

Exploring Innovative Paths for Rural Finance Driven by Digital Technology: Based on The Practice and Reflection of MyBank

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Abstract: MYbank, officially established on June 25, 2015, is one of the first private banks in China approved by the China Banking Regulatory Commission. It is also the first bank in China to implement cloud computing in its core systems, fully utilize artificial intelligence for small and micro business risk management, employ satellite remote sensing in rural finance, and apply graph computing to supply chain finance. As a technology-driven bank, MYbank operates no physical branches and instead provides purely online financial services to small and micro businesses through its "310" contactless loan model. This article examines MYbank's evolution from the setbacks of its "Wangnong Loan" program to the construction of an innovative model based on digital technology. It analyzes the role of digital technology in addressing issues such as a lack of rural credit information and inefficient risk management, and explores the logic of sustainable development in rural finance in light of ESG principles. The research shows that as of the end of June 2022, over 49 million small and micro businesses had used MYbank's digital credit services, 80% of whom had never previously received a bank operating loan. This exploration provides practical insights for the digitalization of rural finance.

Keywords: Rural finance; MyBank; Digital technology; Inclusive finance; ESG.

1. Introduction

Environmental, social and corporate governance (ESG) is an assessment of the sustainability of corporate operations and their impact on social values from the three dimensions of environment, society and corporate governance. It has now become an important indicator for measuring the level of corporate development. In the context of the rural revitalization strategy, rural finance, as an important support, has long faced difficulties such as an imperfect credit system, high service costs, and difficult risk control. A large number of farmers and small and micro-businesses have fallen into the situation of "difficult and expensive financing" [1]. As a technology-driven private bank, MyBank takes "contactless lending" as its core positioning, does not set up offline branches, and relies on cloud computing, artificial intelligence and other technologies to explore rural financial service models. From the pilot of "Wangnongdai" in 2015 to the commercial use of satellite remote sensing technology "Great Tit" in 2020, its practice has exposed the real obstacles to the digitalization of rural finance and also demonstrated the path to breakthrough driven by technology. Based on the practice of MyBank, this article explores how digital technology can solve the traditional pain points of rural finance, the balance mechanism between technology application and risk control, and how financial technology companies can achieve the synergy between commercial sustainability and social value.

2. Early Exploration and Dilemma of Rural Financial Digitalization: Taking Wangnongdai as an Example

MyBank's initial foray into the rural financial market both responded to policy guidance and exposed the inadequacy of traditional models for rural realities. The failure of

"Wangnongdai," a purely credit-based loan product launched in 2015 for rural farmers and small and micro-businesses, provided an important lesson for subsequent innovation.

2.1. Background and Logic of the Launch of Wangnongdai

In 2014, Alibaba launched its "Thousand Villages, Ten Thousand Counties" initiative to boost rural e-commerce, leading to a surge in demand for startup capital from a large number of Village Taobao partners. Simultaneously, the government continued to strengthen its policy support for agriculture, rural areas, and farmers, creating an increasingly urgent need for capital to expand production. MyBank capitalized on this opportunity by launching "Wangnongdai," a loan product that utilizes an "online review + offline referral" model: Village Taobao partners recommend farmers for applications, and the bank disburses loans after online review. This initiative aims to mitigate information asymmetry through the network of acquaintances while also leveraging e-commerce transaction data to assess creditworthiness.

The initial design rationale for this model was sound: on the one hand, Village Taobao users, as local "familiar," theoretically reduced customer screening costs; on the other hand, leveraging e-commerce platform data streamlined the credit reporting process. However, in practice, Wangnongdai ran into difficulties after just six months of its pilot program due to "small loan amounts, a small number of customers, and high costs." In 2017, its non-performing loan ratio reached 6%, and it ultimately ceased new lending.

2.2. Reasons for Failure: Early Obstacles to Rural Financial Digitalization

2.2.1. Information Gap and Failed Credit Assessment

Rural customers face a weak credit infrastructure, with most farmers lacking a historical credit history. Furthermore,

transaction data on the Village Taobao platform is fragmented and incomplete, making it difficult to support effective credit assessments. Some farmers lack contract awareness, leading to frequent overdue payments and a surge in bad debt rates. This exposes a core pain point in rural finance: the traditional credit assessment model, which relies on historical data, is difficult to apply to a population without sufficient credit.

2.2.2. Inadequate Adaptability to Rural Scenarios

The Wangnongdai team lacked a deep understanding of rural production and operations. Farmers' loans were used for diverse purposes, such as purchasing seeds, agricultural machinery, or for temporary turnover, making the flow of funds difficult to track. Agricultural production was significantly impacted by natural risks and market fluctuations, and repayment capacity was unstable. Manual review models were unable to monitor these dynamic risks in real time, and it was too late to take action after risks erupted.

2.2.3. Conflict between Model and Bank Positioning

MYbank's core advantage lies in its digitalization and lightweight operations, while Wangnongdai relies on offline referrals from acquaintances, essentially remaining a semi-online model. This model fails to leverage its technological advantages and suffers from high offline coordination costs, leading to low operational efficiency. This conflict highlights the importance of rural financial innovation grounded in the core capabilities of the institution itself, avoiding blindly replicating the offline approaches of traditional finance.

3. Paths of Rural Financial Innovation Driven by Digital Technology

After the failure of Wangnongdai, the Bloomberg team tried nearly 20 models within half a year, all of which ended in failure. Finally, they realized that as an Internet bank with no offline branches and its core system architecture on the financial cloud, Ant Financial's advantages lie in online, digital and intelligent development. This opened the way for rural financial innovation based on digital technology.

3.1. Digital Credit Reporting System: County-level Cooperation and Credit Profile Construction

The key to establishing an online model and risk control model is to find effective data to assess farmers' credit. In June 2017, the Bloomberg team reached a cooperation agreement with the Neixiang County government. In December of that year, Neixiang County became the first digital inclusive finance pilot county in the country. In May 2018, MyBank reached a cooperation agreement with Lankao County to launch the "Inclusive Finance + Smart County" project and create the "Lankao Model" [2]. This model involves three main entities: farmers, county governments, and MyBank. The process is divided into three stages: In the first stage, the county government provides MyBank with publicly available agricultural data such as rural land rights confirmation, planting conditions, agricultural subsidies, and agricultural insurance, and provides data integration and policy support; In the second stage, MyBank combines the agricultural data obtained with the data generated by farmers' past transactions and payments into the risk control model to complete a comprehensive credit assessment; In the third stage, farmers complete the loan through the "310" model, which means that the online application takes 3 minutes and the loan is credited

in 1 second, with zero manual intervention throughout the process.

Through this collaboration with county governments, MYbank has established a farmer credit information platform, completed rural credit rating assessments, and launched inclusive credit products using a "credit + loan" model, enabling low-cost, highly efficient unsecured loans. As of the end of 2021, MYbank's partnerships covered over 1,000 counties in 28 provinces, municipalities, and autonomous regions, as well as over 100 county-specific industries. Shaanxi, Anhui, and Ningxia were the first to achieve contract coverage of over 90% of their provinces.

3.2. Intelligent Risk Control Technology: Collaboration between Satellite Remote Sensing and the "310" Model

In September 2020, MyBank announced at the Shanghai Bund Conference that it would officially roll out its satellite remote sensing technology, codenamed "Great Tit," in rural finance. The detailed process involves acquiring satellite remote sensing images from ESA and entering them into an artificial intelligence system for AI image recognition. MyBank then uses 28 satellite recognition models to obtain information on crops, area, and quality. This information is then cross-validated with government statistical data to assess farmers' business performance. Risk control models are then developed to identify risks in production and operations, and finally, planting assessments and farmer credit evaluations are conducted. "Great Tit" can connect the sky and the earth to identify crops in the field in seconds. After its official commercial launch in 2020, it will be combined with digital risk control models to identify crop information and analyze yield and value, achieving an accuracy rate exceeding 93%. It currently covers 15 major agricultural sectors, including rice, wheat, corn, and soybeans.

Relying on satellite remote sensing technology and big data risk control, MyBank's "310" model operates efficiently, completely breaking away from its reliance on offline branches and enabling every mobile phone to become a convenient bank branch. This purely online model significantly reduces service costs, improves service efficiency, and provides commercial service value to dispersed rural customer groups [3].

3.3. Supply Chain Finance: Technology Empowerment and Industry Collaboration

Supply chain finance is based on the overall supply chain industry, using financial technology to integrate logistics, capital flow, information flow and other information, and build an integrated financial supply system and risk assessment system for core enterprises and upstream and downstream enterprises. As a typical Internet enterprise in online supply chain finance, MyBank, with its powerful data information database and technological level, applies satellite remote sensing technology to supply chain finance. By combining satellite recognition models with risk control models, it can achieve accurate and real-time credit for farmers and determine loan amounts and repayment periods [4].

The "Great Tit" technology can connect upstream farmers and downstream distributors, centralizing information communication, procurement, and payment on a single chain.

Its high efficiency, controllable risks, and strong targeting have further promoted the development of rural finance. Through supply chain finance, MyBank not only provides credit to individual farmers, but also drives the coordinated development of the agricultural industry chain, providing industrial support for the scale-up of rural finance [5].

4. Integrating the Effectiveness of Innovative Practices with ESG Values

On May 22, 2023, MyBank released its 2022 ESG report, announcing its integration of ESG into business management, continuously pursuing a balance between economic benefits and social value, and pursuing breakthroughs and innovations in three areas: inclusive small and micro enterprises, rural finance, and green finance for small and micro enterprises. The effectiveness of its innovative rural finance practices is also reflected in the coordinated development of the three dimensions of ESG.

4.1. Commercial Effectiveness and Social Value

In terms of commercial success, as of the end of June 2022, over 49 million small and micro businesses had used MyBank's digital credit services to support their operations and development. 80% of these businesses had never previously received a bank operating loan. In 2022, MyBank achieved operating revenue of 15.686 billion yuan, a year-on-year increase of 12.82%, and net profit attributable to shareholders of the parent company of 3.538 billion yuan, a year-on-year increase of 69.12%, demonstrating the commercial sustainability of its digital model.

From a social perspective, MyBank's innovations have provided greater financial support and convenience to rural areas, alleviating farmers' financing challenges, improving their productivity and income, and promoting rural economic development and poverty alleviation. Furthermore, the development of digital inclusive finance has boosted the popularity of the internet in rural areas, encouraging more farmers to understand and learn about the internet and financial knowledge, injecting new vitality into rural revitalization.

4.2. Environmental Value and Governance Optimization

On the environmental front, MyBank promotes green agriculture by introducing advanced agricultural technologies and eco-agricultural models, reducing pesticide and fertilizer use, lowering pollutant emissions, and improving the quality and safety of agricultural products. Satellite remote sensing technology is used not only for risk management but also to identify green planting patterns. Farmers who adopt environmentally friendly techniques are offered preferential interest rates, promoting sustainable agricultural development.

At the corporate governance level, MyBank has established a three-tier ESG management structure of "decision-making level - management level - execution level" to ensure the advancement of ESG work; it has focused on disclosing and responding to 16 substantive issues of general concern to itself and all stakeholders, and has performed outstandingly in areas such as supplier management and business ethics, providing compliance guarantees for rural financial innovation.

5. Challenges and Future Prospects

Although MyBank's rural financial services have achieved initial success, there is still much room for improvement in its business model and related technologies, and it faces multiple challenges such as technical bottlenecks and risk prevention and control.

5.1. Main Challenges Currently Faced

First, there are technical limitations. The "Great Tit" satellite identification technology is not yet mature, and has defects such as being unable to identify crops other than staple foods and only being able to serve small-scale, fragmented planting users. In addition, due to factors such as weather, the clarity of satellite images may decrease, leading to assessment bias. Second, there is the pressure of risk control. In 2022, the non-performing loan ratio of MyBank soared from 0.58% in 2021 to 0.92%. On the one hand, the wage income of middle- and low-income groups has declined due to the impact of the epidemic. On the other hand, due to the slowdown in the scale of asset expansion, pure data risk control is insufficient to respond to extreme events. Third, the source of funds is limited. As a bank without physical business outlets, MyBank's deposit business is not optimistic. The limited source of funds has restricted the further expansion of service coverage.

5.2. Future Development Direction

Ant Financial needs to continue to optimize satellite identification technology, expand user and industry coverage, and predict the impact of disasters on agricultural production; establish an ESG evaluation model that meets the characteristics of small and micro customers and inclusive targets, apply it to customer ratings and credit management, and promote the integration of green finance and inclusive finance; adjust the proportion of deposit business, expand funding sources, reduce peer debt ratios, and improve funding costs and liquidity; strengthen digital infrastructure construction, integrate digital technology into the risk management system before, during, and after loans, and improve the accuracy and reliability of risk control.

As a practitioner of financial technology, Ant Financial still needs to leverage its own technological research and development and financial product advantages to provide all-round financial support for agricultural development under controllable risks, and through practice, effectively serve farmers, help rural revitalization, and achieve a win-win situation of commercial value and social value.

6. Conclusion

With digital technology as its core driving force, MYbank has transitioned from early setbacks in rural finance to breakthroughs in model innovation. Its journey is both a vivid example of how financial technology empowers inclusive finance and a valuable experiment in how private banks can deeply participate in rural revitalization. From the lessons learned from its "Wangnongdai" program to the practical application of "Great Sparrow" satellite technology, from county-level collaboration to build a credit reporting system and the integration of supply chain finance into industrial development, MYbank's explorations have not only filled gaps in rural financial services but also demonstrated the unique value of digital technology in addressing traditional challenges such as a lack of credit reporting and ineffective

risk control.

Looking ahead, further breakthroughs in technological bottlenecks, optimized risk management, expanded funding channels, and deeper integration of ESG concepts into business operations remain key to sustainable development. However, what is certain is that this innovative approach to rural finance, anchored by technology and driven by responsibility, provides a valuable model for the industry and injects lasting momentum into the precise, targeted flow of financial resources into rural revitalization.

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