

Study on Digital Transformation Mode of Commercial Banks

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ABSTRACT

In recent years, under the background of a new round of informatization and technology revolution, the process of banking networking and digitization has been accelerated significantly. As the "first driving force" of banking business transformation, digital transformation aims to break the traditional business boundary with digital thinking, empower business innovation through digital operation, and optimize customer experience on the basis of open connection. This paper will first introduce the background of the digital transformation of commercial banks, explore the different paths of the digital transformation through classical case studies and summarize the transformation characteristics of different banks based on the data of bank annual reports and business introduction from 2010 to 2019. Also, this passage will point out that the digital transformation is based on mature technology application construction and customer-centered. What's more, the platform oriented, which can connect online and offline, not only realizing cross-channel management, but also integrating front-rear resources and internal-external resources thus, further develop to management ecology. Tamp the foundation of technology construction and optimize the allocation of talent resources, for the development of digital depth transformation.

Keywords: Commercial bank digital transformation model, interest rate marketization, financial technology

1. INTRODUCTION

Google's trend has shown a surge in interest in financial technology. Financial innovation, supported by technology, has had a significant impact on financial markets and institutions, as well as on the provision of financial services. Thus in recent years, both international and domestic commercial banks have put into digital transformation with big data, using advanced digital analysis technology to deeply tap the digital value, in which case can promote the overall management of the reform[1]. Digitalization means that the bank's operation is based on the information infrastructure composed of computers, various terminals and the Internet, or the operation platform composed of "cloud, network and terminal", and the data generated by these infrastructures are taken as important assets and production factors. Specifically, the digital transformation of commercial banks refers to the ways and methods of adopting digital technologies (such as cloud computing, big data, artificial intelligence, Internet of Things, block chain, etc.) and capabilities to drive organizational business model innovation and business ecosystem reconstruction. Its purpose is to achieve business transformation, innovation and growth.

1.1. Literature Review

There have been researches on the problem of bank digitalization at home and abroad. Boston Consulting Group(BGC)[2] clearly pointed out that only corporate banks willing to carry out all-round digital transformation can survive risks, regulations and other impacts and develop. The bank's digital transformation plan is mainly "one center and four pillars", that is, taking customers as the center, using the four pillars of customer journey, data power, operation mode, and driving organization, to reshape the customer journey. On the whole, Feng Yanming et al. [3] emphasized that the digital transformation process is required to focus on full channel development and risk management on the premise of customer orientation. As for the key to the transformation, Li Jian [4] paid more attention to the underlying applications of digital technology, mainly aiming at scenario finance to further clarify digital marketing strategies such as customer segmentation, precision marketing and data platform. Wei Yanqiu et al. [5] held that digital strategies and concepts were conducive to profound transformation of banks, including organizational structure and processes, and stressed the importance of digital interaction and customer insight. Lu Tianguai[6] summarized characters of digital retail finance while Guo Xiaobei[7] thought that 5G would be helpful to the digital transformation.

1.2. Background of Digital Development of Commercial Banks

1.2.1. Development of digital economy

1.2.1.1. Digital economy environment

With the wave of "Internet Plus" and "Intelligence Plus", the digital economy has been continuously evolving. Since *the Report on the Work of the Government 2015* first proposed the formulation of the "Internet Plus" action plan, various industries in our country have been actively exploring the application of Internet technology[8]. Many new formats and models have emerged, effectively promoting the transformation and upgrading of traditional industries. And the interaction and mutual promotion of supply chain links among various industries and various fields have expanded the application of digital technology from "point" to "area". The continuous optimization of the digital economic environment has promoted the cross integration of various fields. On the one hand, with the development of digital economy, customers' digital demand has become the key driving force for banks' digital transformation; On the other hand, the mature application of digital technology has also laid a foundation for the digital transformation of commercial banks.

1.2.1.2. Financial disintermediation and competitive pressures

In the financial market with asymmetric information, commercial banks often serve customers as intermediate bridges and maintain the order of the financial market as information intermediaries. Under the background of big data, more Internet finance companies enter the market and use the advantages of big data to provide lower cost and higher efficiency services than traditional banks for specific areas such as a specialized area in the credit market, which often makes commercial banks lose important resources in this field. Moreover, large technology companies often have the ability to challenge banks on a large number of product lines, which forces commercial banks to change the original intermediary operation mode relying on offline outlets under competitive pressure, accelerate financial disintermediation, and change from blindly expanding the scale and increasing the number of personnel to providing services to customers in more online ways, reducing costs, and improving efficiency. On the other hand, for commercial banks, the acceleration of interest rate marketization will inevitably increase their capital cost and the level of deposit and loan interest rates, which will gradually narrow the interest margin on that banks depend and reduce the net interest income. This means that banks must innovate through financial technology and use digital

technology to improve the diversity of intermediate business in order to seek further development space.

1.2.2. Strict regulation

Banks play a key role in the financial system, but at the same time, banks are also fragile. Once the market becomes soft, customers will withdraw deposits, leading to bank runs and even bank failures. Bank failures can be contagious and endanger the financial system. Due to the fragility of banks and the potential systemic risks of bankruptcy, banks are subject to strict regulations. In recent years, with the development of online banking and various businesses online, banks have been subject to more and more stringent regulation. In contrast, although it is difficult for financial technology companies to truly become banks under strict regulation, they can often gain benefits by weakening bank strength when competing with banks. For example, financial technology companies do not need to comply with capital requirements to carry out banking business at a lower cost. On the one hand, strict regulation has raised the overall level of the banking industry; On the other hand, it has also made up for the operational limitations of banks, urging banks to use financial technology to empower themselves, thus transforming to a digital and intelligent strategy.

2. CASE ANALYSIS

Under the challenges of interest rate marketization, financial disintermediation and intensified competition, it becomes imminent for commercial banks to implement the digital transformation. As a whole, with the reform of financial market and the wide application of Internet technology, commercial banking has undergone profound changes in business model, technology form and user base[9]. On the one hand, the business model and technology form are changing from the traditional way. On the other hand, the customer market is more complex and changeable, and more young groups are pouring into the market. There is a more urgent demand of digital transformation. In view of the fact that China Construction Bank, Industrial and Commercial Bank of China, China Merchants Bank, and Shanghai Pudong Development Bank have made certain achievements and experiences in digital transformation, which can be seen as in leading position in the industry with certain representativeness, the following will analyze and summarize the modes and characteristics of digital transformation of such four cases after studying their annual reports for nearly ten years.

2.1. China Construction Bank

China Construction Bank has profoundly involved in digital technology, to create a "second curve" of multi-sides win-win which is led by the "TOP+" strategy, and to

strive to promote the development of digital technology in the financial field. Since China Construction Bank announced the completion of the first phase of the new generation core system project in 2013, the potential of financial technology in the bank has begun to be released. From 2010 to 2012, the three-year average net profit growth rate was 112.8 percent, while 141.2 percent from 2013 to 2016, raising nearly 30 points[10]. As of 2019, CCB, on the one hand, has launched a representative "Dragon Payment" enterprise-level digital payment brand; On the other hand, the "Dragon Wealth" personal wealth management platform and the digital account "Rice Gold Card" have been launched for retail. During the epidemic, public services such as "Internet Food Basket" have been launched, steadily embedding services into people's lives through digital technology. Through intelligent ecological construction, financial services will be infiltrated into all aspects of life, and intelligent community service platforms and government affairs platforms will be built, to form a good ecological circle; as for offline, a new concept of "5G+Smart Banking" has been newly launched to strengthen online and offline collaborative operation.

2.2. Industrial and Commercial Bank of China

Industrial and Commercial Bank of China has focused on the strategic goal of building "No. 1 Personal Financial Bank" in an all-round way. Through its unique brand system, ICBC has implemented differentiated business development to meet the multiple needs of customers. It has enabled retail industry, interconnected ecology and other innovative fields with more intelligent new financial models and channels to enhance its core competitiveness in the market.

In the process of digital transformation, ICBC has developed a variety of products for subdivided types of customers. There're many representative brands. For example, it launched ICBC e Series in 2013, Rong e Platform Series in 2015 and ICBC Research in 2019. From 2012 to 2014, all kinds of digital products broke through with an average net profit growth rate of 140.3 percent in three years. The pace of product development has been slow, but the average net profit growth rate between 2015 and 2017 was 101.4 percent, still at a good level[11]. Its products cover a wide range of areas, including many key areas of people's livelihood. At the same time, ICBC attaches great importance to the in-depth development of existing products and systems, and actively promotes the upgrading of various business products. Compared with traditional banks, ICBC has created more "smart +" products. It focuses on the development of scenario-based finance and finds better ways to push out new products with the assistance of the newly released smart ecosystem ECOS, to build a new ecology with new technologies, and enable the transformation and development of the whole bank's business.

2.3. China Merchants Bank

China Merchants Bank adheres to the inheritance of retail characteristics according to its market positioning. In the process of digital transformation, China Merchants Bank has highlighted the development of retail business with APP as the core. It has carried out digital innovation in an "open and integrated" mode, continuously accumulating and precipitating innovation capabilities, and improving management efficiency. Since 2012, China Merchants Bank has taken "China Merchants Bank" and "Palm Life" as its main APP platforms in the retail industry, to explore the possibility of further optimization of digital operation, actively search for online and centralized effective customer operation mode. Based on the existing marketing mode of the platform, it constantly strives to explore and build a digital customer acquisition model, and further improve the efficiency of financial services. From 2010 to 2012, the average net profit growth rate for three years was 120.7 percent, while after 2012, it rose to 157.3 percent between 2013 and 2015, an increase of nearly 37 points[12]. Actually, CMB takes online App as its main battlefield, opens its platform capabilities internally and obtains API cooperation externally, focuses on effective service scenarios in life, expands service scope and boundaries, bridges the gap between channels, and focuses on exploring the construction of financial ecological circle. Through accurate market positioning, China Merchants Bank strengthens large-scale digital financial infrastructure, deepens the integration of business and technology, and transforms into a more dynamic and tension business model.

2.4. Shanghai Pudong Development Bank

Shanghai Pudong Development Bank focuses on "API Bank" unbounded open banks to expand the scope of financial services and further expand the financial ecosystem. In the process of digital transformation, the requirements of digital construction are always "leading, penetrating, integrating and closed loop", and energy gathering and empowerment are carried out in an open ecology. Since 2014, Pudong Development Bank has continuously followed up the platform construction., including developing the retail network credit system platform, combing online bank with more online ways like mobile banking APP and WeChat bank, etc. , in order to fully expand the profit space. The three years from 2013 to 2015, the average net profit growth rate of 152.6 percent, compared with 121.6 percent between 2010 and 2012 have obviously growth, and between 2016 and 2018 also stay in the net profit growth of 102.1 percent on average[13]. Through an open platform, the bank has continuously expanded and extended the connotation of banking business, closely connected with the Internet ecology, and strives to realize efficient real-time connection between customer needs and financial services. It has continuously deepened its channel system, product innovation and

customer service, and achieved effective digital penetration management in its internal structure. At the technical level, SPD Bank has made certain technical breakthroughs, such as the first digital employee "Xiaopu" in 2019, which improves the intelligent interaction experience of customers at the digital level. It also has successfully developed "smart micro-outlets", allowing outlets to follow customers and provide seamless services.

3. SUMMARY AND SUGGESTIONS

3.1. Case Summary

Each bank has its own transformation characteristics, which enlightens the digital transformation of commercial banks from different aspects. First of all, the digitization of commercial banks must be based on technology, and the application of big data should further support the upgrading of business content and mode. For instance, CCB takes the lead in technology and adheres to the "TOP+" technology strategy for multi-terminal development. Secondly, the digital transformation must be customer-centered, and pay attention to the multiple needs of different customer groups, especially in the diversity of products, so as to enhance customer service and strengthen customer experience. Typically, ICBC uses smart ecosystem ECOS to better develop diversified products. It not only has wide product coverage and complete system, but also focuses on the promotion of innovative products to meet the personalized needs of customers.

At the same time, when commercial banks choose digital transformation strategy, they must have clear market positioning and apply digital technology flexibly. According to its own positioning, Industrial China Merchants Bank focuses on directly covering 100 million customers around the two major App platforms, strengthening the combination of people and technologies, and transforming to retail finance 3.0 with a higher level of digital fit. In fact, in terms of channels, combing all the strategy and building an open ecological platform has profoundly promoted the bank digital transformation. Open environment for bank can provide broad development space and form a network of service platforms which are interconnected and interdependent on the basis of constructing ecological scene. Pudong Development Bank focuses on the "digital ecological bank" strategy of unbounded interconnection, focusing on creating a leading intelligent interactive experience in the industry, linking and self-building platform and external ecology, and effectively enabling customers to experience new services. Finally, whether it is technology development, product innovation or channel construction, it needs financial science and technology talents as a solid foundation for continuous development.

3.2. Suggestions on Digital Transformation of Commercial Banks

This paper discusses the necessary system support for the digital transformation of commercial banks from the four dimensions of technologies, products, channels and talents through the transformation modes and characteristics of four typical bank digital transformation cases. These four-dimensional digital systems cooperate with each other from different angles, enabling commercial banks to coordinate and direct their diversified assets, continuously learn and reorganize, and support the realization of digital transformation.

3.2.1. Digital technology

Driven by competitive pressure in this digital era, scientific and technological capability will become one of the key factors to win. Facing the personalized and fragmented needs of a large customer base, emerging technologies such as big data and artificial intelligence will provide efficient support in terms of digital customer acquisition capability, business processing, analysis and decision-making, etc. In terms of digital transformation, Commercial banks must pay attention to the cultivation and research of technical ability, as well as the cutting edge, safety, stability and openness of technology. Starting from the needs of transformation, they should skillfully combine digital tools with manual work, and use digital technology to improve the environmental design of different trips according to customer preferences, to have industry understanding on the basis of technology.

Data is one of the most important new means of production. Grasping more and more data of customers will lay the foundation stone for commercial banks to enhance their capability to perceive and understand customers. Under the traditional mode, the data of each department are kept separately, and the data are not circulated and managed uniformly, leading to ineffectiveness. In order to acquire data-driven capability, commercial banks need to open up data circulation at different levels, realize data sharing between departments and departments, operations and operations, so as to form a more comprehensive understanding of products and customer services. Additionally, cross-border cooperation with the outside is also very important. When building a data platform, external data will be integrated and correlated, data diversification will be taken as an important goal, and scenario planning driven by data analysis will be promoted.

3.2.2. Digital channel

With the development and progress of the Internet, commercial banks have entered the initial stage of scenario finance. From the perspective of online channels, commercial banks must build a customer-centered and data-driven digital marketing system while deeply

exploring customer needs. Starting from the positioning of marketing concepts, the construction of marketing teams, the innovation of marketing modes and other aspects, commercial banks must optimize customers' psychological journey, and construct different service channels on the basis of differences. At the same time, a data marketing platform shall be set up to integrate and clean up internal and external customer data, and deep value mining and analysis shall be carried out on customer data through various and multi-dimensional customer portraits and customer labels. From the perspective of offline channels, banks should pay attention to the transformation and upgrading of digitalization and intelligence of outlets, give full play to the dual advantages of the combination of manpower and digitalization. Actually, In the process of continuous integration of digital and physical channels, the concept and boundary of channels will be constantly expanded, and the wall of self-owned channels will be gradually broken on the basis of integrating resources of the same industry and even cross-border. In the future, digital commercial banks with higher openness will be formed with the goal of co-construction of ecology.

3.2.3. Digital products

Product and service capabilities can be seen as the bank capabilities to develop, promote, operate and iterate new products and services. They are the core capabilities of commercial banks for market competition and can be directly reflected in the digital transformation. In the process of digital transformation, commercial banks not only need to design products and service modes suitable for Internet channels, so as to cooperate with the customer market and accurate marketing system subdivided through data., but also must closely meet the needs of customers, changing from the previous product-based service mode to the customer-based mode, in order to enhance customer loyalty and activity. In terms of openness, is also a good way for commercial banks to export financial scientific and technological resources and jointly develop scenarios with partners to improve service capabilities, which is also an effective strategy to participate in competition. In all, commercial banks should optimize the customer journey experience based on customer feelings, and accomplish the operation and management of the whole life cycle of customers from acquisition, promotion to retention.

3.2.4. Digital talents

Talent is the core of the bank and the key for it to stand out. On the basis of their own positioning, commercial banks must accurately identify the types of talents needed by the industry from the perspective of future strategic planning for products, customers and technical level. At the same time, banks should expand the scope of recruitment and include digital abilities in the skill mix of job seekers. How to attract, cultivate and keep talents is also crucial.

Therefore, banks should do several things: Firstly, to actively coach employees through training, and establish a talent cultivation mechanism; Secondly, to build a diversified, inclusive and agile team, take practical actions to eliminate prejudice and discrimination, recruit more talents from a broad perspective, and build a coordinative team with diversification as the goal; Thirdly, to pay attention to the adjustment of organizational structure, establish a talent incentive mechanism, and promote coordination between departments, accelerating the integration between operation and technology.

3.3. CONCLUSION

In general, the digital transformation of commercial banks must be based of mature technology application, centered on customer experience, platform-oriented, and driven by fintech talents, so as to build a comprehensive and rich product system, improve efficiency and further enhance the value of digital transformation by combing digital strategic objectives with market positioning.

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