Role and Prospects of Digital Financial Services for Financial Inclusion

APRACA Centre of Excellence (ACE)

Bankers Institute of Rural Development (BIRD), Lucknow

An ISO 9001:2015 Certified Institution Promoted by NABARD

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Message from Chairman's Desk

Digital financial services have become an important driver of financial inclusion in emerging and developing economies in recent years. As per the Global Findex Database 2021, about 76 percent of adults now have an account in a bank or regulated institution such as a credit union, microfinance institution, or mobile money service provider.

Advent of digital based solutions in developing countries have revolutionized financial inclusion. Improved digital connectivity, availability of digital infrastructure and enabling regulatory environment have been key to growth of financial services at lower costs with increased speed, transparency and security that can serve the poor at scale. Various innovative models of digital financial services have emerged in different countries within the Asia Pacific region such as WeChat Pay & Alipay in China, ANZ goMoney in Australia & New Zealand, UPI in India, etc. Among South Asian economies, India has made significant progress in financial inclusion largely led by banks and fintechs.

Bridging the digital divide however, still remains the biggest challenge in the growth of digital financial services. This challenge can be addressed through measures aimed at ensuring equal access to digital infrastructure, enhancing (digital) financial literacy, establishing regulatory framework for digital finance, strengthening data and consumer protection and cybersecurity to reinforce people's confidence in digital financial services.

The APRACA Centre of Excellence (ACE), established at Bankers Institute of Rural Development (BIRD), Lucknow, India, has brought out the fifth issue of its publication on the theme “Role and Prospects of Digital Financial Services for Financial Inclusion”. The publication includes articles and cases studies from Asia Pacific countries which showcase the progress made by the respective nations and also lists out areas which require more attention.

I hope that policy makers and institutions in the APRACA member countries would find the articles and case studies useful and the compilation will serve as a source of inspiration and guidance for all stakeholders

Shaji K V
Chairman
NABARD
25th January 2024

FOREWORD

Lack of access to formal financial services has a huge influence on people's life, increasing their vulnerability to poverty and economic shocks. For the past four decades, APRACA has aspired to reduce rural poverty in Asia Pacific region by promoting efficient and effective financial institutions, expanding access to rural financial services, and disseminating financial innovations and best practices. APRACA has been a forerunner in promoting digital financial services as a critical vehicle to financial inclusion. The method has been adopted by many of the APRACA member institutions, to facilitate access to finance by the underserved population, help reduce vulnerability of households and support a resilient livelihood.

Digital transactions often have lower costs compared to traditional methods, benefiting both consumers and service providers, while automation and digitization of processes contribute to increased operational efficiency for financial institutions.

Digital financial services in Asia-Pacific have seen significant investment and expansion in recent years, and they are well positioned to enhance their trajectory and product diversification to meet client needs.

With its publication series, NABARD-APRACA Centre of Excellence (ACE), set up at BIRD, Lucknow, India, has been sharing articles and case studies highlighting innovations, best practices and success stories on themes pertinent to APRACA member countries. In continuity of the publication series, I am happy to note that, ACE- NABARD has successfully come up with its fifth issue on the theme "Role and Prospects of Digital Financial Services for Financial Inclusion". The knowledge and experiences booked through this publication will certainly help promoting innovations in digital financial services that will help foster financial inclusion, inclusive growth, self-reliance, and welfare of the rural poor in the Asia Pacific region and benefit its member institutions.

This publication would not have been possible without the help of individuals and organizations who have contributed to this and I would like to use this opportunity to convey my profound gratitude to them. I acknowledge the contributions of BRAC Microfinance, BRAC, Dhaka, Bangladesh; STIE Indonesia Banking School, Jakarta, Indonesia; Vietnam Bank for Social Policies, Ha Noi, Vietnam; Agricultural Development Bank of China, China; Annapurna Finance (P) Ltd., Odisha, India; Prime M2i Consulting Pvt Ltd., Haryana, India; Axis Bank, Maharashtra, India and NABARD Telangana Regional Office, Telangana, India, for sharing their valuable articles, case studies and success stories on the given theme. I appreciate and congratulate the ACE In-charge, Smt. Anukampa Jha and her team at BIRD, Lucknow, for bringing out a quality publication. I hope that experiences shared in the publication will be valuable for replication in other countries as well.

Nirupam Mehrotra
Director,
BIRD Lucknow

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Abbreviations

ADBC	Agricultural Development Bank of China
AePS	Aadhaar Enabled Payment System
AIC	Akaike Information Criterion
APY	Atal Pension Yojana
ASEAN	Association of Southeast Asian Nations
ATB	ATM per Branch
ATMs	Automated Teller Machines
B2C	Business to Consumer
BBPS	Bharat Bill Payment System
BCs	Business Correspondents
BCUP	Borgachashi Unayyon Project
BFSI	Banking, Financial Services and Insurance
BHIM	Bharat Interface for Money
BRAC	Bangladesh Rural Advancement Committee
BYOD	Bring your Own Device
CAGR	Compounded Annual Growth Rate
CASA	Current Account and Savings Account
CEP	Customer Engagement Platform
CIPs	Client Interaction Points
CNY	Chinese Yuan
CSPs	Customer Service Points
CSR	Corporate social responsibility
DBBL	Dutch-Bangla Bank Limited
DBT	Direct Benefit Transfer
DCS	Digital Client Service

DFAT	Department of Foreign Affairs and Trade
EB	Electronic Banking
EDC	Electronic Data Capture
ERP	Enterprise Resource Planning
FDLCs	Financial and Digital Literacy Camps
FIF	Financial Inclusion Fund
FLCs	Financial Literacy Camps
GIS	Geographical Information System
IB	Internet Banking
IVR	Interactive Voice Response
JIT	Just-in-Time
JLG	Joint Liability Group
KYC	Know Your Customer
LOS	Loan Origination Systems
MB	Mobile Banking
MFIs	Microfinance Institutions
MFS	Mobile Financial Services
MO	Mass Organizations
MSME	Micro, Small and Medium Enterprise
NABARD	National Bank for Agriculture and Rural Development
NBFCs	Non-Banking Financial Companies
NCDP	North-west Crop Diversification Project
NPCI	National Payments Corporation of India
NRLM	National Rural Livelihoods Mission
NULM	National Urban Livelihood Mission
OCR	Optical Character Recognition
PCM	Policy Credit Management
PM SVANidhi	Prime Minister Street Vendor's AtmaNirbhar Nidhi

PMEGP	Prime Minister's Employment Generation Programme
PMJDY	Pradhan Mantri Jan-Dhan Yojana
PMJJBY	Pradhan Mantri Jeevan Jyoti Bima Yojana
PMU	Project Management Unit
POS	Point-of-Sale
R&D	Research and Development
RBI	Reserve Bank of India
RMG	Ready-Made Garment
ROA	Return on Assets
ROE	Return on Equity
RuSu	Rural and Semi-Urban
SB	Smart Banking
SCB	School Bank of Chilpur
SCDP	Second Crop Diversification Project
SCG	Savings and Credit Group
SHGs	Self Help Groups
SMS	Short Message Service
TGB	Telangana Grameena Bank
TIH	Technology Innovation Hub
TSP	Technology Service Providers
UPI	Unified Payment Interface
USSD	Unstructured Supplementary Service Data
VBSP	Vietnam Bank for Social Policies
VECM	Vector Error Correction Model
VND	Vietnamese Dong
VPS	Virtual Private Server

Role and Prospects of Digital Financial Services in Financial Inclusion: A Case of Annapurna's Digital Transformation to Emerge as a Responsible Digital Financial Service Provider

Dibyajyoti Pattanaik*

Abstract

Financial inclusion is the driving force behind the emergence of microfinance model. Microfinance over the years has successfully engaged financially excluded segments through its high touch operation. In recent times, with the increase in digitalization in all the sectors and changing customer preference, microfinance needs to bring in innovative model that leverages the changing digital ecosystem to meet the financial inclusion agenda effectively.

The case study presents the experience of Annapurna Finance Pvt. Ltd., one of the top NBFC-MFIs in India that built on this idea of change and created a hybrid model to ensure inclusiveness for all the target clientele. The process needed significant investment in the organization's internal infrastructure, development of existing human resources and continuous research to stay updated about the changes in the industry and inclinations of the existing and new age customers. Annapurna's approach was a comprehensive strategy to improve customer experience during their overall loan journey, bring in technological solutions for increase process efficiency and create a pool of talents to direct the digital innovations in the most client-centric way.

1. Introduction

In the contemporary digital era, ensuring financial inclusion has become a pivotal factor for driving sustainable development goals like economic growth and alleviating poverty. The emergence of digital financial services has proven to be a potent tool for extending financial access to those who are unbanked or underbanked, either because of geographical constraint or lack of proper document availability.

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In recent times, the Indian society has experienced digital boom in terms of penetration of smartphones in the most interior places of the country. With government promoting the Digital India drive, a recent survey by Deloitte shows India has recorded 1.2 billion mobile subscribers2 in year 2021; of which, about 750 million were smartphone users. The study also predicts, the smartphone market will reach 1 billion smartphone users by year 2026, constituting a CAGR of 6% in rural India and 2.5% in urban India from years 2021 to 2026. Going hand in hand with this statistics, National Payments Corporation of India (NPCI) reveals that UPI has recorded over 7.82 billion transactions worth Rs 12.82 trillion in December 2022. Launched in year 2016, to achieve this volume, the UPI payments have shown a trend of exponential growth.

Considering this evolution, the BFSI sector has found a new channel to steer the financial inclusion agenda. RBI also released a guideline to regularize digital lending in September- 2022 to further magnify this aspiration of financial service providers.

Annapurna Finance, being a customer-centric and progressive microfinance provider, used this opportunity to propel its journey towards being recognized as a responsible digital service provider. This move was necessary due to the paradigm shift in customer preferences post COVID, where the target client segment is gradually looking for quick financial solutions with minimal physical touch and a maximum customer friendly support system.

2. About Annapurna Finance

Established in year 2009 as a pioneering microfinance institution in India, Annapurna has undergone a remarkable transformation over the years. With a mission to empower underserved communities, particularly focusing on women in rural areas, Annapurna has expanded its reach across 21 states, serving approximately 2.5 million customers through a vast network of 1,183 branches.

Annapurna's service portfolio encompasses a wide range of offerings, addressing diverse lifecycle needs of target customers such as business support, emergency assistance, livelihood enhancement, asset creation, improved water sources, sanitation practices, and affordable housing solutions. Their commitment to social responsibility, customer empowerment, and livelihood security is at the heart of their strategic positioning and product design. With an impressive portfolio of Rs. 8,749.0 Crore, Annapurna Finance has played a pivotal role in bridging the financial service accessibility gap in India's the most disadvantageous regions.

With innovative leadership and openness to adopt better practices, Annapurna has crossed many major macro-economic hurdles in the past and emerged as one of the top 5 NBFC-MFIs across the country. In recent times the dominant change that Annapurna has introduced lies in its digital journey, where it has evolved from a traditional cash-based human touch model to a hybrid digital ecosystem. This journey includes pioneering initiatives like the Just-in-Time (JIT) Loan, a revolutionary digital product providing instant financial support during emergencies, and the establishment of a Technology Innovation Hub (TIH) to ensure technological competitiveness.

3. Objective behind Annapurna's Digital Transformation

Being a customer centric organization, the primary objective of Annapurna Finance's digital transformation is to enhance financial inclusivity by leveraging technology. By transitioning from a cash- centric model to a digital ecosystem, Annapurna aims to achieve the following:

i. Improved Accessibility: To make financial services more accessible to underserved communities, particularly in rural areas where traditional banking services are limited.

ii. Social Impact: Create a positive social impact by extending financial services to marginalized and vulnerable communities, contributing to their economic and social well-being. Digitalization of existing processes showed the potential to not only help in improving customers' digital maturity, but also to safeguard them from threats like loss of wage because of physical meeting or risk related to travelling with cash. Along with this, the hybrid digital model aspires to bring in more inclusiveness by catering both the digitally nascent traditional customers as well as digitally advanced emerging customers. The prime focus of this strategic move is to attend to the life cycle needs of diverse customers and graduate them to a better standard of living.

iii. Efficiency: Streamlining operations and processes to deliver services more efficiently, reducing turnaround time, and enhancing customer experiences.

iv. Innovation: Continuously innovate and introduce products and services that cater to the evolving needs of customers, promoting financial as well as digital empowerment.

v. Security: Address security concerns and ensure the safety of digital transactions, building trust among customers.

vi. Sustainability: Digitalization has the potential of reduced emission as it brings in optimized resource utilization and limits employee travel.

Overall, the objective is to leverage technology as a tool for fostering a more equitable, sustainable, and inclusive financial future for all, while upholding Annapurna Finance's unwavering commitment to customer-centric innovation.

4. Annapurna's Digital Journey: Snapshot

Annapurna Finance's journey from a cash-based microfinance institution to a digitally empowered financial powerhouse has been a transformative one, guided by a commitment to financial inclusion and innovation. Initially, they relied on manual and software processes for loan origination and management. However, their commitment to digital transformation led to the introduction of the FIMO Basic Application in year 2010, followed by the implementation of the FIMO Web Application in year 2013.

The pivotal years of 2014 to 2017 saw Annapurna embark on a substantial digital migration journey, incorporating cashless disbursement methods and rolling out Android APKs for client onboarding, rating, and appraisal processes. Between years 2019 and 2020, they conducted pilot projects for cashless collections and loan origination systems (LOS) through Android APKs across all operational zones.

In year 2017, the organization took their steady steps towards a cashless future, setting the stage for a series of pivotal digital advancements. In year 2017, the organization focused on transforming its disbursement cashless, to reduce paper usage during documentation as well as improve process efficiency. In year 2018, Annapurna Finance started piloting point-of-sale (POS) collection methods for facilitating debit card payments. This motion allowed customers to make transactions conveniently and securely, reducing their reliance on physical currency. COVID-19 outbreak in year 2019-2020 created some initial hurdles, but Annapurna spotted scopes of further digital advancement that can accommodate social distancing without affecting the business performance.

Year 2020 marked a milestone with the introduction of an online payment portal to support the customers in cashless repayment, which further routed the integration of UPI collect and gradually implementation of Bharat Bill Payment System (BBPS) for both MSME and MFI customers. This secured the organization's unwavering commitment towards innovative solutions and improving the digital footprint.

Case Study 1: Annapurna Finance's BBPS Transformation

Annapurna Finance, founded in year 2009, has evolved into a prominent player across 360 districts in 20 Indian states, dedicated to providing financial assistance to underserved populations. In year 2020, they undertook a pivotal digital transformation by embracing Bharat Bill Payment System (BBPS). This transition addressed challenges stemming from traditional cash collection processes, which were time-consuming and prone to security risks. Their phased integration with BBPS streamlined loan repayments, offering clients secure and convenient payment options through preferred apps. This change delivered remarkable results, with a 12-fold increase in loan repayments within 12 months and BBPS now powering 70% of their repayments. Annapurna Finance's recognition as the best- performing billers in loan repayment by NPCI – Bharat Bill Pay further underscores the success of their digital transformation, demonstrating the significant impact of technology in financial services.

By year 2021, Annapurna Finance had made further progress, with their cashless collection accounting for 20% of total transactions. This demonstrated a growing customer trust in digital financial services. By year 2023, the cashless collection had surged to an impressive 65%, underlining the success of this drive. Beyond the customer-facing advancements, Annapurna invested heavily in the technological front. In year 2021 and 2022, Annapurna took significant steps towards cashless disbursement and tablet (TAB) collection methods across all operational zones, embracing digital technology to streamline their operations and enhance the customer experience.

Annapurna Finance's digital journey has been marked by a steadfast commitment to leveraging technology for the betterment of their major stakeholders i.e., the customers and the employees and keeping pace with changing industry dynamics. This journey has not only improved their efficiency and security but also significantly increased their outreach, aligning with their mission of empowering excluded segments of society with accessible and inclusive financial solutions. The overall digital journey of Annapurna was majorly dominated by following key purposes:

i. Product Innovation

Digital era has changed the customer lifestyle and especially their spending pattern. Market research has shown customer focus shifting from mere income generation to improving standard of living, financial health and building resilience against unforeseen incidents. Besides, they prefer a low-touch model and quick delivery of financial services to meet their needs efficiently.

Annapurna is the first MFI in India to introduce a fully digital emergency loan for traditional MFI client segment. Annapurna Finance's Just-in-Time (JIT) Loan is a groundbreaking innovation in microfinance, driven by a deep understanding of customer needs, particularly during the tumultuous period of the COVID-19 pandemic. This digital emergency loan product was conceived as a response to the financial instability and unpredictability that rural clients faced during the pandemic.

Unlike traditional microfinance products that primarily focus on income-generating loans, the JIT Loan addresses the immediate and diverse financial pressures experienced by low-income households. It serves as a financial safety net, helping individuals cope with unexpected expenses such as repairing damaged homes, covering burial costs, traveling for family emergencies, or mitigating the impact of temporary unemployment.

The JIT Loan's features are designed with flexibility and accessibility in mind. It allows borrowers to access loan amounts ranging from Rs. 1,000 to Rs. 5,000, ensuring that it caters to a wide spectrum of financial needs. One of its key innovations is the absence of co-borrower or guarantor requirements, making it more accessible to a broader customer base. Additionally, the tenure of the loan varies based on the loan amount, providing borrowers with the flexibility they need for repayment.

Case Study 2 : Sima Devi's Journey with Annapurna Finance's JIT Loan

In the heartlands of Jamui, Bihar, Sima Devi, a devoted mother, and valued member of Annapurna Finance's Joint Liability Group (JLG), faced a moment of crisis that would test her resilience and the power of Just-in-Time (JIT) loans. Her journey with Annapurna Finance began as a JLG client, but it was the JIT loan product that became her guardian angel when adversity struck. After her son's unexpected accident on April 25, 2023, Sima Devi turned to Annapurna Finance for support. Through a simple SMS, she initiated a JIT loan of Rs. 5000, and within just 15 minutes, the amount was disbursed. This swift response wasn't just a financial transaction; it was a lifeline that demonstrated Annapurna Finance's commitment to its clients' well-being. Sima Devi's journey from a JLG member to a JIT loan beneficiary reflects the real impact of financial institutions on people's lives, embodying Annapurna Finance's mission of fostering financial inclusion and providing crucial support in times of need. Her story embodies resilience, hope, and the power of the human spirit with the right support at the right time.

Incorporating customer feedback and evolving needs, Annapurna Finance's JIT Loan is a testament to the organization's commitment to leveraging technology for financial inclusion. This product not only serves as a lifeline for low-income households facing immediate financial challenges but also showcases Annapurna Finance's dedication to innovation in the microfinance sector. It stands as a prime example of how a financial institution can respond to and meet the evolving financial needs of underserved populations while ensuring simplicity, speed, and accessibility at its core.

i. Process Innovation & Data driven decision making

To promote paperless loan processing, Annapurna has introduced a digital loan application. The organization has dedicated substantial efforts to the UI-UX design of the application to ensure it remains user-friendly and relevant. This has significantly reduced the number of clicks required and the turnaround time for customer onboarding. Notably, the application has integrated OCR (Optical Character Recognition) technology to enhance efficiency and reduce the likelihood of human error, thereby speeding up the loan disbursement process.

Annapurna is one of the first MFIs that leveraged the utilization of industry level and geographically segregated data, with the introduction of a separate Risk and GIS team. Organization's business decision now depends on not only primary studies, but a plethora of information like BFSI market penetration, industry performance, benchmarking, and prosperity score etc.

Based on the requirement, Annapurna has undergone a transformation in its credit decision process as well. Moving away from traditional cash-flow analysis for underwriting, Annapurna has brought in a robust decision engine that enables the segmentation of customers based on their economic and social backgrounds, leading to the development of alternative credit scores tailored for the traditional Annapurna customer base.

ii. Enhanced Customer Engagement

Recognizing the profound impact of customer satisfaction on organizational growth, Annapurna has introduced Customer Engagement Platform (CEP) channels. These channels facilitate ongoing connections between customers and the organization. This offers the customers the opportunity to share feedback, raise service requests, and receive not just information related to their existing credit but relevant notifications like disaster forecasts. This initiative has established a regular and transparent connection between clients and Annapurna, ensuring higher customer confidence and trust. Annapurna has used this platform to circulate the payment link before repayment due date and gather the new loan generation requests. CEP has emerged as a pivotal strategic measure to increase transparency, quicken service delivery as well as manage delinquency.

Case Study 3: Empowering Customer Engagement: IVR to bolster Customer Awareness in Crisis

In the realm of customer service and technology, the ability to engage customers effectively is paramount. The CEP in Annapurna consists of multiple communication channels like SMS, WhatsApp Chatbot, IVR, etc. to effectively communicate with its customer base. One of the most recent and relevant support CEP provided is when the digital fraud incidents started escalating in the state of Jharkhand during April, 2023. Annapurna started a Fraud Prevention Campaign through IVR that focused on making the customers aware about the know-hows of the digital transactions and ways to avoid the risk of fraud by not sharing specific credentials. The program effectively safeguarded the customers when the industry bore a heavy toll.

Furthermore, in the digital era, microfinance is witnessing a transformation that is revolutionizing the industry. This transformation is empowering the unserved population by expanding the reach of mobile networks and unlocking the vast potential of innovative approaches to foster inclusive growth. Annapurna is strategically positioning itself to leverage this digital revolution and make a positive impact on its customers' lives.

Annapurna's strategy revolves around exposing customers to more need-specific product offerings and building their confidence in digital technologies through appropriate capacity-building measures. Additionally, the company is developing the necessary infrastructure to offer secure and responsible digital lending experiences, ensuring that customers can access financial services in a manner that suits their evolving needs while maintaining data security and ethical lending practices.

iii. Streamlining the Digital Innovations: Introduction to Technology Innovation Hub

Annapurna Finance's commitment to digital innovation serves as a cornerstone in its mission to uplift underserved communities and deliver top-tier financial services. Recognizing the ever-evolving global technology landscape, the organization established the Technology Innovation Hub (TIH) as a focal point for technological progress. The TIH operates with a dual purpose: to augment operational efficiency and customer service, and to incorporate global technological best practices selectively. This approach ensures that Annapurna remains at the forefront of financial services, continuously adapting to meet specific client needs while providing a superior and digitally enriched environment.

Annapurna was not involved in any direct technology development, but with the emergence of TIH vertical, the organization is also expanding its development team as well as scope, which directly impacts the internal digital ecosystem for expediting the organization's overall aspiration.

5. Challenges

The enabler for Annapurna’s change journey is the future ready leaders and strong support from its visionary founders, board members and shareholders, many of whom come from development finance institutes with a commitment to sustainable development goals. They have been instrumental in encouraging and pushing for transformative changes within the organization.

But any organization-level change goes through the process of overcoming multipronged challenges and Annapurna's journey towards digitalization was no different. The organization confronted the following obstacles during the process:

i. Customer Adoption Challenges

Annapurna faces significant challenges in driving customer adoption of digital financial services. These challenges include a lack of trust in digital platforms, low transparency in digital transactions, and concerns about security breaches. Moreover, customer habits are deeply rooted in traditional financial services, making it difficult to transition to digital channels. In addition, infrastructure limitations, low awareness of digital benefits, and the prevalence of cash transactions pose substantial hurdles. Annapurna recognizes the need to invest time and effort to overcome these obstacles and promote digital adoption, especially in rural areas where digital illiteracy and infrastructure gaps persist.

ii. Changing Customer Experience and Infrastructure Challenges

Initial challenges of digital journey were the lack of access and ownership of smartphone among the target clientele, which is women from rural areas. Even after exponential increase of smartphone usage in Indian households, significant gender gap remains in the rural areas in terms of digital maturity and effective use of the smart device. Along with this, the limitation of network strength in the areas where Annapurna works poses a major infrastructure challenge in implementation.

Transitioning to digital processes and services required significant changes in the customer experience and infrastructure. Annapurna's shift towards paperless transactions, exemplified by JIT (Just-in-Time) loans, necessitated a behavioral transformation for both customers and loan officers.

iii. Internal Innovation and Alignment Challenges

Driving innovation within the organization presents its own set of challenges. Adapting internal stakeholders to embrace digital transformation requires comprehensive training and multi-level communication. Identifying the right strategy and skill set to expedite the adaptation process is key. Past failures can create inhibitions and hinder innovation efforts. Ensuring data quality and credibility, while dealing with outliers and extreme instances, adds complexity to data-driven decisions. Moreover, data storage and standardization are vital for future data migration as regulations evolve. Distinguishing between technology-related and process-related challenges is crucial, as is increasing awareness of basic troubleshooting among users. Changing existing operational procedures to digital ones requires recurring system and process modifications.

Internal alignment within the organization presents its own challenges. Existing employees in the transformation phase are often midway through a learning curve, necessitating multiple iterations to build a flawless business case. Achieving internal alignment can be both time and cost intensive because of the requirement of addressing both time and complexity factors while considering end-users' perspectives. The alignment building process needed to work on the apprehension of traditional human resources that digitalization might bring in job loss, at the same time it aimed to upscale their skill to accommodate the frequent changes happening the organization and industry level.

iv. Technology Implementation Challenges

Incorporating technology into day-to-day operations poses several challenges. Differentiating between technology and process-related issues can be intricate, and there is often a lack of basic troubleshooting knowledge among end-users. Previous issues can cause delays in resolving current assignments, increasing overall turnaround time. Shifting pre-existing operational procedures to digital formats necessitates modifications in systems and processes to reduce complexity. Phased transformation, introducing cloud-based services, cybersecurity measures, technology skills, decentralization of ownership, and data-driven insights can mitigate these challenges.

Enabling existing technological architecture to support the intended innovation is an ongoing effort. Rigorous testing is essential but can be time-consuming. Continuous process improvement is necessary to adapt to macroeconomic factors. Identifying potential leakages and taking mitigative measures is crucial. Ensuring that various functions understand the impact of digital transformation is challenging, and end-users must be engaged effectively. High training costs are often involved to bridge the skill gap, and integrating existing technology with proposed digital transformations can be complex.

v. Partnership Establishment Challenges

Establishing partnerships for the appropriate solutions can be challenging due to cultural differences between financial institutions and technology partners. Misalignment of mission and interpretation of expectations can also hinder effective partnerships. Adequate governance is essential for proper project monitoring and risk management.

vi. Balancing Speed vs. Quality Challenges

Balancing speed to market with quality when launching a new digital product can be daunting. Vendors in India are still in the process of comprehending the tech and infrastructure requirements of the clientele. Product engineering in the microfinance sector lacks reference points, affecting both speed and quality. As the full gamut of functionality for stakeholders in microfinance is still evolving, financial institutes treading in digital product offering find significant hurdles in operationalization.

vii. Important lessons to share with other FSPs

Annapurna's phased approach to digitization stands out as a key strategy. By steady and gradual initiatives, the organization minimized disruption and allowed both customers and employees to adapt organically. This measured progression served as a foundation for more significant changes, emphasizing the importance of a well-paced transition.

One standout achievement was the Just-in-Time (JIT) Loan, a prime example of customer-centric innovation. Annapurna's ability to swiftly address the urgent financial needs of their clients with a simple, fast, and accessible digital solution underscores the importance of staying attuned to evolving customer requirements and using technology to provide tailored solutions.

To enable the employees to be the drivers of innovation, Annapurna invested significantly in their capacity enhancement. The employees got exposed to theory and application of change management for that purpose. Any new initiative calls for training of the employees for better implementation. Annapurna also introduced virtual learning management systems to make the employees familiar with the concepts of online learning.

Most of all, Annapurna's digital transformation has been a successful top-down approach because of the progressive leadership, unwavering support from the founding members and board and trust of human resources in the shared vision of financial inclusion through innovation. The organization relentlessly targeted to keep the customers at the centre of all its development and this supported the organization triumph in increasing customer outreach, improving their digital awareness and maturity and implement the new initiatives with limited adaptation challenges.

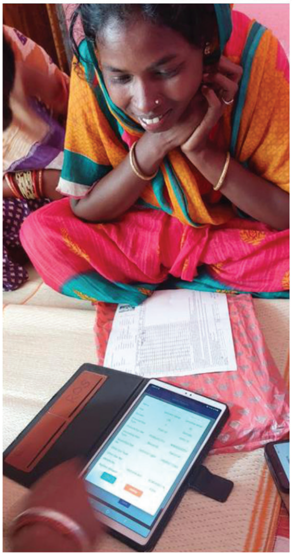
6. Way Forward

To use the digital finance for financial inclusion calls for multifaceted approach that covers appropriate product design along with development of the support environment that prioritizes customers' knowledge requirement, initiates seamless communication with them as well as strengthen the internal ecosystem to improve process efficiency and security.

Annapurna Finance's next strategic move in its ongoing digital transformation journey is the development and launch of a cutting-edge digital lending app. This initiative is driven by the commitment to innovation and customer-centricity, with the aim of revolutionizing the delivery of financial services. Currently in the pilot testing phase, the app promises to streamline internal operations, expand the customer base, offer personalized assistance, and eliminate geographical constraints. It represents a significant step towards Annapurna's vision of using technology to enhance financial inclusion and create a more efficient and accessible financial ecosystem.

With approximately 120,000 customers already benefiting from JIT 1.0, Annapurna is now all set to roll out JIT 2.0, designed to elevate the customer experience to even greater heights. JIT 2.0 is a response to customer feedback and evolving demands. It boosts the loan amount to Rs. 10,000, addressing the consistent need for more substantial financial support. Moreover, JIT 2.0 offers increased flexibility in loan amounts and repayment terms, ensuring adaptability to diverse customer requirements. The redesigned JIT is also exceptionally user-friendly, accessible via smartphones or feature phones and offering multiple channels for a seamless and convenient experience.

Annapurna's commitment to innovation and customer empowerment will continue to evolve through its adoption of the Account Aggregator framework. The organization's forward-looking approach emphasizes granting customers' greater control over their financial data, which can be selectively shared with financial entities securely. This initiative not only enhances customer autonomy but also streamlines Annapurna's services, ensuring quicker and more efficient loan processing while maintaining stringent data security standards. In the future, this framework will play a pivotal role in shaping a more customer-centric and inclusive financial ecosystem.



As the spearhead of all the digital initiatives to maximize financial inclusion, the Technology Innovation Hub, targets more than 90% digital collection to enhance customer experience and more automated internal process to increase efficiency and cost-optimization. The vertical is engaged in continuous market research to bring in disruptive technological solutions with the objective of broadening the horizon from credit offering to an array of diverse financial services, to improve target clientele's overall financial health. The goal is to reduce customers' dependency on traditional human touch-based model through the launch of a more user-friendly financial service ecosystem like fintech options for rural and semi-urban pockets of the country.

BRAC Microfinance's Digital Transformation: A Digital Paradigm Shift Towards Financial Inclusion

Naziba Nawrin*

Abstract

This article provides a comprehensive overview of Bangladesh Rural Advancement Committee (BRAC) Microfinance's pioneering efforts in digitally transforming financial services in Bangladesh. Beginning with an introduction to BRAC's socio-economic mission, the article highlights the need for enhanced financial inclusion in Bangladesh, particularly for women and marginalized communities. It presents BRAC Microfinance's flagship programmes aimed at empowering low-income and marginalized individuals through financial services.

The focus then shifts to BRAC's digital transformation journey, illustrating the strategic steps taken to harness the potential of technology in the financial sector. The integration of digital platforms, mobile financial services, and enterprise resource planning systems is outlined, emphasising their role in improving operational efficiency, data accuracy, and environmental sustainability. The article showcases the significance of this digital shift, especially during the COVID-19 pandemic, which brought about a surge in the usage of digital wallets and financial apps.

One key aspect discussed is the development and impact of the Digital Client Service (DCS) App, which streamlines client-centric operations, enhances efficiency, and reduces operational risks. The Agami App is highlighted for its role in providing 'Progoti Clients' with the futuristic goal for seamless access to loans and savings opportunities. Additionally, the article sheds light on leveraging mobile financial service agents for lead generation and expanding digital outreach.

The importance of banking the unbanked population, especially women and ready-made garment (RMG) workers, is underscored, showcasing how digital transformation has empowered them, providing a secure, efficient, and transparent medium for financial transactions.

Looking ahead, the article discusses BRAC Microfinance's future digital ventures, with an emphasis on continuous innovation and the integration of advanced data analytics. Overall, BRAC Microfinance's digital initiatives represent a transformative narrative,

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fostering inclusivity, adaptability, and empowerment in the landscape of financial inclusion in Bangladesh. This marks a broader societal change, igniting hopes and aspirations for a more financially secure and promising future for millions.

1. Introduction

Since the birth of Bangladesh, BRAC has been nothing short of a revolutionary force. BRAC is diligently working to bring socio-economic changes within the country through numerous successful partnerships with the Government of Bangladesh. BRAC strives to solve the deep-rooted causes of societal issues like poverty, hunger, malnutrition, educational inefficiencies, and financial illiteracy. Although Bangladesh has taken substantial steps towards establishing financial inclusion in all layers, the journey is far from complete.

According to the Dhaka Tribune, “There are 60 million unbanked individuals in Bangladesh” (Mohiuddin, 2023). The number of female bank account holders is trivial. To combat this gap, BRAC Microfinance, the largest programme of the organization, has emerged to provide financial services to 40 million previously unbanked individuals over the last 50 years. At present, we are serving nearly 9 million clients this year alone. Our core focus is to empower women who are economically disadvantaged by offering group-based loans without the necessity of collateral. We foster the entrepreneurial spirit of 1.15 million as ‘Progoti’ clients as well, ensuring insurance-secured loans with money saving opportunities.

2. Flagship Programmes of Microfinance

We mainly operate in the following streams-

i. **Dabi:** Group based loan aimed at empowering low-income & marginalized women. DABI loans help low-income & marginalized women to buy productive assets, invest in business or property, smooth consumption and make them resilient against any shock. Currently operating through 2451 branches all over the country with a primary focus to promote women empowerment in local communities, DABI programme serves nearly 9 million clients having footprints all over the country.

ii. **Borgachashi Unayyon Project (BCUP):** BCUP is a project aimed towards facilitating access to finance for small-holder tenant farmers who do not own farming lands. Our loans enable farmers to invest in higher crop yields, adapt to new agricultural technologies, and invest in household labour supply. Along with the loans, BCUP clients are also provided with market linkage services. (Agriculture Loans, n.d.)

iii. **North-west Crop Diversification Project (NCDP) and Second Crop Diversification Project (SCDP):** NCDP and SCDP projects promote yield of high-value crops such as fruits, vegetables, spices, condiments, and flowers. Our loans foster the production of nutritional food and non-traditional crops, and enable farmers to gain higher financial returns.

iv. **Progoti:** Progoti Loan, a SME financing service of BRAC Microfinance, aims to facilitate businesses owned by the low-income & marginalized people who are committed to graduate from their current socio-economic status and to build sustainable livelihood. Currently, Progoti is serving 1.6 million clients with a vast distribution network of 2306 branches. Progoti primarily targets young groups and women in rural areas recognizing their important role in the family and community development.

3. Thoughts Behind Microfinance's Digital Transformation

Bangladesh is in the era of digitization. BRAC has been equipping and training staff to be technologically skilled for many years now. Necessary devices have been gradually disseminated and internet connection has been ensured among all the branch offices across the nation.

BRAC has taken its first step by establishing Enterprise Resource Planning (ERP) software which streamlines diverse business functions like human resource, accounting, finance, procurement, and fixed assets. ERP is a system that accumulates data from various sources, reducing redundancy and ensuring data accuracy through data sources. BRAC's ERP system works as a centralized platform to keep the entire operational system connected and run smoothly. It offers comprehensive support for financial management, organizing client profiles, human resources, infrastructure, and manufacturing, either on-premises or in the cloud. ERP facilitates transparent operational processes and enables access for all departments of BRAC.

Currently in Bangladesh, we have an impressive internet user base of 130 million people where digital transformation projects immense potential to mitigate financial literacy gaps. People of Bangladesh are well accustomed with Mobile Financial Services (MFS) like bKash, Rocket, Nagad, Upay etc. Therefore, responding to call of time, BRAC embarked on a digital journey in 2016 with the express purpose of not just easing financial transactions but elevating the entire financial service framework to a new standard.

We are also striving to promote a paperless operational paradigm to become more and more environmentally friendly with time. We are aiming to implement digital gateways in a 360-degree approach where from the clients to the staff, everyone can benefit. Magnifying information security, transparency and saving everyone's time along with significantly reducing costs to make the operations efficient has been our prime target.

4. Digital Transformation as a Blessing in Disguise in the Pandemic

In year 2020, at the time of COVID-19 pandemic, we started with including MFS through ensuring one 'bKash Branch Wallet' for each branch. Clients transferred their installment to this bKash Branch Wallet throughout the pandemic. The digital team of microfinance developed an effective and seamless process within a short period of time to support the most vulnerable portion of our clientele in distress and need. During the COVID-19 pandemic, BRAC quickly adapted to the challenges faced by low-income households in Bangladesh. Apart from supplying food to 100,000 families, we provided emergency cash transfers to 643619 families, $18 per household to avail food for 14 days. This was crucial as physical access to aid was restricted due to social distancing measures. Digital wallets gained popularity, partly driven by the government's push for wage digitization in the ready-made garments industry.

“While 77% of women had mobile phones and 76% had digital wallets (mainly bKash), 37% registered primarily to receive emergency cash”. (Azad et la, 2021). Notably, 41% of women relied on male family members to access funds. Most families withdrew cash support immediately for food and medical expenses, with limited digital payments. BRAC's efforts promoted digital adaptation, and their efficient cash transfer process, with an average 14-minute distance to bKash agents, made it accessible to low-income communities. The Microfinance clients had the leverage to claim their savings amount from the programme to help them stay rooted in the time of pandemic. As BRAC’s survey says. “89% of total respondents were happy to receive the cash or savings through DFS. 52% respondents found it convenient and 37% said it was very convenient for them.” (Azad et al, 2021)

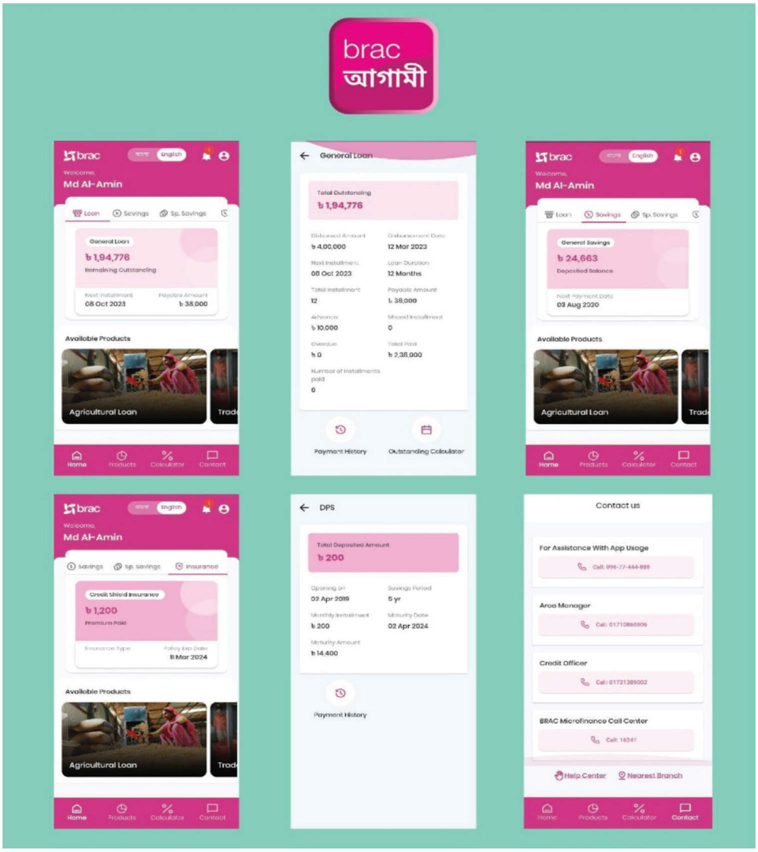
5. Digital Client Service (DCS) App in a Nutshell

For BRAC, efficiency and transparency are the key driving factors in the digital transformation of client-centricity. However, BRAC Microfinance is currently serving clients in the traditional way. As a way forward BRAC Microfinance plans to bring new innovations from the very beginning with customer benefits in the thought process. DCS is now broadly focusing on three areas: client onboarding, receiving digital Installment and savings collection data and catering to all the clients of Microfinance. BRAC Microfinance has a sustainable digital financial ecosystem through substantial investment, skilled resources, adequate infrastructure, agile processes, and a conducive regulatory environment, which can foster a more client-centric approach, widespread adoption and usage through digital transformation.

DCS app is a client-centric approach, offering a smart interactive app to the staff and web-based interface to document client information and loaning procedure in a convenient way. It serves our mission to go paperless as well, a giant step towards reducing BRAC's carbon footprint. It is a great initiative to solve the organization's storage inconvenience as well. It ensures the collection of information in one format and provides SMS notifications to the clients, storing trust in digital transactions. It also aids to reduce operational and compliance risks, simplifies onboarding, removes the manual rechecking procedure, shortens the loan approval process, minimizes document redundancy, enhances security through biometric verification, reduces immense workload of the staff and promotes technological advancement among clients and staff.

6. The Agami App

The Agami app serves as another feather in BRAC Microfinance's cap, specifically designed to make our 'Progoti' clients as seamless as possible. This app has brought loans and saving opportunities at their fingertips. By accumulating data from BRAC's ERP portal and presenting relevant financial data such as payment statuses, due dates, and more in an easily navigable interface. The app enables clients to be in control of their loans and financial assets which in return reduces their heavy reliance on field staff. The app lets us operate in a further error free format. The app is available in the entire country where both android and iPhone users can access this. The app is free of cost. We provide necessary financial literacy to the clients and we mitigate their queries regarding the app usage on-spot.



The digital approach has been enabling our field staff to become digitally and technologically efficient. It is a great cost minimizing approach as well. The commercial value has been measured in terms of the amount of time that will be saved by them in the entire disbursement and collection process, through the bank platform compared to the current manual process.

Assuming we have a client named Md Al-Amin who uses the Agami app where the disbursed amount of loan, savings amount, and DPS status along with other necessary information can be visible to him in the Agami App. The app also provides basic information about our loan products i.e. Agricultural loan, Trade loan, Remittance loan, Migration loans and Nirbhorota loan. For any assistance, he can reach out to respective Area Manager, Credit Officer and Microfinance's call center number.

It is proved that microfinance has been a crucial instrument in bringing the unbanked population under financial services and helping them bring transitions in their lives. To ensure our clients are prepared for the future, embracing digitization across all operational aspects is essential. So, we are ambitious about the usage of Agami App to be expanded and integrated for 'Dabi' clients as well in near future. We aim to escalate the usage of this app to a level of one-stop service for availing loans and other benefits digitally.

7. Lead Generation Through MFS Agents

A huge number of people are using MFS for different purposes and they frequently have to visit the agent stores for transactions. The agent stores can be found in almost every street of Bangladesh in recent times. The agent stores are mostly attached with daily grocery shops or medicine corners and agents mostly belong to the same neighborhood/ community. Currently we have partnered with bKash, which has 350,000 bKash agents across the country. Taking the leverage of the exposure to the clients of the agents and utilizing their network, we are now generating potential client leads through them. The bKash agents are working as client leading bridge for BRAC. Till this date, this process is manual. To capitalize the full strength of this source, BRAC Microfinance is launching 'Ekota' app. It is expected to work as a great strategic tool and we are planning to collaborate with every MFS. This step expands our capacity to reach far and wide, meeting every potential client in every direction.

8. Banking the Unbanked to Amplify Financial Inclusion

Banking the unbanked population of Bangladesh is crucial to sustain Bangladesh's rapid digital technology adoption boosting financial inclusion. People from Bangladesh hesitate to open bank accounts since it requires several unerring documents. To open a bank account, a person needs to deposit at least 500 taka while bearing other service charges (in most of the banks). So, to many people the process is full of hindrances and hassle some, making them heavily reliant on MFS.

BRAC aims to train its clients to become more adept and bridge them with digital transformation. Using the banking channel for financial transactions is more secure and less costly, which also allows a client to make transactions in larger volume. The integration of digital technology aligns with Bangladesh's developmental aspirations e.g. the 'Digital Bangladesh' initiative by the Government of Bangladesh. The ongoing efforts by the Bangladesh Bank, coupled with strategic policies and campaigns, are crucial steps towards ingraining socially and environmentally responsible financing in the nation's financial sector.

9. Women Clients to Benefit More

The digital transformation approach led by BRAC has built the road to multidimensional benefits, remarkably in the case of our female clientele. This development is particularly noteworthy in the socio-cultural context of Bangladesh where women only had the chance to do savings in cash form which often used to get spent over family needs. Now, saving in digital form has given them the scope and power to save in cashless forms which gives them more ownership of their hard earned money. Also, this enables them to be better at saving. When a woman has strong financial ground beneath her feet, she becomes a better decision maker for herself and her family. It is also found from observations that women are keener to adapt to the digital platforms and it has afforded them a more efficient, secure, and transparent medium for availing loans and other benefits.

10. More Power to the Female RMG Clients

Ready-Made Garment (RMG) workers in Bangladesh lead incredibly hectic lives, juggling with their long merciless working hours and family responsibilities. RMG workers fall behind in terms of getting basic education but they are the ones who are responsible for certain upwards shifts in our economy's development. A great portion of them are the only bread winners in their families, so their limited incomes are always cut in thin slices to meet essential needs. Amidst that, they set short- and long-term goals i.e., buying land, building homes, ensuring good education to children/ siblings, investing in small businesses etc.

Overall, the RMG sector lacks structured systems for their workers, but slowly, it is solving problems i.e., now, the salary of the workers is deposited in their 'Rocket' wallet. Still the workers face long queues at ATMs to withdraw cash.

The RMG workers work at a stretch and receive only one half-an-hour long break a day which happens to be their lunch break. So those who are under loans, they have to visit nearest BRAC branch offices to repay installment in that window of their lunch break. Also, it becomes a huge pressure on BRAC's staff to attend to all the clients in such a short duration of time. This also leads to erroneous inputs.

To ease these challenges, BRAC established 'Client Interaction Points' (CIPs) near workplaces, with 20 operational CIPs providing financial services to garment workers. To take it further, BRAC Microfinance partnered with Dutch-Bangla Bank Limited (DBBL) to simplify financial services. Loans are now disbursed directly to their 'Rocket' wallets, and installments are also collected through auto-debit methods. It results in a win-win for both the organization and the clients by saving time and reducing operational complexity.

In Bangladesh, BRAC has pioneered initiatives of this kind, which have made the lives of garment workers more convenient. Besides, it has become possible to include a substantial number of working women in the garment sector within the purview of digital finance. Simultaneously, clients can use the Rocket app or USSD codes to make payments for insurance premiums, installments, savings, and VPS (where applicable).

11. The Road Ahead

Moving forward, BRAC Microfinance aims to further digital ventures. We are also providing necessary training to our staff to enhance their technological expertise. We are ambitious to target new customer demographics, and continually innovate in customer assessment methods. Overall, BRAC works in a holistic approach and believes in continuous adaptation with the pace of the world. Hence, digitizing operations and client services are the need of the hour. The potential for leveraging advanced data analytics regarding microfinancing is also being keenly explored. The journey of BRAC Microfinance in digital transformation is a narrative of innovation, inclusivity, adaptability, and empowerment. By taking in a multi-faceted approach, it is on the right direction to bring positive alteration to the landscape of financial inclusion in Bangladesh.

The digital initiatives of BRAC Microfinance marks a broader societal change as it ignites the hopes and aspirations of millions for a more financially secure and promising future.

12. Case Study: Jahida's Digital embrace

As we asked Jahida, "Why did you choose BRAC to take loans from? She says, "My trust was seeded long back. As a child, I witnessed my parents needed money to buy an auto-rickshaw for livelihood. Relatives bad-mouthed them as they asked for a loan. So, they chose BRAC and so did I, losing no self-respect to anyone."

Jahida Begum, a 24-year-old from the Narayanganj district of Dhaka, lives with her parents and siblings. Her father used to be the only breadwinner of the family. Their ends barely ever met as it was marked by financial hardships. Jahida always had a strong passion for education. But unfortunately, she had to drop out of school at secondary level and soon became a Ready-made Garments worker. Jahida accepted this turn of life with a smile. Her journey with BRAC Microfinance began four years ago when her father became entangled within a land related dispute and she decided to be the shield to her father. She took a loan and provided her father with money so that her father could reclaim what he had lost.

Jahida takes pride in repaying loans with her own hard earned money. Later, she availed more loans to help her father restart businesses and other issues in the similar tune. Although she was married off at an early age, she took important steps towards strengthening her future. She planned and purchased a piece of land for herself around her residence in Narayanganj.

Apart from personal hurdles, Jahida's profession is laborious. BRAC has a huge clientele among the RMG workers. She, like all of her coworkers, used to face problems repaying loan instalments since they have to fish time out of their lunch break to visit CIP or the nearest BRAC branch offices.

As BRAC carved out a digital solution for them, Jahida and most of her coworkers have embraced the solution, saying, 'Now we save time, skip long queues, and enjoy lunch breaks. Monthly salaries automatically cover our instalments. It's a testament to BRAC's care, and we reciprocate with gratitude.'

To welcome such changes, BRAC prioritizes viewing challenges from its client's lens to reach the root of any problem and adds one more stepping stone, whether that be through frugal solutions or modern digital innovations.

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Interaction of Electronic Banking and Bank Profitability: Indonesia Case

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Abstract

The current paper aims to analyze the relationship between electronic banking (Automated Teller Machine per Branch, Electronic Data Capture, mobile banking and internet banking) with bank financial performance (Return on Asset and Return on Equity) on banks that are listed in the Indonesia Stock Exchange for the period of 2014 – 2019. Research objects were identified based on availability of data from 6 banks in Indonesia. The results showed a co-integration between electronic banking and financial performance as a group and also as a pair, significant co-integration relationships demonstrate increasingly advanced electronic banking technology that affects bank's financial performance. In addition, there are indications of bivariate causality between ROA and Mobile Banking and uni-directional causality from Mobile Banking to ROE. The application of electronic banking is more related to mobile banking which is currently most widely used by customers due to the ease of use, as well as the features that it offers. Further research shows that in the short term there is a positive influence of mobile banking on ROA and ROE. This is related to the penetration of mobile phones in banking customers that is already quite high as well as the habits of customers who are getting used to mobile banking. In the long term there is an influence of ATM per Branch, Internet Banking, and Financial Performance on ROA and ROE. This shows more efficient management of customer funds with electronic banking as there is an increase in bank's income. However, on the other hand, banks need greater funds in managing customer transaction security as well as more efficient bank capital management.

1. Introduction

The Indonesian government has been establishing a Non-Cash Movement for all communities since the end of 2014 with the aim of establishing a less cash society in conducting its economic transactions. It is also in line with the government's desire to increase financial literacy and inclusion in Indonesia which has been increasing since 2013.

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Indonesia's financial literacy in 2019 is still at a well literate 38.03% level that has knowledge and confidence about financial services products, including features, benefits and risks, rights and obligations, as well as having skills in using it. The highest level of financial literacy is in the banking sector at the level of 36.12%. Meanwhile, the level of financial inclusion in Indonesia in 2019 has reached 76.19%. Financial services institutions in Indonesia with the highest level of financial inclusion exist in the banking sector at a rate of 73.88%, this indicates that the availability of access to banking products and services in Indonesia in accordance with the needs of the community (Otoritas Jasa Keuangan, 2017 & 2019).

Banking competition in Indonesia continues to increase in terms of customer service through product innovation in regard to features and security of technology-based products. The digital era 4.0 that led to the digital era 5.0 is an opportunity for banking in Indonesia to serve people who are increasingly accustomed to the use of technology in banking sector. Compared to other ASEAN countries, it appears that in Indonesia, the use of public electronic banking is still relatively low. However, given the geographical situation and the large population of the country, there are ample opportunities to expand access to services for banking customers in Indonesia. On the other hand, the challenges for banking in Indonesia are also seen from the development of fintech (financial technology) in financial transaction services both in payment and lending that is increasing rapidly in Indonesia.

The development of banking digitalization services was followed by the phenomenon of closing bank branch offices. The closure of the branch office was caused by customers who made more digital transactions than coming to the branch office (Kompas, 2019). The Financial Services Authority (OJK) in Indonesian banking statistics (SPI) noted that from 113 banks, the total number of bank offices only reached 31,577 offices as of April 2019. The position is down from the previous year's period of 32,022 offices. When viewed more deeply, this depreciation is also caused by the decrease in the number of banks from April 2018 which was 115 banks.

Banking in Indonesia needs to have a strong commitment to provide electronic banking products that are safe and easy in the use of non-cash transactions by the public to create the less cash society through innovation of banking products that support it that will ultimately support the profitability of the bank.

The growth of electronic banking is supported by the development of technology and the lifestyle of the community to generate income from fee-based income in the banking industry. The use of electronic banking can reduce transaction costs, help business development, and can increase customer confidence which can ultimately increase customer loyalty. In addition, the use of electronic banking also provides convenience and ease of transaction that is not limited by time and location. It is anytime, anywhere, and by any device (Otoritas Jasa Keuangan, 2015).

Almost all commercial banks in Indonesia currently provide electronic banking product services, both in the form of delivery channels that are common such as ATM (Automated Teller Machine), and in the form of other delivery channels such as EDC (Electronic Data Capture), SMS (Short Message Service) banking, mobile banking, and internet banking (Otoritas Jasa Keuangan, 2015).

The phenomenon of closing branch offices encourages banks to innovate so that banks can still be reached by the public. Abaenewe et al (2013) in their research have shown the positive impact of automated teller machines (ATMs) and point of sale (POS) terminals or EDC machines on performance and competitive advantage in the banking sector. Therefore, the use of technological innovations, closely related to the domain of information and communication, is one of the most important factors in creating financial performance and competitive advantage in the banking sector.

The company's financial performance concerns the aspects of fund providers as well as the distribution of funds, which can usually be assessed using several financial indicators such as capital, liquidity, and profitability (Rhamadana and Triyonowati, 2016). These financial indicators can provide an overview of the bank's financial health condition. Financial performance relates to how banks manage their resources so that they can make a profit. Financial performance is not limited to the profit generated, but relates to the effectiveness of the company in managing its business.

Measures of bank profitability commonly used in some previous research references are Return on Asset (ROA) and Return on Equity (ROE). ROA is the ability of banks in using their assets in generating profit, the greater the value of ROA the more effective the use of assets in generating profit. ROE is the ability of banks in using capital from shareholders in generating profit, the greater the value of ROE the more effective the use of capital in generating profit.

The tendency of banks in providing internet-based products has three basic factors, namely cost efficiency, high profitability, and low risk (Tunay, Tunay, & Akhisar, 2015). Several empirical studies have analyzed the influence of electronic banking on bank profitability using time series data and panel data, as well as using banking data in one country and several countries. The research methods used are also quite diverse, mostly using multiple regression.

In this study, the interaction relationship between electronic banking and banking profitability in Indonesia was analyzed using analysis method of cointegration, causality, as well as short-term and long-term relationship of panel data between existing banking variables, used by samples of banks listed on the Indonesia Stock Exchange based on the completeness of financial data needed.

2. Theoretical Framework

Some empirical research has previously been a reference to theory and is expected to be used in analyzing this research. The quality of product services received, user convenience, product function, and product credibility, increase bank customer satisfaction. Customer satisfaction does have a positive effect on customer loyalty to the bank (Windrati & Ferli, 2016). Banking innovation products are increasingly offered to customers, but for customers the important products has to be reliable in terms of function, ease of use, and security. Fewer the customer complaints about banking products, more loyal the consumers are to the bank. Customer loyalty is related to the level of customer trust that can improve the bank's financial performance (Ferli & Alfajri, 2019).

Electronic banking service products in the form of ATMs when compared to the number of existing bank branches appear to have no influence on bank ROA in Indonesia but have a negative influence on bank ROE in Indonesia. This shows that although there is still a high demand for customers related to the use of the channel, it is not efficient to determine the location of ATMs and bank branch offices in Indonesia. (Tahun & Ferli, 2020). This is also in line with the results of Akhisar et al (2015) research on banking in 24 countries.

Other products of electronic banking are EDC machine services spread across various merchants in cooperation with banks. EDC has no influence on the profitability of banks. This is due to the number of EDC machines that depend on the network and the lack of publication related to the existence of EDC machines which make customers still prefer to use cash and return to use ATMs to take cash, but EDC helps customers in reducing operational costs and easier and faster financial transactions (Tahun & Ferli, 2020). This is in line with the results of sujud & hasem research (2017) in banking in Lebanon and the research results of Akhisar et al (2015) in banking in 24 countries.

The adoption of technological innovations in the form of mobile banking can increase the profitability of banks. This is due to a gradual reduction in costs from 1 to 2 years of adoption so that banks can collect profits from the adoption of mobile banking (Sutarti et al, 2019). Mobile banking is proven to increase the profitability of banks in Indonesia (Kustina & Sugiarto, 2020). But according to Chaarani & Abiad (2018), mobile banking and investment in computer can decrease the profitability of banks.

The improved number of internet banking decreased the profitability of banks (Akhisar, Tunay, & Tunay, 2015). However, internet banking feature of banks has the potential to attract new customers thus increasing their profitability (Chaarani & Abiad, 2018). The impact of internet banking is on the convenience offered to retail and corporate customers to make easier, convenient, and faster transactions (Mateka & Omagwa, 2015). Banks in Indonesia that offer internet banking compared to banks that do not do offer so are seen to have more profitability, credit, and larger company sizes, and have smaller capital and expense management (Ferli, 2015) compared to their counterparts. This shows that internet banking is an established banking, and the provision of internet banking can support the efficiency and effectiveness of banks in generating profit.

Electronic banking lowers the bank's financial performance in Kenya (Dzombo, Kilika, & Maingi, 2017). The adoption of e-banking technology innovations effected the decline in bank performance in Indonesia, both financial and operational performance (Sutarti et al, 2019). But research in other developing countries has resulted in electronic banking improving the profitability of banks in Rwanda (Harelimana, 2018). Mobile banking,ATM, debit card, internet banking can increase the profitability of banks in Kenya (Njoroge & Mugambi, 2018).

In European countries, the causality between internet banking on bank profitability looks strong and unidirectional. As for countries outside Europe, there is no causality relationship between the variables. Increasingly modern internet banking practices in European countries are showing stronger banking performance (Tunay et al, 2015).

Based on existing literature reviews, Figure 1 is the framework of the research model used in the study.

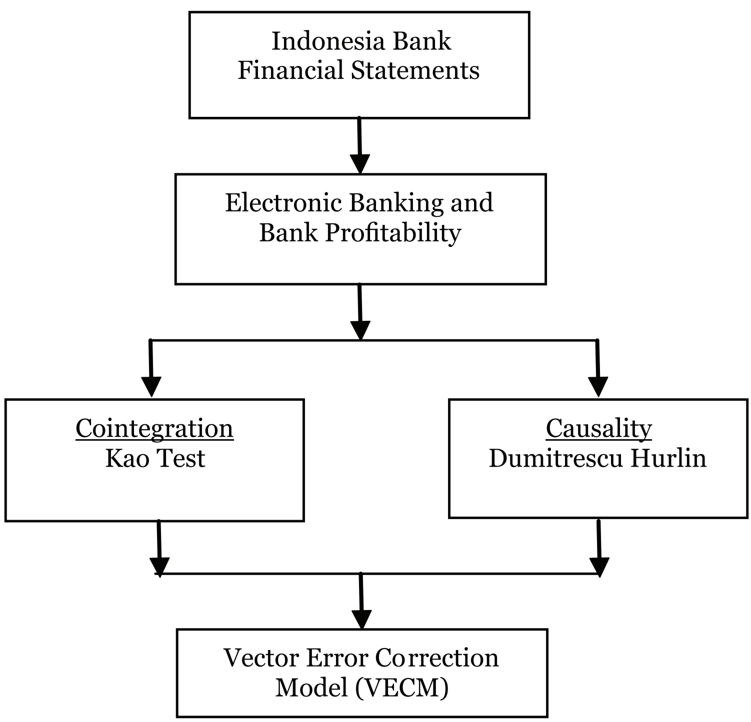

Figure 1. Research Model

3. Research Methods

The research object is banking in Indonesia listed on the Indonesia Stock Exchange and issued a complete annual financial report and recorded electronic banking complete data during the period 2014 to 2019. Bank financial statements are obtained directly from the bank's website.

Dependent variables used in this study are Return on Asset (ROA) and Return on Equity (ROE) with the following equations:

$$Return\ on\ Asset = \frac{Net\ Income}{Total\ Asset} \qquad (1)$$

$$Return\ on\ Equity = \frac{Net\ Income}{Total\ Equity} \qquad (2)$$

Independent variables used in this study are Electronic Banking (EB) products widely used by bank customers in Indonesia. ATM per Branch (ATB) – is a comparison of the number of ATMs with the number of existing branch offices, Electronic Data Capture (EDC) – is a percentage of the number of EDC machines distributed to merchants in cooperation with banks, Mobile Banking (MB) – is the percentage of customers who use mobile banking services, and Internet Banking (IB) – is the percentage of customers who use internet banking services in that year.

The data used is the data panel of six banks over the last 6 years with consideration of the development of banking innovation in Indonesia. The list of banks that are the object of research can be seen in Table 1.

Table 1. Bank List

No	Bank
1	Bank Central Asia
2	Bank Negara Indonesia
3	BPD Jawa Timur
4	CIMB Niaga
5	Bank Mandiri
6	Bank Permata

The analysis method used is descriptive analysis of research variables. There is an early stage of conducting stationary tests using the Levin, Lin, & Chu (LLC) test. After stationary data at the same level, it is continued by conducting Kao Cointegration test (Engle Granger Based) to see if there is a stable relationship between variables in the long run. Further causality tests were conducted using the Dumitrescu Hurlin or Wald test to determine the reciprocal relationship between the research variables. Finally, a Vector Error Correction Model (VECM) was created to look at the interaction of electronic banking variables and bank profitability in the short and long term. All tests were conducted at a significance rate of 5%.

4. Research Analysis and Managerial Implications

Based on descriptive data in general can be seen from 6 banks that become research objects in terms of profitability, all banks other than Bank Permata have above average ROA, and all banks other than Bank Permata and CIMB Niaga have above average ROE.

Meanwhile, from the electronic banking side, Bank BCA, BPD East Java and CIMB Niaga whose number of internet banking users is above average and has increased; bank BCA, CIMB Niaga, Bank Mandiri, and Bank Permata have above average mobile banking users and increasing; bank BCA, BPD East Java, and CIMB Niaga have above average EDC machines and increasing; and bank BCA, BNI, CIMB Niaga, and Bank Mandiri have above average ATB values but have a tendency to decreasing unless CIMB Niaga is increasing.

Descriptive analysis results show that, in general, the bank in Indonesia has improved the service of electronic banking products. While the pattern of behavior of customers who are increasingly accustomed to using the product, this is driven by the desire of customers in conducting financial transactions more efficiently and also supported by the penetration of the internet and mobile phones, are getting higher in the community. However, this is not directly reflected in the bank's profitability, given that many other factors may affect the bank's profitability in addition to electronic banking factor.

Based on stationary test results using Levin, Lin, & Chu (LLC) tests, all visible variables have been stationary at the second difference level. The optimum lag test result using a score from Akaike Information Criterion (AIC) which resulted in the second lag is the most optimal lag. So that in the next test will adjust to the data.

Table 2. Kao Cointegration Electronic Banking and Bank Profitability

Model	Prob.	Kointegrasi
EB- ROA	0.0003*	Exist
ATB - ROA	0.2439	Not Exist
EDC - ROA	0.4410	Not Exist
IB - ROA	0.0226*	Exist
MB - ROA	0.0005*	Exist
EB - ROE	0.0000*	Exist
ATB - ROE	0.0004*	Exist

EDC - ROE	0.0004*	Exist
IB - ROE	0.0002*	Exist
MB - ROE	0.0005*	Exist

Description: * Significant on α = 5%

Based on the Kao Cointegration Test in Table 2, there is an indication of co-integration between electronic banking and bank profitability in groups as well as bivariate variable, except between ROA and ATB and EDC there is no indication of bivariate co-integration. There is generally a stable long-term relationship between electronic banking groups and bank profitability, but relationship between ATB and EDC does not have a stable long-term relationship with ROA. This illustrates that the number of ATMs compared to the number of branch offices as well as the use of EDC machines in the long term has the possibility of changing usage patterns by customers. The higher the literacy and financial inclusion of the community, the more inclined it will be to the use of internet-based delivery channels in conducting financial transactions with consideration of the efficiency and effectiveness of transactions and customer safety. However, banks still need to provide ATMs, branch offices, and EDC machines as a form of service to customers while continuing to improve the features and security of internet-based product technology.

This is in line with the results in Tunay et al (2015) which said a significant co-integration relationship shows that electronic banking technology is increasingly advancing, affecting the bank's financial performance. Several factors make this more effective with the continuous development in terms of electronic banking features for consumer needs as well as infrastructure improvements carried out by banks. Consumers have become accustomed to the use of electronic banking in conducting banking transactions because it is felt in the ease and security in the use of internet banking.

Table 3. Dumitrescu Hurlin Causality (Wald Test) Electronic Banking and Bank Profitability

Variable	Arah Granger	Variable
EB	<======>	ROA
ATB	======	ROA
EDC	======	ROA
IB	======	ROA
MB*	<======>	ROA*
EB*	<======>	ROA*

ATB	======	ROE
EDC	======	ROE
IB	======	ROE
MB*	======>	ROE*

Description: * Significant on α = 5%

It can be seen, based on Table 3, Dumitrescu Hurlin Causality (Wald Test), that there are indications of bilateral causality relationship between ROA and mobile banking, unidirectional causality relationship from mobile banking to ROE, as well as bilateral causality between electronic banking in groups with bank profitability.

The results showed that mobile banking in the previous period can explain ROA and ROE in the current period, ROA in the previous period can explain mobile banking in the current period, and electronic banking in the previous period can explain ROA and ROE in the current period, and vice versa.

It can be said that in general the application of electronic banking is more related to mobile banking which is currently most widely used by bank customers due to ease of use, as well as the features offered are quite complete. Given the high number of mobile phone users among the public where each mobile phone has mobile banking features or can also download special mobile banking applications easily, so that all financial transactions can be done easily through mobile phones. Mobile banking offers convenience compared to internet banking because it does not require the use of tokens that become additional tools in transactions using internet banking.

Banks, in developing mobile banking, do not require too much capital. Customers who are accustomed to the use of mobile banking find it quite easy and safe causing an increase in users that ultimately increases the number of transactions made by customers, so that fees for banks related to mobile banking transactions will also increase the bank's profit.

Table 4. Vector Error Correction Model (VECM) Electronic Banking and Bank ROA

Variable	Coefficient	T-Statistic
Shor term		
CointEq1	-1.733514	-2.97372*
D(ROA(-1))	0.365392	0.81114
D(ROA(-2))	0.256568	0.96109
D(ATB(-1))	-0.001653	-0.15146

D(ATB(-2))	0.011897	1.06956
D(EDC(-1))	-0.006149	-0.20099
D(EDC(-2))	-0.021576	-0.73474
DIB(-1))	0.172823	1.26408
D(IB(-2))	0.124210	0.97886
D(MB(-1))	0.153574	2.02303*
D(MB(-2))	0.031535	0.31003
D(ROE(-1))	0.273274	0.81059
D(ROE(-2))	0.181708	0.57881
C	0.000917	0.06859
Long term		
C	0.021393	-
ATB(-1)	-0.002994	-4.28101*
EDC(-1)	-0.000955	-0.14712
IB(-1)	0.215089	5.73327*
MB(-1)	0.018434	0.74363
ROE(-1)	-0.455074	-7.57935*
R-squared	0.729448	
Adj. R-squared	0.544334	

Description: * Significant on $\alpha = 5\%$

Short-term estimation results in Table 4 show that there is an adjustment in ROA value from short to long term. This indicates that the bank's ROA is experiencing continuous development. In addition, there is only an increase in mobile banking in the previous period that can increase ROA, this shows that currently banking customers already trust and use more mobile banking products that will increase bank profits.

However, the results of long-term estimates show that an increase in the comparative value of the number of ATMs with the number of branch offices can decrease the ROA banking. It seems it will be quite a burden on bank’s operational costs. The increase in internet banking can increase the banking ROA. This indicates that in the long run bank customers will still use ATMs and go to branch offices and will use more internet banking products. This is because not all customers understand about the use of internet-based bank service products and not all areas can be reached by the internet.

Based on the model, electronic banking variables and ROE have managed to explain ROA variables by 54.43% in the long term. Whereas the remaining 45.57% is explained by other variables outside the model.

Table 5. Vector Error Correction Model (VECM) Electronic Banking and Bank ROE

Variable	Coefficient	T-Statistic
Shor term		
CointEq1	-0.234097	-1.26531
D(ROE(-1))	0.331894	1.41160
D(ROE(-2))	-0.266953	-1.21929
D(ATB(-1))	0.001046	0.13734
D(ATB(-2))	-0.008837	-1.13914
D(EDC(-1))	0.017922	0.84003
D(EDC(-2))	-0.001112	-0.05430
D(IB(-1))	-0.063500	-0.66597
D(IB(-2))	0.016901	0.19098
D(MB(-1))	0.129746	2.45069*
D(MB(-2))	0.089078	1.25574
D(ROA(-1))	-0.504590	-1.60616
D(ROA(-2))	-0.125093	-0.67190
C	-0.009112	-0.97720
Long term		
C		-
ATB(-1)	0.006578	4.03987*
EDC(-1)	0.002098	0.13650
IB(-1)	-0.472647	-5.00137*
MB(-1)	-0.040508	-0.82074
ROA(-1)	-2.197445	-12.3182*
R-squared	0.571079	
Adj. R-squared	0.277606	

Description: * Significant on α = 5%

The short-term estimation results in Table 5 indicate that there are no adjustment in the value of ROE from short to long term, this indicates that the banking ROE has not changed much. In addition, it is seen that only the increase of mobile banking in the previous period that can increase ROE, this shows that currently banking customers already trust and use more mobile banking products.

However, the results of long-term estimates show an increase in the comparative value of the number of ATMs with the number of branch offices can increase the banking ROE and the increase in internet banking can decrease the banking ROE. This shows that in the long run the development of ATMs and branch offices certainly require greater capital costs than the development of internet banking.

Based on the model it also has been seen that electronic banking and ROA variables managed to explain the variable ROE by 27.76% in the long term, whereas the remaining 72.24% is explained by other variables outside the model.

5. Research Conclusion, Suggestions, and Limitations

The conclusion of the research results shows that there is a co-integration between electronic banking and bank profitability in electronic banking group as well as bivariate, except between ATB and EDC with ROA there is no indication of bivariate co-integration in banking in Indonesia during the research period. In the long term, banks will continue to develop electronic banking products based on internet to improve services according to customer needs, so that customers will increasingly believe and feel safe in using electronic banking products that will affect the profitability of banks.

The results show bilateral causality between ROA and mobile banking and between electronic banking in groups with bank profitability, and there are indications of unidirectional causality relationship from mobile banking to ROE. Mobile banking affects the profitability of banks in general. Electronic banking product group also affects the profitability of banks, but in developing electronic banking products it is necessary to use assets and bank capital better in generating profit.

In general, based on the results of short-term estimates show that mobile banking services in banks can improve the profitability of banks, this is because it is related to the penetration of mobile phones and internet in the community that is high enough and the habits of customers who are getting used to using mobile banking in financial transactions.

While based on the results of long-term estimates showed that ATB can decrease ROA but increase ROE. Based on descriptive data in general, the bank's profitability has increased and ATB has decreased in accordance with the Non-Cash Movement and branchless banking phenomenon so that even though the bank lowers the value of the ratio of ATM numbers to the number of branch offices, customers can still manage funds more efficiently so that the bank's profitability continues to increase. Internet banking increases ROA but lowers ROE. Customers do a lot of financial transactions through internet banking will increase bank revenues but the phenomenon of criminal behavior in digital finance causes banks to spend more funds for the security of internet banking use.

The decision to become a new customer of a bank depends on the level of innovation made by the bank. ATMs, setup around the places, are one of the main factors for new customers choosing the bank (Chaarani & Abiad, 2018). Banking innovations that have been increasingly advanced, make many banks prefer to close branch offices because the operational costs that must be incurred by banks are far greater than just using ATMs for their service systems. Of course, ATM maintenance costs are much smaller than opening branches that require a lot of labor and will result in costs that are much more expensive when compared to installing the ATM. However, considering that currently uneven development throughout Indonesia still makes people do not have access to touch or use facilities or services from banks. Banks should be more detailed in listing which locations have great potential to use ATMs and then build more ATMs than branch offices, considering that ATMs themselves are a form of banking innovation that has been known by the public for a long time and ATMs can also be used to open new savings and the number of ATMs spread at various points is also one of the factors for customers to choose a bank as a place to store their funds. Furthermore, banks can replace their branch offices with ATM machines so that operational costs can be further reduced, customers can make transactions individually and whenever customers want to make transactions or open savings without being hindered by branch office operating hours because ATMs have interesting innovations such as being able to open new accounts. It is equally beneficial for the bank and its customers.

Although many banks have spent capital for the development of mobile banking services, it does not necessarily make mobile banking service users increase. This is because there are still limited numbers of customers who use bank services in the form of mobile banking. Not all bank customers in rural areas have an internet network. Because of course, in addition to supporting the Less Cash Society, the even use of mobile banking directly has an impact on the creation of an orderly and smart society in conducting financial records and making the rural economy rise. The convenience and ease of accessing various service features will also make customers in rural areas have more knowledge about banking. With the interest of the bank to introduce mobile banking and also encourage all customers to use mobile banking, the bank can provide input to banks to reach remote parts of the country with internet networks. This benefits not only the bank, but also its customers. It is beneficial for the government too as the existing information can directly reach remote customers with technology.

Mobile banking is indirectly a rival to internet banking products. This is because mobile banking and internet banking have the same features in their use. It would be good if internet banking and mobile banking are differentiated in terms of their use. For example, if internet banking is used to open a new savings account and is used to make transactions above Rp. 10,000,000 then mobile banking is used for transactions smaller than Rp. 10,000,000 and is used to make small transactions so that there is a clear target market for customers using the service.

Furthermore, EDC Machines have a huge influence in reducing operational costs. With EDC machines, it is easier for people to make transactions closer to the customer's whereabouts than going to a branch office to make transactions. EDC machines can also replace the role of ATMs for transactions. Currently, the existence of MSMEs can help banks reach their customers who are in remote areas and these areas are inaccessible by ATMs. Banks can cooperate with MSMEs and make these MSMEs bank agents to deploy EDC machines to these MSMEs so that people in remote areas can get to know the bank and can make transactions easily. With bank agents, banks do not need to spend large amount of money to build branch offices and incur large costs for employee salaries at branch offices. It is equally beneficial for the bank and customers. But banks must mobilize and build capacity of bank agents so that bank agents are able to explain their banking services to clients.

Based on the low adjusted value of R2, further research can add other variables that can affect the bank's financial performance such as the number of e-banking financial transactions or macroeconomic factors (Dong, Yin, Liu, Hu, Li, & Liu, 2020). Considering that banking innovation in Indonesia will have a direct effect on fee-based income, further research can use these variables as variable dependents (Gumilang & Azib, 2019) or as moderating variables between electronic banking and bank financial performance.

Limitations of research are data which were obtained from 6 banks listed on the Indonesia Stock Exchange. For further research, data of all banks listed on the Indonesia Stock Exchange can be used.

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Annexure

Descriptive Statistics

Date: 10/27/20 Time: 10:37						
Sample: 1 36						
	ATB	**EDC**	**IB**	**MB**	**ROA**	**ROE**
Mean	6.7087	0.5290	0.2041	0.2646	0.0143	0.1406
Median	6.6991	0.2115	0.2083	0.1875	0.0271	0.1585
Maximum	15.02610	2.301000	0.490000	2.000000	0.040000	0.258100
Minimum	1.2029	0.0150	0.0000	0.0000	-0.3830	-0.0490
Std. Dev.	4.3111	0.5478	0.1364	0.3535	0.0688	0.0716
Skewness	0.5693	1.2575	0.3145	3.4358	-5.5483	-0.6122
Kurtosis	2.3429	4.3499	2.1440	17.245	32.548	2.9604

Jarque-Bera	2.5928	12.221	1.6925	375.21	1494.3	2.2510
Probability	0.2735	0.0022	0.4290	0.0000	0.0000	0.3245
Sum	241.52	19.046	7.3503	9.5282	0.5181	5.0639
Sum Sq. Dev.	650.50	10.505	0.6518	4.3747	0.1661	0.1795
Observations	36	36	36	36	36	36

Unit Root Test

Variabel	LLC Test	
	Second Difference	
	Statistic	Prob. *
Internet Banking	-11.1578	0.0000*
Mobile Banking	-6.33935	0.0000*
EDC	-13.7292	0.0000*
ATB	-5.58370	0.0000*
ROA	-11.9879	0.0000*
ROE	-26.4935	0.0000*

Determining Optimum Lag

Lag	LogL	LR	FPE	AIC
0	-1.868054	NA	7.76e-08	0.655671
1	110.2413	158.8216	1.52e-10	-5.686774
2	162.4835	47.88868	7.68e-11*	-7.040290*
LR: sequential modified LR test statistic FPE: Final prediction error				
AIC: Akaike information criterion				

The Impact Assessment of Phase II (2019-2023) of the "Mobile Banking - Financial Inclusion and Economic Empowerment for the Low-Income Populations and Women in Vietnam" Project in Vietnam

Phan Cu Nhan*

1. Introduction

The Impact Assessment of Phase II (2019-2023) of the "Mobile Banking - Financial Inclusion and Economic Empowerment for the Low-Income Populations and Women in Vietnam" Project, funded by the Australian Department of Foreign Affairs and Trade (DFAT) and jointly implemented by the Vietnam Bank for Social Policies (VBSP) and The Asia Foundation in Vietnam (hereinafter referred to as "the Foundation"), aims to review and evaluate the project implementation and its impacts on VBSP, the Bank clients and Savings and Credit Group (SCG) leaders in a long term, particularly from perspectives of financial inclusion and women's economic empowerment.

Methodologically the Assessment has applied a mixed-methods approach, combining secondary research, qualitative and quantitative study, supplementing with a cost and benefit analysis. The total number of participants in the qualitative component is 80 stakeholders (40 women and 40 men) from Ha Noi, Hung Yen, Quang Tri and Dak Lak, while the quantitative online survey involved 6,383 respondents (3,294 women, 3,080 men, and nine respondents having not identified with any gender) from 45 district transaction offices of 19 provinces piloted with the Policy Credit Management (PCM) application.

The structure of this Assessment report is organized as follows. A review of financial inclusion, digitalization, and gender equality and the project background are provided in the introductory section. The methodology adopted in this study is explained in the second section, and the results are presented in the third section. This is followed by a conclusion in the fourth section, and finally, some priorities and recommendations

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for VBSP and development partners including the Foundation are provided in the fifth section.

2. Relevance

The thematic focus, targeted beneficiaries, and project timing are relevant to national priorities and donor commitments on financial inclusion and gender equality. This project was found highly relevant for Vietnam as an actor facilitating the acquisition and adaptation of innovative technologies during the COVID-19 pandemic. The Foundation seeks to support financial inclusion and women's economic empowerment through digital financial services, and thus the collaboration with VBSP is an important materialization of this strategy. Furthermore, in line with the shared value concept, Phase II continued to facilitate the public-private partnership between VBSP and Mastercard, aiming to deliver combined social and financial returns on investment. There is strong evidence from quantitative results on the relevance of mobile banking services to all project beneficiaries including VBSP staff (94.5 percent), SCG leaders (96 percent), entrusted mass organization representatives, and other non-bank cadres (90 percent). Among the Bank clients, the rate of assessing relevance for SMS notifications, PCM applications, and the VBSP Smart Banking application (SB) is more than 85 percent, 98.4 percent, and more than 90 percent, respectively.

3. Effectiveness

A summary of key achievements, as of 30 April 2023, related to project effectiveness is presented below:

SMS notification services	**More than 50 million SMS sent to VBSP clients**
Financial literacy	50,300 users
PCM application	24,931 SCG users, 2.4 million transactions, an equivalence of VND 882 billion
SB application	95,919 users with 642.689 transactions completed, an equivalence of VND 5,432.5 billion

Most notably, from a gender perspective, women appear to surpass men in several aspects of mobile banking service adoption. Female clients are more likely than men to report being satisfied with all the convenient features of SMS notification services (51.9 percent and 47.9 percent, respectively), to install the PCM application (15.7 and 11.8 percent, respectively), and to utilize the SB application more frequently because the rate of female clients having the application installed, but unused is 11.8 percent, compared to 18.1 percent of men. Likewise, female SCG leaders appear to handle the PCM application more skilfully than their male counterparts: 38.7 percent of female SCG leaders consider the application installation as an easy task, compared to 33.3 percent of male SCG leaders. 67.6 percent of female SCG leaders could handle all the application functions easily, compared to 60.7 percent of male SCG leaders. These findings tend to suggest that women are more likely to be open to trying out new features and adopting new mobile technology than men.

4. Efficiency

The project finance has facilitated VBSP to leverage efficient investment and funding from the Government budget, private partners, and other international organizations. These sources of funding and investment that VBSP has sought and potentially secured indicate the project's efficiency. The quantitative results of this Assessment suggest that VBSP employees recognize the efficiency of the Bank's investment in mobile banking services. Nearly 70 percent of the surveyed staff note that the benefits of mobile banking services are suitable or higher than the expected return from the Bank investment.

Furthermore, the establishment of PMU as an inter-division team has allowed the project to improve operational efficiency. In addition, the Bank is relatively efficient in deploying credit and savings groups and mobilizing the engagement of non-bank cadres to support their credit delivery process in general, and the implementation of this mobile banking project in particular. At the Foundation level, the project management team has made substantive arrangements to increase the efficiency of project coordination and reduce transaction costs of the project implementation. It is relevant to note that the current project is a public-private partnership initiative among the Foundation, VBSP, Mastercard, and DFAT. Specifically, engagement of the private sector across the mobile banking application development services is meeting the demands of VBSP clients and end users, increasing the level of digital adoption among customers, and most importantly helping the Bank stay competitive in the digital age.

5. Impacts

i. VBSP clients

There is an increase in VBSP clients' awareness about the usage of mobile phones in their loan management practices, and their digital financial literacy. The SMS notification services have contributed to enhancing transparency in loan management, and improved planning for loan payment (and hence the clients' savings attitude). 78.3 percent of clients are able to keep track of their loans more effectively, 66.7 percent of clients are able to make timely payments, 51.1 percent of them pay more attention to their savings, and about a quarter of the surveyed clients indicate that they have more savings, making better preparations for emergencies. Moreover, nearly 60 percent of clients gain more trust in their SCG leaders, and 47.7 percent of them find more satisfaction and trust in the services provided by VBSP.

VBSP clients appear to gain numerous benefits indirectly from the implementation of PCM application, even though they are not the targeted users: (i) predictable benefits of inspiring small business success stories and good agricultural practices available in the E-Handbook feature of PCM application; (ii) helping clients improve their planning for loan payments; (iii) timely repayment increases clients' opportunity of getting another loan from VBSP, given customer characteristics are listed among key eligible criteria in VBSP operational guidance; (iv) affecting the attitude of female clients toward savings as they understand more clearly about income and cost relations; (v) time-saving effect among clients so that they could expand their household business operations or agriculture production; and (vi) reducing the waiting time for loan disbursement at monthly transactions, especially the poorest and most marginalized people.

The quantitative findings indicate that men surpass women in all the positive impacts of PCM applications on clients. Furthermore, all surveyed clients with ethnic minority backgrounds acknowledge the positive impacts of PCM application. Also, senior clients aged over 60 years appear to make the most use of information provided in the PCM application, 82.5 percent of them applied the acquired knowledge to their production planning, and financial management (compared to the average rate of 68 percent).

Even though the SB application has been recently launched among VBSP clients nationwide (since 1 March 2023), potential impacts on the Bank clients include (i) increasing a certain segment's consciousness in digital banking services especially offered by VBSP amid the national expansion of formal financial services; (ii) improving a certain segment's experience with all-in-one mobile banking application from anywhere and at any time; (iii) prospects of accelerating digital literacy and financial inclusion among other segments, especially the marginalized populations.

ii. SCG leaders

The SMS service component has enhanced SCG leaders' awareness and application of mobile phones in loan management, creating an important platform for the implementation of mobile banking application services in Phase II of the current project.

The SCG leaders benefit the most from the PCM application such as (i) improving communications between SCG Management Board and local authorities who collaborate on policy credit monitoring; (ii) enhancing successful team coordination among SCG leaders and different stakeholders involved in the policy credit management at grassroots level; (iii) contributing to transparency in loan management, and clients' increased trust in SCG leaders, and reducing the risks associated with handling cash; (iv) ensuring data accuracy and consistency reported by SCG leaders during monthly transactions at communal transaction point, advancing SCG leaders' practices for effective credit monitoring; and (v) economic benefits of time saved from the mobile application usage, and women's increased social engagement, social capital and loyalty to VBSP, as well as more positive attitudes toward life-long learning, personal competence and self-confidence among female SCG leaders.

Notably, the quantitative results suggest gender differences in the project impacts among surveyed SCG leaders. The level of improvement is found relatively higher in female SCG leaders than in men. Specifically, 78.3 percent of female SCG leaders see improvements in their bookkeeping practices, compared to 72.9 percent of men. Female SCG leaders tend to have a higher rate of increasing confidence than that of their male counterparts (42.2 percent and 36.3 percent, respectively).

6. VBSP staff entrusted mass organizations and other non-bank cadres

The SMS notification services represent an important step made in the early stage of VBSP's digitalization process, contributing to the readiness and acceptance of VBSP towards digital banking services. From the quantitative analysis of this current Assessment, the most significant impact of SMS services on the Bank is improved risk management. Nearly 90 percent of surveyed VBSP staff think that SMS notification services help the Bank reduce potential risks in the loan management process. Similar to SCG leaders, the SMS notification services have contributed to enhancing the trust of VBSP clients in mass organizations (MO), creating an important platform for their future application of mobile banking services.

Most importantly, the Assessment collected strong pieces of evidence confirming the benefits of the PCM application for VBSP staff, including (i) benefits of moving from solely paper-based to a digital solution service delivery, enabling the effective meeting length between the credit staff and other non-bank cadres at monthly debriefings; (ii) reducing review time on SCG leaders' transaction submissions at monthly transactions, therefore creating more time for capacity building for SCG leaders and spreading the Bank financial product promotion; (iii) increasing the quantity and quality of due diligence and monitoring trips by credit staff, and; (iv) improving Bank operation efficiency in monthly transactions at commune transaction points as well as up-skilling credit staff to better provide financial advice on economic empowerment among women and low-income populations. Nearly all surveyed staff (93.6 percent) agree that the usage of the PCM application makes their job more at ease, especially in loan monitoring and interest collection. About half of them indicate that the application allows them to reduce travel time for monitoring and validation trips, and notably reduce the time and efforts required for client account reconciliations at the monthly transactions. Based on a customer-focused strategy, VBSP has deployed highly personalized communication features in the SB application. This strategy is a step forward on the Bank's strategic goal of diversifying products and services.

From the quantitative survey, 75.1 percent of entrusted MOs and other non-bank cadres claim that the PCM application helps ease their task in loan monitoring; about half of them indicate that they could save time from reminding borrowers, and related expenditures thanks to less travel required.

Notably, the impacts of PCM application on the entrusted MOs include: (i) simplifying of MOs' monitoring process, and helping MOs be more proactive in data accessibility and effective record management; (ii) leading to timely follow-up support by MOs, and providing MO cadres with an official source of financial education and good practices in livelihood diversification for prospects of replication in their communes; and (iii) enhancing transparency of trust loan management and trust of the Bank clients fostering favorable conditions for improved MO memberships.

For non-bank cadres, the PCM application assists them in (i) having community-based early interventions in any cases of non-performing and overdue loans; (ii) enabling better cooperation and communication between local authorities and SCG Management Board; and (iii) contributing to local cadres' accomplishment of other state management mandates.

7. Cost and Benefit Analysis

A cost and benefit analysis of three services provided by VBSP is summarized below:

	SMS notification services	PCM application	SB application
Costs (VND)	39,338,354,660	1,788,900,000	8,457,340,000
Benefits (VND)	562,895,245,000	12,426,681,250	20,277,006,850
Net benefits (VND)	523,556,890,340	10,637,781,250	11,819,666,850
	January 2018 - June 2022	*November 2022 - March 2023*	*March - April 2023*

8. Sustainability

The project sustainability exists at various levels including Bank clients, SCG leaders, VBSP, and other non-bank cadres because the project benefits are maintained and scaled up beyond the project closure.

From the clients' perspectives: (i) the rise of modern smart device usage and emerging market for digital banking; and (ii) continuity of benefits among certain segments, and yet-to-be potential clients.

From the SCG leaders' perspectives: (i) enhancing capacity for SCG leaders, especially those who are not yet proficient in using PCM application, by the Bank staff at the designated transaction day; and (ii) social engagement incentives helping to boost SCG leaders' collaboration and loyalty to VBSP

From VBSP's and non-bank cadres' perspectives: (i) a strong alignment with VBSP operating strategy towards year 2030, leading to influencing the development of the microfinance industry in Vietnam in general; (ii) an important step of digitalization for new product/service provisions; (iii) an actionable vision for a whole-of-government approach to coordinate programs and agencies; (iv) fostering the Bank staff's behaviour and mind-set needed to support digital banking; (v) prospects of financial sustainability, supporting VBSPs a long way towards digital transformation; and (vi) adding value to non-bank cadres' state management function and political commitments.

9. Challenges and Lessons Learnt

There are some challenges and lessons learnt including: (i) project implementation delays associated with the COVID-19 pandemic; ii) timing issues in bidding process of public investment management system; (iii) a hurdle to successful coordination on project implementation within VBSP; (iv) uneven stages of implementation on capacity development for VBSP staff; (v) seemingly confusion among some Bank staff about certain functional purposes of PCM application; (vi) some SCG leaders not being able to fully avail themselves of the advantage of the application; (vii) the need of balancing convenience and security to enhance SB application, which is still in development mode; (viii) understanding customers' sustainable intention to use SB application, possession (partial adoption) versus usage (total adoption); (ix) a lack of smartphone possession among Bank clients and a small proportion of SCG leaders; and (x) low smartphone literacy among a certain segment of the elderly (both men and women) and middle-aged ethnic minorities.

10. Conclusion

Overall, the project has reflected three tiers on which VBSP has constructed a new business module against the backdrop of its digital transformation. The new service channel of SMS notifications (January 2018-January 2019; and June 2020-June 2022) marked the first milestone of the modernization strategy of VBSP The second implementation of the PCM application (since September 2022) has had a far-reaching impact on the effectiveness of VBSP multi-stakeholder credit management mechanism. This application enables the digitization and automation of certain paper-based and manual processes in credit monitoring at the grassroots level. The third and more recent launch of the SB application (since December 2022) has been driven towards customer centricity. This enables VBSP to move closer to banking market industry trends and stay resilient in the face of large-scale crises such as the COVID-19 pandemic.

Moreover, the project has successfully facilitated VBSP to mobilize resources from multi-lateral, bilateral, and other international partners to jointly support the Bank in the development of mobile banking services. Positive changes have been recognized by all targeted beneficiaries. Most significantly, the project has positive impacts on women's economic empowerment among clients and SCG leaders. These impacts include improved planning for loan payments and savings attitude, increased participation in income-generating activities thanks to time saved from loan management, as well as increased confidence in discussing and making decisions on household income-generating activities among female clients, and enhanced women's social engagement and loyalty to VBSP among SCG leaders.

The encouraging findings of this Assessment indicate that the multi-year project has contributed to women's economic empowerment and social inclusion. Notably, the project has enhanced gender mainstreaming in the VBSP service delivery system, advancing the gender sensitivity of the Bank in systematic sex-disaggregated data collection and gender-based marketing analysis. By so doing, VBSP has the opportunity to meet the financial needs of more female clients, who are particularly vulnerable to financial exclusion given cultural, financial illiteracy, technical and awareness barriers they have to face especially in rural and mountainous areas. The project suggests that to achieve this crucial goal, a holistic approach and long-term commitment from different stakeholders are vital prerequisites. Furthermore, the valuable lessons learned from the project implementation offer important insights into strengthening various aspects of nexus programming for future implementation.

11. Recommendations

i. For Vietnam Bank for Social Policies

Recommendation 1: Continuously advance the SB application features to improve the banking experience of existing users/clients, and promoting for their full adoption (usage), instead of partial adoption (possession, but without any real usage), as well as amplifying digital literacy in parallel for Bank clients.

Recommendation 2: Step up efforts to spread communications on the SB application, aiming to expand to other segments. Leveraging on current initiatives within the Bank system.

Recommendation 3: Keep upgrading the PCM application features, particularly the digital financial literacy functions, and possibly address the specific needs of elderly users related to menu and navigation issues to ensure a high level of usability.

Recommendation 4: Strengthen capacity of VBSP employees, making sure its employees understand thoroughly the essential, standard features of the PCM application and their relevance to the Bank operations.

Recommendation 5: Identify linkages to the "digitalization accessibility for women, ethnic minorities, and other policy beneficiaries" outcomes under different National

Targeted Programs and master programs on the ground to utilize resources and new sets of stakeholders and partners to promote digital education among "last mile" segments.

Recommendation 6: Enable a stronger and more proactive role of the PMU to optimize the current coordination mechanism for the next programming, increase the buy-in and ownership of the relevant departments, and units at the central level as well as mainstream gender perspectives in VBSP digital policies.

Recommendation 7: Build a robust Research and Development (R&D) strategy for the next phase of digital transformation.

ii. For Development Partners

Recommendation 1: Continuously support VBSP to strengthen an enabling environment within the VBSP system for women's economic empowerment and social inclusion.

Recommendation 2: Consider building partnerships and synergies, or continuously facilitate a public-private partnership between VBSP with key international technology partners to support a strong R&D division under VBSP, advancing more gender-sensitive and inclusive R&D practices.

Recommendation 3: Undertake efforts to link the project activities on women's economic empowerment and financial inclusion to government programs with similar objectives to promote digital education among VBSP clients, and communities in general, as well as to demonstrate implementation models that can be adopted by the Government of Vietnam and others.

Adapting to Digital Change: Analyzing Risks and Vulnerabilities for Microfinance Clients

Deepak Alok* and Dr Rashmi Rani Anand**

Abstract

As microfinance institutions (MFIs) pivot towards digitization, this paper scrutinizes the growing vulnerability of their clients in the rapidly evolving digital landscape. Drawing from the practical experiences of M2i, it delves into multifaceted issues, encompassing digital illiteracy, risk management and internal controls, the educational gap among clients, and challenges related to agent oversight. The paper underscores the urgent necessity for a human-centric digital finance paradigm, emphasizing client safeguarding and empowerment. It advocates for comprehensive client education initiatives, bolstered internal controls, and renewed emphasis on third-party assessments to ensure client protection in the evolving digital financial landscape.

1. Context

Anuradha, a long-time client of an MFI, in Eastern India approached the branch staff of the MFI for assistance in withdrawing money from her ATM. The staff member withdrew Rs. 10,000 for Anuradha but surreptitiously swapped her ATM card with another. Without telling Anuradha, the perpetrator of this fraud used her ATM card to conduct multiple unauthorized withdrawals over the next week. Anuradha only realized what had happened when she received her bank statement showing multiple withdrawals she hadn't authorized.

Pooja, a client of one of the MFIs in Southern India, had Rs. 40,000 deposited to her bank account. Eager to withdraw the money, she visited a BC agent for assistance. The agent, using biometric authentication (fingerprint), informed Pooja that the funds had not yet arrived in her bank account. However, once Pooja left the agent's location, he misused her biometric data to initiate a withdrawal transaction without her knowledge. Pooja only discovered this fraudulent activity after persistent follow-ups with the MFI, revealing that the agent had executed an unauthorized withdrawal using her biometric data.

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The examples of Anuradha and Pooja illustrate some of the methods through which the microfinance clients have lost money on account of the MFIs adopting digital processes and transactions. Microfinance institutions (MFIs) play a pivotal role in extending financial services to underserved populations, empowering individuals like Anuradha and Pooja (assumed names) with access to credit and banking facilities. However, as with any financial ecosystem, vulnerabilities exist, and unscrupulous actors sometimes exploit them.

2. Key reasons for increased client vulnerability and frauds with clients

2.1 Assumption of Universal Control Systems amid Technological Transformation

Amid the rush to adopt digital way of functioning, MFIs have made the assumption that control systems designed for technically savvy urban educated customers will suffice for their microfinance clients as well. An example of this is the reliance on SMS-based transaction validation, a system that works effectively for urban clientele but presents substantial hurdles for those at the base of the pyramid.

For low-income clients, frequent changes in phone numbers and a lack of awareness about number portability often mean that their mobile numbers remain outdated in MFI records. Even when updated, these clients may not always have access to their mobile phones. Further complicating the matters, SMS messages, which are typically sent in English, can be incomprehensible to clients who are more comfortable with vernacular languages. Network issues also hinder the timely delivery of these critical messages.

2.2 Ignoring Human Centric Design Principles while Transitioning from Paper-Based Records to Digital

As MFIs transition from paper-based records to digital systems, they have often neglected the human aspects of this shift. While paper-based agreements in vernacular languages have given way to digital signatures and contracts, little consideration has been given to the fact that many clients lack smartphones and may struggle to decipher English-language SMS messages. Additionally, clients often face difficulties in retrieving their digital contracts and receipts after transactions, further complicating their ability to validate their financial activities.

2.3 Digital Literacy and Capability Challenges

Beyond the technical hurdles, there are deeper challenges related to digital literacy and capability among microfinance clients. Many of these individuals come from underprivileged backgrounds, lacking the education and experience needed to navigate the complexities of digital transactions. Furthermore, the financial constraints they face make acquiring a smartphone, almost a prerequisite for digital financial services, difficult proposition. Additionally, these clients have had limited exposure to digital transactions, primarily due to their rural settings and constrained incomes. This lack of familiarity with digital financial tools further exacerbates their vulnerability within the digital ecosystem.

2.4 Lack of Awareness about Digital Frauds and Preventive mechanisms

One of the most profound vulnerabilities of microfinance clients is their lack of awareness regarding the various means by which they can be defrauded. They are often uninformed about the precautions necessary to safeguard their personal information, ATM cards, PINs, and biometric identities. This lack of awareness leaves them susceptible to manipulation and fraud, as they may not recognize the warning signs or know how to protect themselves.

2.5 Inadequate Grievance Redressal Mechanisms of the financial institutions

The mechanisms in place for addressing client grievances within MFIs are often ill-suited to the skills and needs of low-income clients. These mechanisms typically require clients to navigate digital menus, a daunting task for many who lack digital literacy. This mismatch between the needs of clients and the mechanisms for addressing their concerns can leave them without effective recourse in the face of fraud.

2.6 Reduced focus on Education of Clients

Traditionally, microfinance institutions have relied on compulsory group trainings as a means of educating clients about processes and policies. However, with the shift towards digital lending, these trainings have often failed to incorporate the essential elements of digital education and fraud prevention. This oversight has left clients ill-equipped to navigate the digital landscape and protect themselves from fraud.

2.7 Staffing Issues and Ethical Training

The process of hiring staff in MFIs has become a mechanical exercise, with anyone possessing a two-wheeler and a valid identity card being considered for employment. Training on ethical issues and risk management are often neglected, leading to situations where staff may be unaware of the importance of ethical conduct or the potential consequences of their actions. High staff attrition rates are also a concern, undermining the continuity and stability of client interactions.

2.8 Inadequate Understanding of Fraud Causes and inadequate controls among the MFIs

Within MFIs, there is often a limited understanding of the nature and causes of frauds. Internal audits and risk management functions tend to be checklist-driven and fail to delve into the root causes of fraud. Control mechanisms themselves may be inadequate, as many frauds cannot be detected by internal systems. Even when detected, there are often insufficient mechanisms for reporting and acting upon these frauds, with client welfare often being the last consideration.

2.9 Challenges with Business Correspondent Agents

To expand the reach of banking outlets, regulators have allowed the offering of banking services through a network of business correspondents. While principal banks are responsible for the actions of their agents, the sheer volume and expanse of these business correspondents make it almost impossible to effectively train and control them. These agents, equipped with biometric devices for fingerprint-based authorizations, can access clients' deposit accounts, putting client welfare at a disadvantage.

2.10 Diminished Focus on Third-Party Assessments

As microfinance institutions transition into banks or become fully owned subsidiaries of banks, the need for third-party assessments has diminished. Traditional banking regulations, which focus on urban and educated customers, may not adequately protect the vast number of clients who are geographically dispersed and have low educational backgrounds, limited digital experience, and are more vulnerable to fraud. The emphasis on independent third-party assessments, social performance management assessments, loan portfolio audits, and code of conduct assessments has decreased in this transition.

3. Recommendations

Following are the specific recommendations to ensure welfare and protection of clients as the MFIs adopt more digital technologies.

3.1 Adopt Human-Centric Technological Solutions

While designing technological solutions, MFIs must consider the client's perspective, understanding how they will interact with technology. Factors like their educational and socioeconomic backgrounds should guide the development of user-friendly digital interfaces that empower rather than alienate clients.

3.2 Strengthening Internal Controls and Risk Management

MFIs must enhance internal control systems and risk management frameworks within MFIs. To combat fraud effectively, MFIs must invest time and resources to comprehend the nuanced nature of fraud. This understanding should drive improvements in risk management and control systems. These systems should encompass prevention, detection, reporting, and action on reported frauds.

3.3 Responsive Customer Grievance Redressal

There is a need to revamp customer grievance redressal mechanisms. These systems should be more responsive to the unique needs of low-income customers. Simplicity is key, aligning with the education and skills of the clients. Furthermore, active follow-up procedures should be established, particularly in cases of fraud-related issues.

3.4 Investment in Client Education

Investment in comprehensive client education initiatives will be useful. Technology usage and fraud prevention should be integral components of client education. Incorporate these topics into regular training processes that have traditionally been part of microfinance operations. Additionally, implement thematic interventions to deepen client understanding and awareness.

3.5 Board-Mandated Reporting Mechanism

Boards should take active interest in client protection issues. MFIs must establish a board-approved reporting mechanism for client servicing and experience related issues. Regular feedback studies, socio-economic data collection, and client surveys should be conducted. Boards should mandate these reports and systematically review the performance of MFIs with regards to client experiences and protection.

3.6 Staff Training and Recruitment

Staff training and recruitment must be prioritized. MFIs should focus on equipping their staff with not only technical skills but also ethical principles and risk management knowledge. Recruitment processes should be enhanced to ensure that individuals with the right aptitude, background, and ethics are brought on board.

3.7 Third-Party Audits and Assessments

Third-party audits and assessments, emphasizing client experiences and practices should be mandated. Regulators, lenders, and investors should make such audits and assessments a part of lending and investment covenants. These evaluations should encompass client protection, ensuring MFIs are held accountable for their practices. Moreover, encourage the public disclosure of these reports to enhance transparency and accountability.

4. Conclusion

The rapid digitalization of microfinance holds immense promise, but it also presents profound challenges, particularly for clients from low-income backgrounds. It is imperative to prioritize client protection and empowerment within this evolving digital landscape. A human-centered approach that reimagines the digital financial landscape is essential. This approach must bridge the digital divide, ensuring that no client is left vulnerable to fraud due to a lack of digital literacy or awareness. This paper calls for comprehensive client education programs, the strengthening of internal controls and fraud detection mechanisms, a re-evaluation of the role of business correspondents in client security, and advocacy for third-party assessments and social performance audits in the digital era.

Axis Bank's Contribution towards Country's Financial Inclusion

Pradip Patankar*

Abstract

Axis Bank, the third largest private sector Bank of the country recognises that Financial Inclusion is critical to nation building. With this objective, the Bank has implemented focused initiatives with its foundation in customised solutions, digital processes, ecosystem driven partnerships to expand its reach in the remotest geographies of the country to reach the unbanked and underbanked populace. The Bank has provided financial services such as digital savings account, low ticket credit, social schemes, and payment solutions to those who are excluded or underserved by the traditional financial sector.

Axis bank focuses on building an array of 'Bharat centric' products for better segmental coverage and penetration. It has launched and scaled up several new product propositions to enhance its offerings in the retail and MSME segment covering products that serve the various segments of the rural economy. The Bank has also enabled several policy changes and process enablement across product categories to facilitate credit flow in deep markets. Digital continues to be the key theme to build distinctiveness in RuSu (Rural and Semi-urban) markets by providing the best in class customer journeys and giving strong impetus to the low cost & customer centric business model. The Bank has launched eKYC based CASA (Current Account and Savings Account) platform, enabling deepening of its banking accounts through a partnership ecosystem, and enabled the country's largest Business Correspondent network providing the phygital touch for financial inclusion, aided by a strong Financial Literacy initiative. Technology and digital initiatives create a strong backbone for Financial Inclusion in a cost effective scalable manner.

1. Financial Inclusion – A Prerequisite for Economic Growth

With the constantly evolving markets and requirements for the economic upliftment of the populace, it becomes imperative that basic banking services are made available to all the residents of the country. Almost 67% of Indian households are in rural areas comprising around 69% of the country's total population. As of March 2023, around 190 million Indians are unbanked. Moreover, one in every five women lack access to

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a bank account. At Axis Bank, with the objective of Financial Inclusion, we address banking imperatives such as -

- Ease of access to financial services, with last mile delivery near the doorstep of low-income customers.
- Providing customised products and services to meet the rural and unbanked population's requirements for personal banking, loans for agricultural/commercial purposes, and meeting investment needs.
- Developing formal and systematic credit avenues through the help of technology, making banking services, government-offered benefits, and social security available to the bottom of pyramid segments.

2. Evolution of Financial Inclusion

The global expansion of Financial Technology has significantly enhanced financial inclusion worldwide. India, too, boasts a vibrant financial sector, dedicated to streamlining the delivery of financial services to potential customers, at a minimal cost. With internet facilities reaching the rural regions of the country and access to mobile phones becoming easy, the rural population can easily use reliable financial services offered by the FinTechs. A few of the latest digital options that are used by individuals include crowdfunding, digital payment systems, peer-to-peer (P2P), electronic wallets, etc. To reduce the cost of availing financial services, by the lower income populace; banks, NBFCs, and FinTech companies are collaborating to implement simpler and quicker banking processes, which will eliminate unnecessary fees and charges. The evolution of such processes help in bringing banking facilities to the underbanked or unbanked people of the society.

With technology at the helm of developments, payment systems are being digitised. The Government of India has launched several electronic wallet systems through smartphone apps such as Bharat Interface for Money (BHIM) and Aadhaar Pay, to name a few.

Physical wallets have been replaced by electronic wallets. A user can make cashless payments through online as well as offline means. These e-wallets can be utilised for mobile recharges, utility bill payments, grocery stores, e-commerce portals, etc., and earn attractive offers and discounts.

3. Dil se Open: Axis Bank's Contribution Towards Financial Inclusion

Emphasising on its Dil Se Open philosophy, Axis Bank aims to cater to all segments of customers, including lower income, rural and semi urban ones, whole-heartedly. Bharat Banking is a distinct division and forward looking philosophy in the Bank, which strives to provide access to financial services to the core of Indian population, who reside in the rural regions of Bharat. Through Bharat Banking, Axis Bank has been focussing on unlocking the potential of financial services for the rural and semi-urban (RuSu) regions of the country. Through micro-marketing, cluster-based and a large, partnership focussed distribution approach for this underbanked ecosystem, the Bank's extended branch and Business Correspondent network have transitioned from transaction-led to an experience-led model, reaching out to the underserved sections of the society.

Since India is an agrarian economy, the Bank has adopted a cluster-centric approach to provide financial services in areas where agriculture is primary and needs adequate funding. It uses a scorecard-based model that helps identify and offer services to unbanked, less funded pockets in the country, with potential for growth, while managing risks, and helping improve prosperity of such belts.

4. Partnership Approach

Axis Bank's approach involves partnership with Corporate Business Correspondents (BCs), AgriTechs, FinTechs, Corporates with rural presence and NBFCs. These partnerships aim to address the requirement of product customisation and ruralisation, encouraging tech enablement, development, and product realignment to match requirements of small and marginal farmers, small entrepreneurs, women and other low income or prosperous constituents. BC outlets are deployed by Axis Bank in the deeper hinterland to offer door-step banking services effectively and efficiently. The players include -

i. Government Entities

Common Service Centres: Through its wide BC network of Customer Service Points (CSPs) and Business Facilitators (a network of Government of India, covering more than 4,35,000 gram panchayats / individual villages in India), to supplement 5,659 Axis Bank branches, Axis Bank provides financial inclusion to remote parts of the country.

India Post Payments Bank: Through its wide network of 1,50,000+ Post Offices and 4,50,000+ postal workers, financial services have started to reach the rural population. Axis Bank has a plethora of other Business Correspondents – like Manipal Business Solutions, Sahaj Retail and more to offer such services across the country.

ii. Corporate Payment Service Providers

Through large corporate channels like Spice Money, Airtel Payments Bank and PayNearby, the Bank uses 60 lakh + merchant outlets to open remote banking accounts in a completely digitised manner and provide collection services for small ticket loans.

iii. Corporate Partnerships

ITCMAARs: Axis Bank leverages the full-stack AgriTech application of ITCMAARS for reaching out to the farmers located across 656 districts of India and addressing their financial requirements. It offers a host of credit facilities for rural lending products like Farmer Funding Loans and Gold Loans with easy access. ITC aims to benefit around 10 million farmers through its app, with Axis Bank as a key partner.

Bayer Better Life Farming Initiative: To provide enhanced and holistic financial solutions to small landholder farmers and rural farming communities, Axis Bank has partnered with Bayer to offer a wide range of end-to-end financial solutions and services like affordable loans, deposits, withdrawals, payments, etc.

Other partnerships with Business Correspondents, FinTechs and AgriTechs include Atyati, Oasys, Bharat Agri, FAARMS, and a few dozen more relationships, have been forged to ensure all sections of the ecosystem are addressed.

5. Value Chain Approach

Axis Bank looks at the entire value chain of our economy in rural geographies to ensure that we are present to serve the needs of each constituent. For instance, through our 'mandi ecosystem' approach we work with farmers, aggregators or Arthiyas, traders, retailers, warehouses, processing corporates, sellers, and distributors to serve the farm ecosystem.

We aim to make the Bharat Banking ecosystem more scalable and sustainable, and hence we have partnered with institutions / organisations across segments such as:

- Non-Banking Financial Companies (NBFCs)
- FinTechs
- Marketplaces/Aggregators for Small and Medium Enterprises
- Agri-related specialists: Agriculture, Fisheries, Dairy, Horticulture, Farm Equipment
- Healthcare
- Farmer Producer Organisations/Companies
- Self Help Groups (SHGs)
- Payment Service Providers
- Merchant Outlets

6. India's Digital Financial Inclusion Journey

The expansion of digital financial inclusion in India has been driven by significant innovation in both the public and private spheres. One of the key drivers has been the government policies that explicitly prioritise access to the banking system as a tool for poverty reduction and inclusive growth. Under the Government of India's Pradhan Mantri Jan-Dhan Yojana (PMJDY) scheme, bank accounts have been opened for most Indian citizens and these accounts have become the default channel for delivery of government payments, such as through the Direct Benefit Transfer (DBT) system.

To achieve such rapid scale in account opening, the Government has taken a big bet on technology. Growing internet coverage and smartphone penetration means that the future of banking is bound to be digital. By linking bank accounts to biometric identification (through the Aadhaar scheme) and to mobile numbers, the aim has been to enhance the security in the digital space. Through licensing new tiers of financial institutions, the Government has pushed a differentiated banking model in which companies and FinTechs can provide banking services under a Payment Bank license, and microfinance institutions (MFIs) are encouraged to leverage technology to align with the market and as an incentive for their growth into Small Finance Banks. The growth of digital payments received a particular boost during the COVID-19 years and the Demonetisation policy in November 2016.

The past few years have been characterised by a positive shift in the overall role of the Government in the 'financial inclusion' agenda. In a technology-led model the Government has prioritised the creation of enabling infrastructure, such as digital identification and payments technology, upon which the private sector can build their offerings. A shining example of this has been Unified Payment Interface (UPI), which has grown rapidly to overtake debit cards and pre-paid wallets as the primary form of digital payments. UPI was created by and is managed by the National Payments Council of India (NPCI), an initiative of the Reserve Bank of India (RBI) and the banking sector.

The Government's initiatives in this space have been supported and accelerated by an active private sector engagement ranging from large commercial banks to international technology companies and FinTech startups, and by a development sector keen to support innovation to promote poverty alleviation and inclusive growth in India. Owing to this, it can be concluded that India is at the vanguard of a digital revolution. In year 2009, only 17% of adults in India had bank accounts, 15% used digital payments, one in 25 had a unique ID document and about 37% had mobile phones. These numbers have seen a meteoric rise — today, tele density has reached up to 93%, over a billion people have a digital ID document, more than 80% have bank accounts and as of year 2022, over 600 crore digital payment transactions are completed per month.

7. Government Schemes and Bottom of Pyramid Financing facilitated By Axis Bank

In the endeavour to make India financially independent, Axis Bank facilitates the Social Security Schemes offered by the Government of India as follows:

- Prime Minister Street Vendor's AtmaNirbhar Nidhi (PM SVANidhi) Scheme- It facilitates working capital loans to approximately 50 lakh street vendors to help resume their businesses in the urban areas, including surrounding peri-urban/ rural areas.
- Prime Minister's Employment Generation Programme (PMEGP)- It helps in generation of employment opportunities through establishment of micro enterprises in rural as well as urban areas.
- National Rural Livelihoods Mission (NRLM) & National Urban Livelihood Mission (NULM)- It aims to provide sustainable livelihood opportunities to the less privileged rural as well as urban sections of the society.
- Government Social Schemes–
  - Pradhan Mantri Jan Dhan Yojana– It aims to ensure access is provided to basic financial services namely, savings & deposit accounts, remittance, credit, insurance, pension in an affordable way. As of June 2023, Axis Bank has opened 12.88+ lakh savings accounts.
  - Pradhan Mantri Suraksha Bima Yojana and Pradhan Mantri Jeevan Jyoti Bima Yojana– It aims to bring the uninsured population under the insurance cover.
  - Atal Pension Yojana– It aims to encourage saving so that the funds are accessible as retirement benefits to the unorganised sector.
- Joint Liability Groups (JLGs) – It is an informal group comprising of 4-10 female individuals who avail bank loan either individually or through the group mechanism against mutual guarantee.

These schemes also facilitate the ‘Direct Benefit Transfers’ extended by the Government, where benefits or subsidies are directly transferred to the beneficiaries living below the poverty line.

8. Axis Bank’s Approach to Amalgamating Technology with Financial Needs

To foster financial inclusion at affordable cost, Axis Bank's mission is to become the preferred financial solutions provider excelling in customer delivery through insight, empowered employees and smart use of technology.

As a part of the initiatives taken to achieve the mission statement, Axis Bank has introduced various products through technological initiatives and partnerships. The Bank has partnered with different BC partners to serve and provide basic banking services to Bharat customers by integrating with BC systems (BC device and BC application). The BC partners leverage the Bank's technology such as Bring your Own Device (BYOD) (mobile), Point of Sale (POS) and Kiosk banking to aid financial inclusion. These services are delivered digitally through an assisted model (BC agents) over a secured platform to ensure transparency and security of the customer data.

In addition, the Bank has also partnered with TSP (Technology Service Providers) and FinTechs for delivering the banking services through a B2C (Business to Consumer) and B2B2C model (Phygital i.e. Physical + Digital journey) where-in the customers can access the services digitally via BC application as well as through an assisted model which is connected with the Bank's systems (API integration) through a secured platform. The Bank has deployed the following initiatives by leveraging technology to improve its financial inclusion goals -

1. Technical Integrations (API) with various Corporate BCs

Axis Bank has employed Open Banking Platforms/API integrations which empowers BC partners to directly offer banking solutions to the unbanked population. This ensures financial inclusion for the particular segment through a secure platform.

a. **Loan Journeys** - To provide timely and adequate credit to the unbanked population of Bharat, the bank has employed Loan journeys. Thus, promoting funding for personal and enterprise usage, development, employment, and entrepreneurship in the rural sector.

b. **Aadhaar Enabled Payment System (AePS)** - Aadhaar Enabled Payment System (AePS) is a payment service that allows customers to use Aadhaar as their identity to access their Aadhaar enabled bank account and perform basic banking transactions like balance enquiry, cash withdrawal through a Business Correspondent. With this facility the Bank is helping the RuSu (Rural and Semi-urban) customers with basic banking services, through which customer can do financial or non-financial transaction using their Aadhaar and biometrics or IRIS. Axis Bank has enabled IRIS authentication to ensure secured transactions and decrease the authentication failure rate for farmers or daily wage workers, since their fingerprints get distorted due to their work.

c. **Digital Account Opening (eKYC)** - To simplify the account opening process, Axis Bank has enabled instant paperless account opening through digital verification process on the basis of information in the Aadhaar Card. Axis Bank, through its e-KYC process, can now onboard customers in much less time. Apart from rendering services through branches, Bank has partnered with various corporate BCs across Bharat so that the rural population can avoid travelling long distances to avail banking services. For ensuring accessibility of services to under-banked and unbanked customers, Axis Bank is one of the few banks to enable Digital account opening through a mix of BC and technology.

2. Bank Application for BC Partners

a. As a one-of-a-kind initiative, Axis Bank has developed an umbrella application where all the banking services offered by BCs are embedded into a single application by the bank, thus empowering them to serve the customers through only a few clicks and superior TAT. The BYOD model on which the application operates helps agents cater to the rural population by enabling them to provide doorstep banking services.

b. SAATHI application of Axis Bank has Loan and Bank Account Journeys, Aadhaar based AePS and Card+ PIN transactions integrated in a single app, providing basic banking services like cash withdrawal, cash deposit, balance enquiry, and mini statement. In addition to these services, it also enables customers to meet their financial goals by availing their financial requirements such as personal loans, vehicle loans, tractor loans, KCC.

3. Providing training through online and offline means

Axis Bank has leveraged social media in imparting product trainings on Facebook, Whatsapp, and other media, via its partners, to reach a wider customer base and to help them to understand and utilise the Bank's service offerings.

9. Knowledge is Power

Last, but not the least, to empower these underserved sections, Digital and Financial Literacy in rural India is a critical component. The Bank has set up Financial Literacy Camps (FLCs) to educate its participants on the products and services offered by the Bank and focus on the importance of banking, benefits of savings account and advantages of borrowing from banks and financial institutions. It also has deployed 'Literacy Vans' that travel around rural locations to ensure banking knowledge is translated to poor households in various locations. In FY'23, the Bank held approximately 10,000 FLC camps covering approximately 2.5 million population.

At Axis Bank, we believe that when the villages of India and the low-income population are brought into our banking umbrella, our prime objective of serving as true Bankers to the nation will be fulfilled. Our goal of Financial Inclusion is committed to the premise such that it's achieved in a responsible and sustainable manner, and we take great pride in traversing this journey with focussed determination and commitment.

CSR Activity Undertaken- Financial Literacy Vans with CSC

Conducting Financial Literacy Drives

Servicing Customers at Village Bazaars

Awareness Drives for Loan Products

Application of the Small and Micro Enterprise Smart Credit System of Agricultural Development Bank of China - The Beidahuang Scenario

Research Group from Agricultural Development Bank of China*

Abstract

Agricultural Development Bank of China (ADBC) has partnered up with the Beidahuang Group and other major providers of agriculture-related social services to develop bespoke digital inclusive financial service solutions, with a view to thoroughly implementing the strategy of "sustainable farmland use and innovative application of agricultural technology to increase farmland productivity", empowering new types of business entities and high-standard farmland construction industrial chains through digitalization, and effectively ensuring national food security and stable production and supply of important agricultural products. To this end, we rolled out the Small and Micro Enterprise-Oriented Smart Supply Chain Financing - Beidahuang Scenario to support agricultural cooperatives and other new agricultural business entities, shore-up "weak links" in the post-construction operation of high-standard farmland, create a new form of digital credit service with ADBC characteristics, establish an interests alignment mechanism aimed at maintaining close connection with farmers and boosting their income, and promote modernization of crop farming practices.

1. An overview of the new scenario

Relying on the Small and Micro Enterprise Smart Credit System, the Beidahuang Scenario provides online support for the financing needs of new business entities involved in high-standard farmland trusteeships.

The new scenario has the following characteristics: **First**, novel approach. Following the principle of "supply chain + blockchain + closed-loop operation", it reaches out to, and provides support for new business entities through the vehicle of core enterprises, accurately matching bank credit resources with suitable recipients. **Second**, technological sophistication. It utilizes integrated financial technology to unlock the full value of data and build a leading digital supply chain credit system. **Third**, greater

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openness. It is connected directly with the enterprise resource planning (ERP) system, internet courts and other related systems, and data is shared with these systems to facilitate business management, and tighten up risk prevention and control at the same time. **Fourth**, streamlined loan application. With the assistance of the end-to-end risk control model, loan applications can be reviewed and approved on the same day of application submission, with zero manual intervention throughout the application process. **Fifth**, low interest rate. We give full play to the advantages of policy financial funds, and low-cost capital support is offered to reduce the financing costs for small and micro enterprises. **Sixth**, provision of large-sum loans. Large-sum financial support is granted to new business entities to meet their business needs, based on high-standard farmland trusteeship contracts and other agreements. Since the launch of the ADBC Digitalization-Empowered High-Standard Farmland Trusteeship Farming Scenario in early 2023, support has been provided for a total of 95 agricultural cooperatives under the Beidahuang Scenario, and loans worth CNY 876 million have been granted, benefiting entrusted farmland of 813,700 mu (54,247 hectares). This is expected to translate into an increase in grain production of 50 million kilograms, which will, in turn, boost farmers' income by CNY 150 million. Therefore, it has proven to be an effective approach to support agriculture and small farming businesses.

2. Major measures

Giving priority to providing smart solutions and empowering businesses through technology, ADBC reinvented the credit extension process to improve service quality and efficiency, with win-win results achieved for relevant stakeholders. **Firstly**, we prioritize developing smart and bespoke service solutions. ADBC provides guidance for agricultural cooperatives to obtain the right of farmland operation and management from local village collectives, and the farmland is then trusted to Beidahuang Group for the entire agricultural production process. ADBC has entered into a cooperation agreement with Beidahuang Group, whereby Beidahuang Group selects and recommends high-quality agricultural cooperatives, and the ADBC uses policy funds to fund the land transfers and whole-process trusteeship operations, ensuring closed-loop management and effective risk control throughout the farming process, from ploughing, planting and management to harvesting. **Secondly**, we deepen business empowerment through technology, and provide highly efficient financial support. The Small and Micro Enterprise Smart Credit System integrates biometrics, OCR identification, electronic signature, blockchain and other financial technologies, encompassing various modules such as client facing mobile/computer APPs, credit management platform, risk control decision engine and blockchain. It is suitable for multiple application scenarios, and is available on a 24/7 basis.

The loan application process runs in the following way: Beidahuang Group first recommends an agricultural cooperative online. Once the recommendation is automatically approved by the System, loan application can be submitted by the cooperative with a click of button, and the loan will be disbursed in a few minutes. The System is capable of meeting the funding needs for spring ploughing among agricultural cooperatives, setting a good example of empowering businesses through technology.

3. Revelations

The new scenario has distinct characteristics and clear advantages, which will help broaden the scope of services operated by policy banks, and support the overall development of the industrial chain of high-standard farmland trusteeships. It is helpful for improving the operating efficiency and market competitiveness of key agricultural enterprises. On the other hand, it will help foster new business entities and promote high-quality development of new business models of agricultural enterprises. It is also conducive to establishing the modern agricultural production model, and ensuring food security and steady growth in farmers' income. This scenario significantly improves the performance of banks, related enterprises and society as a whole, and possesses a high degree of scalability.

Next, the ADBC will continue to empower businesses through technology, summarize and reify experiences gained in the rollout of the new model, promote high-standard farmland trusteeship projects empowered by digital technology in line with the actual local conditions, effectively improve the efficiency of high-standard farmland trusteeships, and address financing-related challenges facing new business entities.

Pesticide spraying in Beidahuang

Harrowing in Beidahuang

Case studies on Digital Financial Services for Financial Inclusion

NABARD Telangana RO

Case Study 1: Telangana Grameena Bank's Financial and Digital Literacy Camps by utilisation of FIF

1. Introduction

In the realm of financial inclusion and rural development, Telangana Grameena Bank (TGB) stands as a beacon of progress in Telangana. With 427 branches, of which 315 are situated in rural areas, TGB extends its services to 17 districts in Telangana State. Recognizing the importance of financial literacy and digital adoption, TGB embarked on a transformative journey by conducting Financial and Digital Literacy Camps (FDLCs) through its rural branches. This case study delves into the impact and significance of these camps.

2. Challenges in Financial Inclusion

While the Pradhan Mantri Jan-Dhan Yojana (PMJDY) successfully ensured that 100% of households in Telangana State had at least one bank account, a pressing issue emerged. As of August 2022, approximately 19% of these accounts across the country remained dormant. The challenge at hand was twofold: not only to activate these accounts but also to ensure their sustained usage, marking a genuine embrace of formal financial services by the community.

3. Objectives and Scope

TGB, with the grant assistance of NABARD under Financial Inclusion Fund (FIF), initiated the FDLCs to address these challenges and promote financial literacy and digital adoption among rural communities. The camps were meticulously planned and conducted with the following objectives:

i. Enhance the adoption of digital banking services.

ii. Create awareness about the importance of banking services.

iii. Educate participants on financial planning.

iv. Promote responsible borrowing practices.

v. Encourage proactive and early savings.

vi. Provide debt counselling in the local language for better comprehension.

4. Camp Outreach

During the FY year 2022-23 & 2021-22, TGB organized a remarkable total of 3136 camps. These camps not only imparted digital skills but also raised awareness about the significance of banking services and financial prudence. The inclusion of local language in education materials ensured accessibility and understanding among participants.

5. Impact of the Programmes

The impact of TGB's Financial and Digital Literacy Camps is striking, showcasing how small steps can lead to significant change:

i. **Enrollments in Social Security Schemes**: The camps facilitated the enrolment of individuals in vital social security schemes, viz. **19672** enrolments in Pradhan Mantri Jeevan Jyoti Bima Yojana (PMJJBY), **18031** enrolments in Pradhan Mantri Suraksha Bima Yojana (PMSBY), and **6304** enrolments in Atal Pension Yojana (APY).

ii. **Rupay Cards Issued:** The camps led to the issuance of **8835** Rupay cards, promoting cashless transactions and digital payments in rural areas.

iii. **Internet Banking Activation: 727** participants activated internet-banking services, providing them with easy access to various banking facilities.

iv. **Mobile Banking Application Downloads:** The camps fostered a growing interest in mobile banking, as evidenced by the **3168** mobile banking application downloads.

v. **BHIM UPI Adoption:** The camps contributed to the popularization of the BHIM UPI platform, enabling digital payments and financial inclusion, wherein **2464** participants downloaded the BHIM UPI Platform.

6. Building a Strong Customer Base

In conducting these camps, TGB is constructing a customer base characterized by financial prudence and a penchant for digital banking services. This customer base not only eases the burden on physical bank branches but also contributes to the long-term financial well-being of rural communities.

7. Conclusion

Telangana Grameena Bank's Financial and Digital Literacy Camps represent small yet substantial strides toward financial inclusion and empowerment. They embody the bank's commitment to addressing financial illiteracy and fostering digital adoption among rural populations. The tangible impact, evidenced by increased enrollments, digital adoption, and financial awareness, underscores the effectiveness of these programs. Beyond immediate gains, these camps epitomize the path to inclusive and sustainable development, serving as a model for banks and policymakers alike. Telangana Grameena Bank's initiative serves as a testament to the profound impact of taking small steps in the right direction.

Case Study 2: Mobile ATMs - Taking Banking to the Customers

1. Introduction

In Komaram Bhim Asifabad District, the quest for financial inclusion faced significant challenges due to the district's vast geographical area and the limited banking infrastructure. With just a 50.3% household participation in banking services and a branch network that comprised 52 branches, 102 Customer Service Points (CSPs), and 23 ATMs, there was a pressing need to bridge the gap in access to essential banking services. This case study sheds light on how Mobile ATM Vans emerged as a transformative solution to extend banking services to remote areas and promote financial literacy.

2. Challenges in Financial Inclusion

The Komaram Bhim Asifabad District, covering an expansive 4878 square kilometers, posed unique challenges for banking services. The average area served by a banking touchpoint was a staggering 27.55 square kilometers. With concentration of branches and ATMs in urban centers, many interior villages were left without access to basic banking facilities, such as remittance and cash withdrawal.

3. Operation of Mobile ATM Vans

To address these challenges, the concept of Mobile ATM Vans was introduced, and these vans were deployed with the assistance of the Financial Inclusion Fund (FIF) by

NABARD. These vans operated on a fixed monthly schedule, touring selected remote areas where traditional ATM or cash withdrawal facilities were lacking. What set these vans apart was their multifaceted approach.

i. **Expanding Banking Services:** The primary purpose of the Mobile ATM Vans was to provide access to banking services in previously underserved areas. These vans became a lifeline for communities that had limited or no access to traditional banks.

ii. **Financial Literacy Promotion:** The vans were equipped with financial literacy demonstration material. In addition to providing cash access, they served as educational hubs, disseminating information about financial aspects, opening savings accounts, and promoting social security schemes. This dual approach ensured that the local population not only had access to cash but also the knowledge needed to make informed financial decisions.

4. Impact of Mobile ATM Vans

The impact of the Mobile ATM Vans program in Komaram Bhim Asifabad District was profound:

i. **Extended Coverage:** The vans successfully expanded the reach of banking services to previously excluded areas. Remote villages, which were once devoid of basic banking facilities, now had access to cash withdrawal and remittance services.

ii. **Financial Literacy:** The financial literacy demonstrations conducted through the vans played a pivotal role in educating the tribal and backward population about banking services and financial planning. This education empowered individuals to make informed decisions about their finances.

5. Sample Study Results

A sample study conducted by NABARD revealed the effectiveness of Mobile ATM Vans:

Village Coverage: On average, the vans covered 12 villages per month, reaching deep into the heart of rural communities.

Daily Customers: The vans served an average of 29 customers per day, highlighting the pressing need for banking services in these areas.

6. Conclusion

The introduction of Mobile ATM Vans in Komaram Bhim Asifabad District exemplifies how innovative solutions can overcome geographical barriers and promote financial inclusion. By combining the provision of essential banking services with financial literacy education, these vans became catalysts for change in remote and underserved areas.

The success of this initiative not only expanded access to banking but also empowered local communities to make informed financial decisions, ultimately contributing to the broader goal of financial inclusion and empowerment. In the quest to take banking to the customers, Mobile ATM Vans have proven to be a transformative step in the right direction.

Case Study 3: My School My Bank – Zilla Parishad High School Chilpur - Fostering Financial Literacy among Children

1. Introduction

Zilla Parishad High School, Chilpur, located in the Jangaon District of Telangana, has carved its unique identity by pioneering a remarkable endeavor – the "School Bank of Chilpur (SCB)." This initiative, established on October 15, 2022, coinciding with the birth anniversary of the revered former President of India, Dr. APJ Abdul Kalam, is the only one of its kind in the entire state. Spearheaded by the school's dedicated social science teacher, D. Venkateshwarlu, this innovative program is designed to foster financial literacy among its students, not only in theory but also in practice.

At the heart of this pioneering project lies the principle of making children the primary stakeholders, with the entire banking operation managed by four student volunteers. These young financial wizards are responsible for the help desk, cash counter, accounts department, and even the prestigious role of a bank manager. Through these hands-on experiences, students gain a comprehensive understanding of savings and banking, imbibing financial discipline from an early age. This case study delves into the remarkable journey of Zilla Parishad High School, Chilpur, and its "School Bank of Chilpur," displaying a grassroots step towards financial inclusion and education.

As a token of appreciation for their commendable initiative, NABARD organised a financial and digital literacy camp in association with the District Co-operative Central Bank Ltd., Warangal, at the school campus on February 13, 2023. The major highlight of the programme was a street play on the best practices to teach financial discipline among children from an early age. Smt. Suseela Chintala, CGM, NABARD Regional Office, appreciated the work of the young children, deposited a token amount of ₹4,500 in the bank, and presented a Tab to enable the children to maintain an e-record of their banking transactions.

2. Objective

The project aims to instill financial discipline in children from a young age, encouraging them to save and manage money effectively.

3. Basic Details

- Location: Zilla Parishad High School, Chilpur, Jangaon District, Telangana
- Name of the Bank: School Bank of Chilpur (SCB)
- Date of Opening: 15th October 2022 (In commemoration of birthday of late Dr. APJ Abdul Kalam, former President of India)
- Classes: VI to X
- Total Number of Students: 161
- Total Number of Account Holders in SCB: 151
- Total Amount of Deposit as of 8th February 2023: Rs. 1,34,962/-
- Total Amount of Withdrawals: Rs. 60,219/-
- Outstanding Balance as of 8th February 2023:** Rs. 74,743

4. Components in Bank

- Help Desk (Sahashra Lakshmi): VII Class Student
- Function: Filling deposit and withdrawal forms
- Cashier (B. Sreeja): IX Class Student
- Function: Stamping deposit and withdrawal forms, token issuance, issuing amounts after authentication by the manager
- Accountant (G. Akhlia): IX Class Student
- Function: Entry of transactions in the register
- Manager (M. Rajitha): VIII Class Student

- Function: Maintenance of the daily transaction register, checking account balances

5. Best Features

- The bank operates in slots to ensure minimal disturbance to academic activities: 9 AM to 9:30 AM, 1:15 PM to 1:45 PM, and 4 PM to 4:30 PM.
- Weekly deposits are made to a savings account maintained at the Post Office, Kazipet, in the name of "School Bank of Chilpur (SCB)."
- 65% of total deposits come from girls.
- Each student has a separate card for their account.

6. Headmistress's opinion

- Very good initiative.
- Parents are pleased as it eases their financial burden.
- In January 2023, 18 children went on an excursion to Vizag using their savings, costing Rs. 5,400 per child.
- Interest earned will be used for essential infrastructure and expenses for students, like books in the library and transportation for various competitions.

7. Future Plans

- Digitalization of transactions and replication in other schools.
- Printing small-sized passbooks for students.

8. Conclusion

The School Bank of Chilpur is a ground breaking initiative that encourages financial literacy and responsibility among young students. It empowers them to manage their own bank, thereby teaching invaluable skills for a brighter financial future. The project's success has garnered interest from various organizations, and the school aims to expand its impact through digitalization and outreach to other schools.


MANAGER


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