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Opportunities, Challenges and Paths for Digital Transformation of Chinese Commercial Banks: A Literature Review

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Abstract. Here is a review of existing scholarship: The focus is mainly on the obstacles and navigation routes that Chinese commercial banks encounter when making digital transformations, all under the beneficial conditions provided by fintech. Within this analytic framework: We investigate main technological engines – artificial intelligence, blockchain, cloud computing, huge information added to; to these engines for intermediary financies and property allocations, we make connections with the most archetypal banking frames as from now. Exhibited via present-data there exists a noticeable contraction within the bounds of the market and an observable thinning concerning profit margin brought about by the disruptive introduction of fintech, this contraction serving to reorient rather than completely replace the conventional practices of the sector. It's obvious that there's some fresh avenues which commercial banks have to take advantage of such as optimizing credit allocation through algorithmic innovation, improving business processes, adding new and fresh services for customers with the help of an innovation from algorithm. In the current landscape, institutional entities can address transitional through strategic approaches, requiring intelligent automation systems to enhance digital infrastructure development and reduce costs. This cultivation process must prioritize training local talents in the fintech sector. Notably, existing conceptual frameworks still exhibit theoretical gaps and lack empirical support, necessitating the expansion of research scope to concrete implementation plans to provide directional guidance for future studies.

Keywords: Fintech, Commercial Banks, Digital Migration

1. Introduction

Finance plays an important role in economic development, located in the center of the economic development domain and has a great influence on the quality of economic growth, which can be seen from the subtle circulation and distribution of money. When viewed against comparison objects of advanced economies, the influence asserted by the Chinese capital market proved very prominent here, it got unveiled as remaining marked by shortfall that were not entirely redressed. As the basic structural support of the core of finance, commercial banks are the framework where the vast majority of the operational flows of funds rely and rest. In the process of evolution and

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reorganization of modern industrial system, it is obvious that some fields belong to the scope of these banks to fulfill their social responsibilities. At the same times, there is overwhelming evidences on the spread of digitization exerts revolutionary pressures on the landscape of both economy and society, this kind of shifting phenomenon happens most at the pattern that controls the production process and the way they are structured in organizing around different sectors. From the perspective of the overall development of the country, it’s like saying that finance is akin to the vital fluid of the body, so a necessary solution is an adaptation to the new technological paradigm that is ongoing digital transformation. Upon further thought about the banking industry, it is very apparent that this is an information-intensive business, involving complicated processes that rely on the processing of data. Informational technology field knowledge retention means for financial, information dissemination means, developments leading to a difference not only in operational characteristics but also the intrinsic nature of financial instruments and systems functions,in recent research [1].

In today’s financial environment, significant market chances can arise together with characteristics of digital transformation observed within commercial banking institutions. The existing paradigm of traditional commercial banks is no longer in full accord with the increasingly diversified demands of modern financial service consumers.These banks have always been given an indispensable status, serving as both functional units within the banking sector and a crucial link in the broader framework of the financial industry chain. This unique positioning provides a necessary perspective for understanding the inevitability of transformative digital change, thereby revealing the irreversible trajectory of their institutional development.Undertaken using a methodological orientation mainly framed around the literature review format, this essays aims to examine instances concerning Chinese commercial banks in connection with new technology: both facilitating perspectives as well as encountering resistances within a process of digitization will serve as focal points for analytic attention: Regarding following improvement about operational fluidity, following augmentation of the offered operational service’s competitiveness and qualitative attributes all serve as overarching directions of such transformation work.

2. Development status and core types of fintech

2.1. Artificial Intelligence (AI)

Machine learning algorithms look into customers' past credit records and other pertinent data so as to spot potential default problems on their own. Machine learning, to be specific, AI is different than traditional credit evaluations. It can find more complex risk patterns. An example, a customer's social link activity plus their consumption patterns will pumping up prediction default, risk forecast's accuracy. The advantage is the intelligence of making decisions, which allows for complicated analyses and predictions, as well as automatic decision making. Things like making risk control more precise and using robo-advisors. But there are problems like not being open about how choices are made, which can make people lose faith and make it hard to say who is responsible.

2.2. Blockchain

In order to ensure data authenticity and transparency, banks are actively adopting blockchain technology. By recording customers’ credit history, transaction history on the chain,blockchain creates an unalterable database,nicely making sure the truthfulness and safety of each and every data. And also, blockchain can make the bank share the customer’s credit information, which can

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avoid the information silos, and it can also make the credit judgment more fair. The pro is the trust and trace benefits. Build the trust needed for cross – border payments as well as asset traceability with a distributed and unchangeable record without relying on someone to do it for you. The main difficulty comes from the TPS: The problems of transactions per second, and connecting to traditional systems.

2.3. Cloud computing

Real time data update and analysis is provided by the use of cloud as it has large and strong storage and calculating power. Cloud platform's elastic resources can help commercial banks to answer lots of data and complicated calculation requirements by different departments and also make cross-department communication and information exchange [2]. The advantage is the on-demand and elastic computing and storage, and greatly reduce the on-going cost. It will make sure the application goes on live much faster. Disadvantage is when data is stored at 3rd party platforms this creates security and personal info worries.

2.4. Big data

Based on a lot of data about customers, data tools are used to do marketing, risk data analysis and other kinds of data analysis to help the bank do things and try new things. The main data used includes both structured and unstructured data. Structured data includes customer information, customer behavior data, transaction data, overdue data, and accounting data. Unstructured data includes social network information, call center logs, and market survey data. Big data can help the bank reduce the operational cost, increase customer stickiness and relationship, and manage the risk. Banks mainly apply in marketing,customer knowledge,risks management [3]. The advantage can be very large amounts of data, and based on that, identify trends and make trend predictions, and achieve targeted marketing and timely risk control. But it faces big problems about data being good, safe, and hiding people’s secrets well.

3. Fintech on commercial banks analysis

The fast progress of fintech in China has brought about great effects on Chinese commercial banks, and at the same time, these changes have also taken place inside the internal structure of commercial banks. Fintech has exerted some influences upon credit structure, risk management and operational efficiency as well as development strategy of the commercial banks, thus it will necessarily influence the competitive situation of the whole banking industry [4].

3.1. The fintech influence of asset business for commercial banks

As the primary business activity for banks to make money, the asset business mainly refers to investments and loans. A commercial bank’s ability to make use of its assets has a direct link to its funding sources. Therefore the direct effect of internet finance towards liability business is equivalent to an indirect impact on bank’s asset business. Internet credit businesses absorb idle funds from society, i.e., funds that would have flowed into bank deposits, leading to a decline in bank deposit funds and indirectly impacting the size of the bank's lending scale.Internet finance technology offers flexible and varied credit services. Now financial financing platform provides proper credit products for small and medium sized enterprises, it provides more user-friendly solution for the business which are not able to get bank loan. With the rapid development of big data

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and IT technology, internet credit integrates high-tech credit with big data. By consolidating and analyzing all kinds of information, it conducts credit evaluations on future borrowers and then provides tailor-made loan amounts and services according to the evaluation results. Due to there being such a large amount of SMEs in China, the internet financing market has replaced the credit market share from commercial banks. Internet financing serves has advantages like low thresholds and fast efficiency in lending, which causes great customer sweep out for commercial banks. Therefore, it also makes it hard for banks to solve financing problems for small and medium businesses which leads them to have less market share and less advantages over other competitors in this area, thus their income based on spread of interests will be affected.

3.2. Impact of fintech on the intermediate business of commercial banks

The intermediate business of commercial banks is a core business in addition to liability and asset business, and has become an important force for innovation in banking financial institutions. Payment, settling account, and financial management business of fintech also brought some effects on the intermediary business of the commercial banks. In recent years, China's third - party payment industry is growing rapidly and is beginning to threaten banks' payment and settlement industry. The payment situations of third-party payment are more various than traditional bank payment. Third-party payment platforms represented by Alipay and WeChat Pay have changed previous payment practices. Third-party payment settlements can meet people's payment needs anytime, anywhere and provide convenient payment methods without charging any handling fees. Beyond function such as transferring, paying, and consumption, third party payment can also do services such as living payment, top up center, healthcare, and transportation. As compared to that of banks' acquiring business agency services, people prefer the collection business services provided by third-parties which has an impact on the certain payment and settlement business of banks [5].

4. Fintech commercial banks opportunities and challenges

Fintech develops quickly and gives bank credit resource allocation a new chance of optimization: Technologically, as the application of cloud computing technology, artificial intelligence, blockchain and other technologies are relatively mature, it can reduce the cost of data processing and realize the ability to analyze information, so as to provide technical support for Commercial Banks to reconsider and redesign the resource allocation methods. The support from regulatory institutions on opening and sharing data eliminates institutional obstacles for cross sector information integration and makes good use of government data, credit data, third-party data and so on possible: The market environment is changing as well, and it provides a push as well for innovation. Customers want more convenient and personalized financial services, so banks have to change how they do business. The rapid development of the digital economy creates a large number of new businesses and forms, which provide a wide market for banks to expand their service targets and increase their product types. The maturity of these external conditions allows banks to break free from the shackles of traditional business concepts and try more scientific and reasonable resource allocation methods. During this window of opportunity. banks need to establish a modern resource allocation system [6].

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5. Chinese commercial banks digital transformation pathway and plan

5.1. Strengthening digital infrastructure construction

Strengthening digital infrastructure building is the base of fintech. Digitization has become the way of globalization, a large amount of data represents the digital economy. The financial industry is one of the most watched industries under the digital economy. In recent years, although China's digital technologies have developed at a fast speed, the foundational digital groundwork is still fragile, which is not beneficial for the growth of fintech. So, China should improve its digital construction, speed up 5g base stations, broadband coverage, and make networks faster in villages and remote places. To strengthen the digital infrastructure would be to lay the groundwork and create the guarantees for the development of fintech [7].

5.2. Cutting down operation costs and improve service quality

The traditional service model of commercial banks usually have some flaws. The average time required for business processing is somewhat lengthy and involved, this not only makes financial services less efficient but also makes customers less satisfied. Tracing at the same time, both traditional financial services and commercial banks' financial services heavily depend on counter services. This greatly increases the service cost of commercial banks. Fintech comes with intelligent service systems for commercial banks. Use intelligent terminals, migrate counter business, improve financial business process, and enhance service efficiency. Commercial banks also create a service system of "cloud counters+intelligent machines+mobile banking", reducing customers' waiting time and improving the convenience of doing accounts, making deposits and withdrawal, transfers and so on, raising customers' satisfaction [8]

5.3. Putting in more effort in nurturing fintech talent, improve how talents are evaluated and motivated

Talent is a major factor in the development of fintech. To strengthen its competitive edge,commercial banks actively develop fintech, as building a team of talents and human resource development cannot be overlooked. First, commercial banks need to strengthen cooperation with colleges and universities, establish an industry-academia-research fintech talent training mechanism, and strive to discover and cultivate fintech talents with the help of universities. Cultivating talented people needs the theoretical concepts implanted and reared by colleges and universities. And secondly speaking, there are also many great employees within the commercial banking system who can be trained as a reserve for the field of fintech. Banks choose employees with related professional backdrops for special training. At the same time, if the bank has the vision, it can also employ industry peers or partners, as well as fintech firms, to help with the transformation. Finally, to achieve long-term and sustainable development for an enterprise, encouraging talent is equally important. So commercial banks have to come up with a bunch of evaluation and incentive mechanisms suitable for fintech talent. It should be different from the evaluation of regular employees. It cannot be tied to traditional risks, or the control of finances. The bank needs to give different encouragement methods according to the nature of work of various kinds of technical talents, and support the digital transformation of commercial banks [9].

6. Conclusion

This paper looks at both the problems and chances brought about by fintech for commercial banks. It analyzes the current development status and disruptive effects on traditional bank models like artificial intelligence, blockchain, cloud computing, big data, etc., in terms of core technologies, particularly focusing on asset business and intermediary business. At the same time, the paper also points out that these technologies give banks many chances to do a better job with their money, give better service, and make new things. The last is the proposal of commercial banks strategy that is the enhancement of digital infrastructure, reduction of cost, and cultivation of talent. This study has some restrictions. First of all, as it's a literature review, it mainly comes to conclusions based on synthesizing and inferring the existing studies without much empirical evidence or case studies about the actual transformation of specific banks. Secondly, the discussion mainly talks about macro-level effects and general ways, failing to analyze the different problems that banks of different sizes and types (such as State-owned large banks, joint-stock banks, and city commercial banks) encounter.

Future research can do better in these areas: First, do experiments that can see good and not-so-good stuff when looking at how well certain changes worked and what troubles came up because they did this by asking people questions, having chats, or looking at what happened in one place. Second, study more to find out different ways and choices for changing money banks using fintech, depending on their kind - like savings banks, big money banks, or special kind of banks. Third, look all around to see how new technology like AI and data science might change the kind of work money banks do.

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