

Innovation and Development of Small and Medium-sized Traditional Banking Industry Based on Service Choreography Technology

Feier Chen

Hangzhou Dianzi University, Hangzhou, 310000, China

feierchen11@163.com

Abstract. In the financial services, under the tide of digital and traditional part of the small and medium-sized commercial Banks due to staff shortages, backward organization management system, such as weak information processing ability problem have to flinch, but transformation is the only way to the bank, so the small and medium-sized Banks is an urgent need to use the appropriate financial technology to complete the core business is the transformation of deposits, bank of distributed systems. The vigorous development of innovative technologies such as agency and service choreography can provide new solutions for traditional small and medium-sized banks.

Keywords: Service choreography technology; Bank; Deposit products.

1. Introduction

As the financial industry of the promulgation of the policy, which can be clearly perceived digital economy is an important direction in the future, the bank as a financial main body, also want to use digital technology and science and technology, to help their own innovation and development, to better serve the national economy and people's livelihood, but it has also spawned a lot of opportunities and challenges, let the banking industry is facing an unprecedented great change. The banking industry faces a broader "blue ocean" of business development, but it also faces uncertain risks. The idea of microservice architecture in service choreography technology can be applied to the banking system to reduce the risk of bank transformation. The application of this technology emphasizes the optimization and arrangement of resources and the deployment of bank distributed system. Thus it provides the basis of diversified support for the innovation of bank products. The move is the prelude to banks digitizing financial services. The combination of digital technology and the Internet, starting from the innovation of bank deposit products, will bring the transformation and upgrading of banks' own business [1]. Actively embrace digital technology, make full use of scientific and technological achievements, is the main guiding ideology of bank deposit business.

2. Development status of traditional small and medium-sized banks

2.1 Rise of Internet banking, fierce competition

With the development of information technology, in recent years the rapid rise of the Internet bank, here refers to the Internet bank, all on sale, not open offline outlets, only USES the Internet channel sales all kinds of products, to provide all the services of the new online Banks, by contrast, traditional Banks need to open a branch in offline, employ a large number of professionals and technicians, the high The burden of this makes traditional banks in a weak position in the current competition, traditional banks need to reduce costs and increase efficiency to improve market competitiveness.

2.2 The consumption habits of bank users have undergone drastic changes

With the rapid development of mobile payment in China, users' habits in "spending", "saving" and "lending" have undergone great changes, especially in "spending". Most cash payment and credit card payment have been replaced by convenient mobile payment. According to the data disclosed by the People's Bank of China, in 2020, China's commercial banks accepted 354.721 billion non-cash

banking businesses, with a total of 4013.01 trillion yuan, up 7.61% and 6.18% year-on-year respectively. At the same time, driven by technology companies, third-party payment has become an important choice for consumers, and banks are facing huge challenges in the payment sector.

2.3 The digital transformation of banks is extremely urgent and arduous

Throughout the development of China's banks, the application of science and technology in the banking industry plays a vital role. The fintech Plan issued by the People's Bank of China in 2019 also marks that the digital transformation of Chinese banks has entered an accelerated stage. Now part of the head part of the bank and developed areas in the small and medium-sized Banks have been able to capital support, through cooperation with government, Internet financial enterprise platform, quickly complete financial digital transformation, the first to benefit from the digital, and to smart banking model, and the part of the tradition of small and medium-sized Banks due to their own organization architecture, insufficient funds, lack of high-end talent, etc, and failed to quickly catch up with the tide of The Times, and as an important part of the financial industry, transformation is imminent.

3. A brief introduction to service choreography techniques

3.1 Service Choreography Technology Overview

Service choreography technology through well-designed interface, according to the service scenario and the basic function of the business content together, establish the implementation of the service process, coordinate with the corresponding business functions, and finally achieve customized service scenarios for users. Service choreography consists of two main components: choreography and orchestration. Service choreography defines communication protocols and information exchange behaviors in the form of protocols, which must be observed among member services from a global perspective. From the perspective of portfolio business, the developer explains the internal process and its implementation details. Choreography establishes a topological association with non-implementable services, so it must be translated into a choreography pattern that is easy to implement. The overall structure of service arrangements can be divided into choreography, compilation, and execution.

In the choreography of business process, the choreography interface obtains the business definition from the business registration, and the application developers integrate the existing business according to the functional process of the business through the choreography interface, and generate the formatted choreography of business process document. In mapping business processes, mapping rules can be used to compile business process documents that represent business topological relationships and to generate choreography execution documents that represent service invocation processes within composite services.

In the implementation process, the business process execution engine loads the file and creates the composite service, which is then invoked by the composite service consumer. The business process execution engine makes process and component calls [3] to the business processes defined in the business process execution file and feeds the results of the run back to the composite business users in the final stage.

3.2 Application advantages of service choreography technology

First of all, the system designed by using service choreography technology can only interact on the surface of the application system without changing the original system of commercial banks, without modifying the IT system or repeating the design for the original business process, and using API calls to complete the design. Second is the low code development characteristics, greatly reduces the user threshold, the service choreography of services architecture, the commercial bank's internal business atomization, generate the micro components, makes the user need not programming technology, the demand for development capability is far less than the traditional programmer,

commercial Banks also do not need to pay to hire personnel for product design; Last but not least, it is highly efficient in research and development with rapid market response. However, the development platform using service choreography technology has a short research and development cycle and a fast online speed. It only takes a few weeks to complete the whole process from product definition to online.

4. Innovation and development of traditional banking industry based on service choreography technology

4.1 The bank shall establish the core purpose of "adhering to customer demand-oriented"

"Customer demand as the center, rather than product as the center" is the core point of commercial banks' development strategy. Only by accurately grasping the dynamics of the market and analyzing the changing rules of customer needs can commercial banks create financial service products that meet the market and customer needs. The stand or fall of a financial product market acceptance and its sales effectiveness of high and low, and the product itself, there exists a close contact, if a product can't satisfy the whole market, or simply developed for high profits without selling point, is not clear to target customers of products, and do it in the marketing planning will not achieve the market expected results. Through the service choreography technology, product designers can classify customers according to their information and needs, and launch relatively accurate bank deposit products for the corresponding customer groups. Meanwhile, it can also reduce the cost of banks to the maximum extent and improve profits.

4.2 Make full use of deposit products to create a distinctive brand image

In order to gain a foothold in today's market, banks must have their own characteristics, which requires them to build their own brand advantages and strengthen their brands by issuing special products. China's commercial banks must face marketization and globalization, although increased competition, but also improve the corporate image of a good opportunity. All commercial banks must improve brand identity, especially brand design, and make customers and the market more identify with their brand value. Only by constantly promoting independent innovative products can they improve their brand image, so as to ensure their competitive advantages in the Domestic market of China with intensified international competition. The essence of service choreography is to shorten the distance from business to digital, so that all enterprises can quickly and flexibly implement their ideas. All the employees are also digital talent, able to independent research and development products and establish a standardized service system, thus compiling pattern according to the business can be in accordance with the company strategy, quickly adjust product strategy, make corresponding characteristic products, so as to realize the personalized requirements of customers, for bank enterprise promoting their slogans and product image, make the broad masses of customers and potential users in mind Their own product keywords. It not only makes its products popular among people, but also improves its brand, imperceptably improves the value of goodwill, thus bringing benefits.

4.3 Integrate into the tide of Internet financial innovation and improve the bank's innovation strategy

Commercial banks should find their own market positions and gradually improve their product innovation strategies. In general, they should gradually transition from the traditional single deposit and loan services to fixed assets, debt and intermediary services. In the field of asset commodity technology innovation, we should refine credit objects and create products and services more in line with the investment needs of specific customer groups. In the field of debt product technology innovation, we should continue to focus on financial product sales, and actively develop various investment financial products with stronger market liquidity and the main purpose of avoiding risks.

In the field of China commodity technology innovation, the focus is embodied in asset custody, investment, enterprise annuity, payment and settlement and cash management, guarantee products, financial services and derivatives. In addition, banks should gradually establish their own industrial technology innovation strategies according to their own actual situation and development goals, and refine the technical innovation mechanism from the region, development stage, structure to guide, so as to achieve a strong situation in the fierce international competition. This requires the bank's IT system to effectively coordinate and integrate the original fragmented requirements, isolated business management and mutually independent business systems to form rapid response ability, scientific analysis methods and efficient function realization. Business arrangements become more important, both to ensure that the existing business is not negatively affected, but also to meet the structural update and compatibility of the old system business.

5. Thinking on the innovation and development of traditional banks in the era of technological innovation

5.1 Build a "platform + ecology" financial opening model

In mobile network, data analysis, virtual reality, artificial intelligence and other new technology support, the crossover, communication channel, open ecological is the dominant trend of the digital economy period, especially in the banking sector, the traditional financial services, to provide for and personal life, the product of the new company operations and industry environment, such as the use of increasing integration, cross-border services become a traditional bank the inevitable choice of transformation. After realizing the transformation of core business, traditional commercial banks should still timely realize the transformation of IT infrastructure, and jointly build resource-intensive, flexible, secure and robust cloud computing technology platform with third-party financial institutions, laying a foundation for the construction of smart open banks in the future.

5.2 Realize the end-to-end digital and agile operation of the banking industry

In order to realize the transformation from "product-driven" to "customer-driven", commercial banks focus on the development of short and fast digital product models. Starting from the perspective of customer needs, with the help of the development thinking of Internet technology, they quickly launch product prototypes and continue to optimize and iterate according to customer feedback. While commercial banks focus on the construction of digital services, they should also establish a more customer-facing, service-channel-facing, more flexible information technology support, so as to continuously promote the short-sensitive, high-speed, end-to-end digital business process remodeling. IT operation mode also want with double speed architecture accordingly, transition from waterfall to agile (enterprise operation mode) [4], guide IT to the front desk, gradually break through the traditional business, research and development, marketing, islands of relationship between architecture and test team, form small cross functional team, and by using collaborative office ability of different employees in jobs Delivering solutions end-to-end, ultimately enabling agile operations and new ways of working.

5.3 Rapidly build a new cloud-based business model

Small and medium-sized enterprises (smes), which have similar difficulties with some traditional commercial banks, are the increasingly critical target customer groups that have not been fully developed by China's domestic commercial banks. In addition to credit services, in the payment and settlement, cash flow management, finance and investment needs are traditional special services of commercial Banks, and the particularity of the also determines the traditional commercial Banks need to find a kind of generality demand large-scale development and standardization of business oriented new channels, to guarantee the for-profit business development. Commercial banks can also make use of the scalability, data sharing and standardized business characteristics of cloud to establish

service network platforms such as business management and financial management using cloud technology for small and medium-sized enterprises, thus seamlessly connecting with the business of traditional commercial banks. At the same time, due to the advantages of cloud multi-way collaboration, it can also form multiple process cooperation with enterprises and business management, so as to achieve a full range of financial services and unified banking business acceptance system for small and medium-sized enterprises. It brings new thinking to the enterprise management mode and revenue mode of banks and alleviates part of the dilemma of traditional banks.

6. Summary

Under the background of China's economic structure and development mode gradually stepping into the new normal, the rapid and sound development of online financial institutions, and the increasingly fierce competition among commercial banks [5], the traditional operation of Chinese commercial banks is confronted with great challenges and impacts. Especially for the development of deposit business, it is imperative to innovate deposit products with Internet financial thinking, which is the objective requirement of innovative development of banks and the embodiment of precise customer service and personalized service supported by technology.

References

- [1] Shang Hangfei. China's commercial banks "deposit shortage" causes, challenges and solutions Shang Hangfei [J]. Southern Finance, 2018(506): 86-92.
- [2] Liu Yao. Research and Application of PaaS Cloud Platform Technology [D]., 2015.
- [3] Wan Shupeng, Qiang Yi, Kai Zhang, et al. Wan Shupeng, A new generation of regulatory system Service choreography technology based on microservice Architecture [J]. Automation of Electric Power Systems, 2019: 116-121.
- [4] Huatai Securities Research Group. Research on the development mode and Path of digital wealth management of securities companies _ Huatai Securities Research Group [J]. 2019-1-12.
- [5] Dai Anqi. An Analysis of the Current Situation of Financial Innovation in Small and medium-sized Banks -- Based on the Perspective of Deposits dai Anqi [J]. Market Weekly, 2021: 106-109.