

Research on Financial Product Innovation in Rural Commercial Banks under the Digital Transformation Context: A Case Study of Jiangsu Province

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Abstract. In the era of digitalization and networking, innovation in financial products is crucial for deepening rural financial reform and establishing a financial support system for rural revitalization. However, a comprehensive and user-friendly financial product system based on big data technology has yet to be established. As a result, the needs of farmers are unmet, and small and micro enterprises still face issues of expensive and difficult financing. This study, based on the context of digital transformation and the characteristics of rural commercial banks, analyzes the problems encountered in the innovation and development of financial products from both supply and demand sides, and proposes reasonable solutions.

Keywords: digital transformation, rural commercial banks, financial product innovation

1. Introduction

Currently, China is at the historical intersection of informatization, digitalization, and the modernization of agriculture and rural areas. The "Opinions on Financial Support for Consolidating and Expanding the Achievements of Poverty Alleviation and Fully Promoting Rural Revitalization" emphasizes strengthening the use of financial technology to introduce more differentiated financial products and services and continuously improve the quality and efficiency of rural financial services. At the same time, the State Council and regulatory agencies have issued numerous policies to support financial services for agriculture, rural areas, and farmers (the "three rural" issues). This demonstrates China's long-term planning for future financial technology services in rural finance.

For rural areas, the lack of financial resources has always been a significant constraint on development. This is mainly due to an incomplete rural credit system, generally long agricultural production cycles, high uncertainties, high service risks, and the high service costs caused by remote locations and scattered outlets. The digital transformation of rural commercial banks can effectively alleviate the "last mile" problem of financial services, allowing underdeveloped areas, rural areas, small and micro enterprises, and low-income groups to access reasonable, safe, and convenient financial services. Furthermore, through digital transformation, rural commercial banks can analyze the financial needs of different social strata and groups using big data, enhancing the added value and service stickiness of financial products, thereby creating new opportunities for deepening rural financial services.

2. Overview of Financial Product Innovation in Rural Commercial Banks

2.1. Digital Transformation

Digital transformation refers to the process of enterprises upgrading and transforming their industries using emerging technologies [1]. In theory, enterprises undergoing digital transformation can utilize technologies such as artificial intelligence and big data to process large amounts of irregular data, generating structured and standardized information. This not only enhances the information content but also increases its usability [2].

The digital transformation of banks aims to utilize advanced digital technologies to improve and innovate business processes, service models, and customer interaction methods. This enhances service efficiency, improves customer experience, reduces risks and costs, and aims to increase business income through new technologies. In the context of the digital era, how banks transform

has become a significant challenge. There are constraints in improving customer experience and innovation; the "customer-centric" business philosophy has not been fully implemented; and there is a severe lack of compound, cross-disciplinary professional talent [3]. For rural commercial banks, taking proactive measures, seeking effective connections with financial technology, accelerating digital transformation, and making decisions based on local conditions are necessary to secure a place amidst the dual pressures from the internet and commercial banks [4].

2.2. Financial Product Innovation in Rural Commercial Banks

From the perspective of self-interest, financial product innovation has promoted the development of commercial banks in China [5]. With the continuous development and improvement of capital markets and information technology, relying solely on interest rate spreads for profit will hinder the sustainable development of banks. The scope of financial products and services of banks has expanded, but risk management still runs through this innovation process. The motivation for banks to continuously innovate financial products is partly to expand their service capabilities and partly to avoid various existing risks. Therefore, continuously promoting financial product innovation is conducive to preventing and mitigating the financial risks of commercial banks [6][7]. Financial product innovation in rural commercial banks aligns with the development trend of the financial market, which is beneficial for forming "differentiated and specialized" business models and promoting the sustainable development capabilities of rural commercial banks [8].

From the demand perspective, Hugh T. Patrick proposed that the development of the rural economy would accelerate the need for financial products and services among all entities. Financial demand will lead to financial supply, and financial supply will promote economic growth, ultimately forming a virtuous cycle of mutual promotion between rural financial development and rural economic growth. Financial product innovation can not only meet rural financing needs but also increase farmers' income, accelerate the adjustment of the agricultural industry structure, and drive local economic development [9]. Furthermore, rural commercial banks bear the significant mission of developing rural finance and should accelerate the innovation and development of financial products aimed at the "three rural issues" (agriculture, rural areas, and farmers) [10].

However, current rural financial institutions face issues such as single financial products and channels, outdated digital technology and information support methods, and the coexistence of over-regulation and lack of regulation [11]. Commercial banks' financial products have problems such as a limited variety of products, low levels, and a lack of a sound innovation mechanism [12]. Effectively solving the problem of information asymmetry in rural financial demand, reducing financial risks and costs, and bridging the "last mile" of financial services for the "three rural issues" have become urgent problems that need to be addressed [13].

3. Analysis of the Current Status of Financial Product Innovation in Rural Commercial Banks

3.1. Supply Side: Strong Innovation Willingness, Expanded Service Fields

Firstly, the proportion of investment in financial technology has increased, showing a gradient development trend in regional differentiation. From a regional perspective, rural commercial banks in the southern part of Jiangsu started their digital transformation earlier, have strong asset bases, allocate a higher proportion of financial technology investment, and have rapid and evident digital development. Rural commercial banks in the central part of Jiangsu are transitioning from informatization to digitalization, while some rural commercial banks in certain areas have not yet embarked on digital transformation or are still in the stage of informatization construction.

Secondly, they actively develop distinctive credit products and services, broadening the scope of financial services. The inclusive financial products launched by various local rural commercial banks place considerable emphasis on the construction of online malls and the active promotion of online banking. Meanwhile, different regions will introduce financial products suitable for the real situation of their locations, providing customized services for local specific characteristic industries and agricultural enterprises, launching credit products such as Golden Bull Loan, Ship Loan, Kumquat Loan, and Three Yellow Chicken Loan.

Thirdly, they comprehensively cover the "three rural issues" entities, extending the depth of financial services. Unlike commercial banks, rural commercial banks have a natural mission to support agriculture, rural areas, and farmers, as well as inclusive finance. According to customer group classification, rural commercial banks serve various types of "three rural issues" groups, including small farmers, farms, merchants, agricultural enterprises, and collective economic organizations. Jiangsu Rural Commercial Bank actively lowers loan thresholds, increases the scale of credit loans, categorizes customers, expands customer types, and ensures that customers can obtain financial services. Zhenjiang Rural Commercial Bank customizes personalized financing plans for local family farms, agricultural cooperatives, and leading agricultural enterprises, contributing to the development of agricultural scale. Shuyang Rural Commercial Bank actively conducts comprehensive visits to local farmers, specialized production cooperatives, large planters, and agricultural material production and sales dealers to accurately grasp financial service needs.

3.2. Demand Side: Increasing Demand, Significant Individual Differences

Firstly, there are significant differences in demand among different age groups and different business entities. As the economic and living standards in rural areas continue to improve, rural residents' demand for financial services such as deposit and wealth management, loan financing, and social security is increasing. According to data from the central bank, as of the end of 2022, the balance of RMB and foreign currency loans related to agriculture was 49.25 trillion yuan. Traditional farmers' financing needs are relatively small compared to new agricultural business entities. According to a survey, only 21.8% of traditional farmers have financing needs, while new agricultural business entities and small and micro enterprises account for up to 50.9%. Traditional farmers mostly have short-term loans, with about 75.9% of the funds raised used for living purposes and only 31.6% for production purposes. New agricultural business entities and enterprises are more inclined to medium and long-term loans.

Secondly, the customer group tends to be younger. With the rise of entrepreneurship among college students and the trend of returning to the countryside, more and more young people are returning to their hometowns, taking root in rural areas, and developing breeding and planting industries. In 2021, Jiangsu Province issued the "Implementation Opinions on Accelerating the Promotion of Rural Talent Revitalization," clearly stating the policy of accelerating the formation of a modern "new farmers" group. The "new farmers" group that Jiangsu Province is currently focusing on cultivating mainly includes returning college students, urban talents, and veterans, focusing on the "post-80s," "post-90s," and even "post-00s."

Thirdly, rural residents' understanding of digital finance is relatively lacking. Rural residents overall have a relatively low capability to apply digital technology and limited understanding and use of digital financial products and services. At the same time, rural residents generally lack relevant education and training, further limiting their ability to integrate into digital finance. Additionally, compared to urban residents, rural residents lack channels and opportunities to access financial information and have relatively less understanding of financial products and services. In some areas, rural residents' acceptance of rural financial services is low, with low application rates and insufficient understanding of smart devices. According to a survey, over 75% of people aged over 50 often use television to obtain information, but this proportion is only 50% among people under 35.

4. Real-World Issues

4.1. Emergence of New Economic Forms, Cognitive Concepts Yet to Change

As a new economic form, the digital economy has significantly impacted management concepts and cognition. The digital economy is not merely about transitioning business operations online; it involves strategic digitization, business digitization, and management digitization working in tandem. In the digital era, the external environment and operational status of rural commercial banks have changed considerably, necessitating an open and shared cognitive approach. This approach should transcend departmental and product boundaries to foster a digital culture beneficial for the overall development of rural commercial banks. However, the influence of traditional operating models often hinders rural commercial banks from breaking free from departmental and hierarchical constraints.

4.2. Insufficient Talent Pool and Data Governance Challenges

As regional commercial banks, rural commercial banks are still relatively lagging in terms of digital transformation awareness, personnel reserves, and scenario construction. They lack high-level technical talents. At the same time, many rural commercial banks have weak foundations in data management, lacking comprehensive institutional processes and clear organizational responsibility structures. This leads to disorderly management of data sources, ineffective control of data volume within the system, low access efficiency, and data governance levels and quality far behind those of large banks. Some rural commercial banks lack efficient data cleaning and unified services, resulting in blind spots in customer information collection and frequent information asymmetry between financial services and customer needs. This not only affects business development but also increases the burden of system storage and management. Furthermore, as digital transformation deepens, the application of new technologies brings new security threats, and rural commercial banks need to improve their risk control capabilities to ensure data security.

4.3. Service Demand Level

The credit system of the service entities is relatively weak, and customer quality is poor. Rural commercial banks mainly develop inclusive finance, primarily serving agriculture, rural areas, and small and micro enterprises, whose credit systems are relatively weak and prone to credit risk. In recent years, the non-performing loan rate of rural commercial banks has increased significantly, and their risk prevention capabilities are relatively weak. How to maintain sustainable business capacity has become one of the main challenges currently facing rural commercial banks. In addition, with the development of urbanization, the population of China shows a trend of flowing from economically backward areas to economically developed areas, leading to severe population

loss in rural areas. The rural population mainly consists of the elderly and children, with serious aging issues, presenting significant challenges to the advancement of digitalization.

4.4. Shallow Innovation Levels and Serious Product Homogeneity

Financial product innovation is greatly influenced by technological progress. Current financial product innovations are mostly concentrated on low-level products that are low in technical content and easy to operate, lacking high-tech content and originality. The types of financial product innovations are few and limited in scale, making it difficult to form economies of scale. Product innovation is mainly concentrated on liability products, with relatively few asset and intermediary business products, leading to an unbalanced product structure. Many financial products lack uniqueness and originality, primarily relying on absorbing and transplanting existing foreign products. This lack of independent innovation results in similar product types, structures, and service functions among banks, causing intense competition of homogeneous products, declining profit margins, and rising costs due to some products being idle.

5. Countermeasures and Suggestions

5.1. Leverage Comparative Advantages and Focus on Differentiated Development

Rural commercial banks have inherent geographical advantages. During their digital transformation, if they focus on exploiting and utilizing these local advantages, they can more efficiently promote digital upgrades and development. Compared to state-owned banks, these financial institutions are more dedicated to providing inclusive financial services to small and micro enterprises, and their service models tend to be more refined. Therefore, rural commercial banks should fully leverage their comparative advantages and emphasize the quality and effectiveness of digital transformation.

1. Create Brand Value and Enhance Core Competitiveness: Establish the brand value of financial products and build corporate culture by integrating with local specialty industries and culture to achieve product differentiation tailored to local conditions. We need to closely monitor the specific needs of agriculture, rural areas, and farmers, deeply exploring the untapped potential of the rural market. By analyzing the characteristics of agricultural industries and agricultural products, we can develop targeted service strategies and provide cleverly designed, diverse, and layered services to meet the needs of various consumers.

2. Further Rely on Local Industrial Economy: Focus on the upstream and downstream industrial chains to enhance the integration of industrial economy and digitalization, avoiding homogeneity. Concentrate efforts on organically linking industrial chain segments and promoting the close integration of industry and digital technology.

5.2. Cultivate Compound and Innovative Talents

In the context of new competition and increasing management difficulties, rural commercial banks need to fully mobilize the enthusiasm of core personnel, linking human resource development with personal growth. They should root themselves in the local economy, using their unique local conditions to highlight their advantages. At the same time, they should build an innovative talent management model, maintaining a balance between internal and external resources when training talents.

- Externally: Banks can cooperate with universities and other research institutions to establish a talent cultivation model that combines talent introduction and recruitment.

- Internally: Regularly train existing bank talents to enhance their professional qualities. Additionally, set reasonable assessment methods to ensure the activity and effectiveness of human resources.

5.3. Develop Digital Application Construction and Ecological Collaboration

Enhance the capability level of high-tech applications. Continuously deepen the application of artificial intelligence, cloud computing, 5G, the Internet of Things, and blockchain technology throughout the bank. Currently, financial technology in the digital transformation and upgrading of rural commercial banks mainly serves business lines and process management. Therefore, during the digital transformation, commercial banks should focus on constructing practical application scenarios and strive to establish a comprehensive digital ecosystem through open collaboration.

1. Digital Scenario Construction: Rural commercial banks should fully utilize local economic advantages, focusing on key local fields and directions to achieve precise empowerment and form core businesses. The application of digital technology is crucial for product development, market marketing, daily operations, and risk management. It is essential to integrate digital strategies effectively into specific business models.

2. Enhance Online Business Levels: Use various online technologies to attract customers. Actively showcase the advantages of products, focusing on inclusive financial services that benefit small and micro enterprises, and promote the continuous development of services like "Rural e-Loan" and "Micro e-Loan." At the same time, strive to improve business models like "Mortgage e-Loan" and "Tax e-Loan," optimize operational processes, and enhance the automation, personalization, and

intelligence of services. Effectively build "Rural e-Loan" into an online financing product that meets internet trends and rural practical needs.

3. Emphasize Open Collaboration: While constructing scenarios, rural commercial banks should also focus on open cooperation. For instance, collaborating with third-party financial technology companies to enhance their application capabilities in information technology; cooperating with professional financial institutions to enhance sustainable business capabilities; and collaborating with relevant service platforms, such as smart cities and supply chain finance, to enhance digital capabilities, attract young rural groups through mobile platforms, and improve user experience.

5.4. Strengthen Risk Management and Enhance Customer Credit

During the advancement of digital processes, appropriate strategies must be employed to implement precise measures tailored to the unique needs of customers to enhance the effectiveness of digital reforms.

1. Establish Risk Awareness: Fully disclose effective information about digital products during business operations, ensuring customers' right to know and respecting their wishes.

2. Implement Proactive Risk Management Strategies: Adopt reasonable and effective approaches to enhance customers' financial literacy, creating conditions for digital advancement.

3. Strengthen Risk Control Systems: Establish professional risk control teams and enhance information security. High-quality technological security talents can be introduced to collaborate with information security management teams.

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