this time and the overlapping use of digital technology in the past. In the past, traditional banking services were simply combined with advancements in software and hardware technology, while digital transformation relied on the faster development and wider application of digital technology, disrupting the traditional meaning of commercial banking services. Digital technology, including artificial intelligence, has impacted the entire business and process of commercial banks. The reconstruction of services under full coverage is another revolution in the process of reshaping and reconstructing the ecosystem of commercial banks. From the above analysis, it can be seen that in order for commercial banks to achieve the goal of comprehensive and scientifically formulated digital transformation, it is not only necessary to reflect the comprehensive and scientific starting of the bank's digital transformation planning goals, but also to dynamically adjust and improve with the times. We need to make corresponding top-level design guarantees in the institutional mechanism, clarify the steps and strategies of transformation, focus on breaking through priorities, responsible departments, and resource allocation, and effectively achieve the implementation of the plan.

2). *Comprehensively optimize the construction of information network infrastructure.* Commercial banks should build independent and controllable digital infrastructure in accordance with the principles of the national digital industrialization strategy. At present, due to the lack of unified industry standards and shared data platforms at the national level, commercial banks must rely on their own development positioning and planning goals to promote independent and controllable digital infrastructure construction in order to achieve digital transformation. On the one hand, we need to utilize emerging technologies to promote the transformation and upgrading of internal infrastructure in banks; On the other hand, we should fully draw on the successful experiences and various problems encountered in the industry, and actively, steadily, and orderly carry out information network infrastructure construction. At the same time, it is necessary to fully consider the application layout of emerging technologies such as blockchain, big data, and artificial intelligence, and through top-down digital transformation and upgrading of business systems, enhance the infrastructure guarantee and construction capabilities of commercial banks in various links such as data production, circulation, storage, and sharing. Extensive research and application of artificial intelligence technology applications, accurate mining and analysis of customer behavior data, transaction data and Internet data, building a comprehensive user portrait system with algorithms and models, and comprehensively improving banks' ability to provide personalized and accurate financial services according to different user behaviors and consumption characteristics.

3). *Comprehensively enhance digital comprehensive operation capabilities.* We must comprehensively shape the concept of digital transformation and create a good atmosphere for digital transformation. Commercial banks should reengineer and optimize their existing business processes from aspects such as thinking patterns, operating methods, management methods, and service models, and actively build a new pattern

of integrated online and offline development. Second, we need to take advantage of the opportunity of digital transformation to accelerate product and service innovation, especially the application of "Internet thinking, artificial intelligence, big data empowerment" and other aspects to the upgrading of existing products, convenient optimization of service experience, so as to better adapt to market changes and meet user needs. We need to further strengthen risk awareness and control under digital transformation, strengthen the control of algorithm and model risks that may arise during the process, and avoid unpredictable risks brought by digital technology itself.

4). *Comprehensively strengthen the construction of digital talent teams.* It can be predicted that in the coming years, "digital talents" who possess digital thinking and digital technology empowerment will definitely be the most sought after and popular talents in the team building of commercial banks. On the one hand, commercial banks establish a digital talent training mechanism to comprehensively enhance and cultivate the digital technology application ability of their employees; On the one hand, optimize the internal human resource structure and establish a more oriented mechanism for cultivating and utilizing employees with digital transformation capabilities; Thirdly, commercial banks should also improve and optimize corresponding assessment and evaluation mechanisms, and incorporate the composite talents required for digital transformation into the assessment through performance evaluation systems, in order to stimulate employees' enthusiasm and initiative in digital transformation work.

6 Conclusion

The strategic choice of relying on digital transformation to promote a new round of technological revolution and industrial transformation has become a global consensus, but digital transformation is a means rather than the ultimate goal. The digital transformation of commercial banks is not for the purpose of transformation, but to always adhere to the origin of finance, fully utilize the promotion of commercial banks to focus on digital transformation and achieve business value creation in serving both international and domestic cycles, and promote high-quality financial development through digital transformation. Commercial banks need to build a new financial ecosystem through digital transformation, comprehensively improve service efficiency, continuously reduce enterprise financing costs, and ultimately adhere to the fundamental starting point of implementing the "serving the real economy" proposed by the Central Financial Work Conference. Whether actively choosing or passively following up, the pace of digital transformation of commercial banks is becoming more firm and stable with the gradual promotion of China's industrial digitalization strategy.

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