

DIGITAL FINANCIAL INCLUSION AND CONSUMER CAPABILITIES IN INDIA

A handbook for financial
service providers

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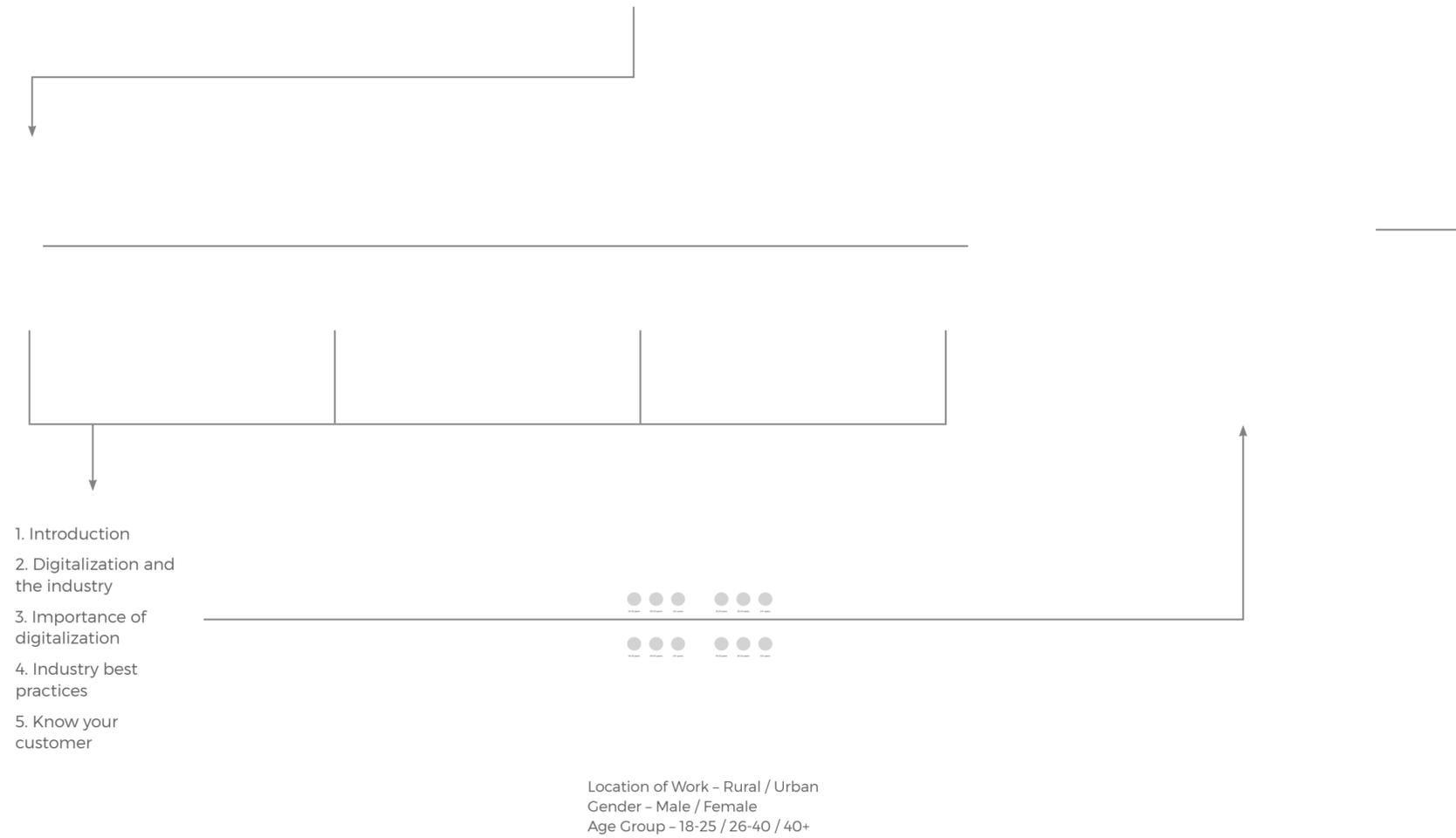
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¹ Amulya Krishna Champatiray, Anisha Singh, Diksha Singh, Iris Braun, Jithin Jose, Sayan Kundu, Shambhavi Srivastava, Shashank Sreedharan, Shurti Korada, Suraj Jacob, and Suraj Nair.

Navigation Guide



You are here



Note from the Researchers

The ecosystem of digital financial services is vast, comprising of multiple stakeholders such as technology solution providers, financial service providers, regulators, last mile agents, and users who have varied interests and diverse expertise. Co-learning and collaboration is therefore essential to develop this ecosystem and achieve the larger objective of providing access to financial services to all. As a step in that direction, IFMR LEAD and JP Morgan are collaborating to shed light on digital financial inclusion from the consumer lens.

In this handbook, we bring forth perspectives from consumers – those who are at the receiving end of digital financial inclusion. We profile 12 categories of consumers based on gender, region of work (rural/urban) and age group, and highlight key patterns of behavior and usage of various digital financial products that vary depending on the nature of regularity of their cash-flows. Based on in-depth quantitative

surveys and focus group discussions (FGD) with consumers, and semi-structured interviews with service providers, this research aims at informing service providers of consumers' willingness and ability to use digital products. Focusing on front-end and consumer interface section of the value chain, Insights from this handbook will facilitate their strategy for digitalizing products, operations and service delivery in alignment with the needs of their customers.

To facilitate an even deeper understanding of the front-end consumer, we conducted multiple case study components. These focused on i) digital literacy and an assessment of specific training requirements, ii) consumer ability to learn and navigate different digital platforms, iii) consumer preferences across digital financial products, iv) understanding specific consumer segments such as migrant workers and marginalized plantation workers and the scope for

targeted products, and finally v) understanding credit as a mode of transaction and scope for innovations in product design. Overall, there is a great need for building awareness amongst most segments, followed by training for digital literacy and product operability, keeping in mind each segments propensity to learn and capabilities. Findings from these multiple components have been woven into the report to capture demand-side nuances and provide recommendations for the design and delivery of services.

Executive Summary

Over the past decade, supported by rapid technological innovation, the public and private sectors have worked together to set up an ecosystem to deliver digital financial services to rural and urban low-income households. This includes a host of technologies that support the digital ecosystem's public infrastructure by enabling digital transactions between banks: Unified Payment Interface (UPI), Immediate Payment Service (IMPS), and National Unified USSD Platform (NUUP). In parallel, there has been an emergence of aggregators including Itz Cash, Oxigen, PaySe and m-Pesa to provide digital financial services to the poor.

The rise of digital finance is catalyzing a paradigm shift in India's financial inclusion landscape wherein the challenges facing the ecosystem shift from willingness and ability to access and regular usage. First, low-income consumers, constrained by access to smartphones, digital capabilities and information,

are less likely to adopt and regularly use digital financial services. Second, given that low-income consumers can transact digitally only when their local ecosystem is digital (eg. the petty retailers they economically engage with), digital service providers must systematically develop the acceptance infrastructure as well. Attention also needs to be paid to the functional points where actions failing to converge (For instance, a failure to link Aadhaar and mobile numbers with bank accounts) can disrupt various financial processes. Finally, data security and consumer grievance mechanisms remain of primary interest given the proliferation of new transaction platforms, increased virtual access to data, and a growing number of first-generation digital financial service users whose safety and privacy concerns must be addressed. Strengthening these components will enable the ecosystem to not only bring more users to its fold but also allow customers to transact beyond a rudimentary level.

Addressing these challenges simultaneously will allow financial service providers the opportunity to use increasingly comprehensive data from low-income households' larger digital footprints to discern patterns in payments, savings, credit and insurance. In turn, these patterns would inform the design of targeted financial products catering to highly diverse, specific segments of society. While efforts are underway to use the digital financial data generated by low-income consumers for their benefit, these are yet to be scaled up beyond urban financially integrated individuals due to the paucity/insufficiency of data.

Executive Summary

The increase in capabilities and options provided by digital finance have opened up new avenues of expansion for existing financial service providers and allowed for the entry of new players:

- **Commercial banks** which serve both urban and rural retail customers are crucial to the country's current push for digitalization and financial inclusion. While the adoption of digital technology for process improvement of commercial banks has still been limited, they may use digital services to improve remote monitoring of the bank correspondents' (BC) performance and to strengthen Government of India's electronic direct benefit transfer (DBT) mechanism for transferring schemes to the public.
- **Microfinance institutions** (MFIs), who have historically relied upon human-centric models of financial dealings, are beginning to optimize their operations through digitalization. Recent technological and lending model innovations, in conjunction with currency demonetization in November 2016, have been instrumental in MFIs

adopting digital solutions to cut costs, improve the organization's bottom-line, and lower costs for the end-user.

- **Payment banks** have a two-fold mandate: provide conveniently accessible and transparent financial services for non-lending banking purposes and provide financial services to the underserved. Both these functions can be furthered by digital services. Payments banks in the current Indian ecosystem can be broadly divided into two categories – those using a high degree of technology (eg. Airtel, Paytm) and those using a high degree of non-technology based contact with customers (eg. India Post). Both categories can learn significantly from the other in terms of product innovation, increasing outreach, and digitalizing solutions.
- **Small finance banks** (SFBs) were created with the aim of furthering financial inclusion by improving credit availability and banking services for populations that are hard to reach for commercial banks. Thus, the potential for uptake of DFS in

order to make SFBs more impactful towards their mission is immense. An application which shows particular promise is making use of the digital footprint generated by digital financial transactions which can be used by SFBs to provide customized loan products to various customers. This kind of data is also extremely useful for SFBs since it enables them to create credit worthiness profiles for those who have limited or no formal credit history.

Executive Summary

Two factors are imperative for developing and successfully implementing a coherent strategy for digitalization. The first is the ability of the target consumers from the low-income segment to adopt digital solutions. This is governed by enablers who determine access to banking services, access to credit, access and usage of mobile phones, and digital literacy and awareness. Second is the willingness of consumers, given complete information and awareness of all options, to repeatedly choose digital solutions for their financial transactions. It is essential that service providers study and understand the nexus of these imperatives in order to identify their customer segments appropriately and design products, services and processes that will cater to their needs. There are multiple considerations in determining whether the target low-income population is adequately prepared for take-up and usage of various digital financial services:

- Despite the near-perfect proliferation of bank accounts, this does not translate to ownership of debit cards, with individuals living in urban areas and engaged in salaried occupations being more likely to be having these cards.
- Individuals from low-income households largely access credit from formal sources like banks, microfinance institutions and self-help groups but continue to patronize informal networks and appear to regularly take loans from family members, friends and even shopkeepers. Furthermore, these loans are accessed manually, over the counter at the financial institutions, and even when the application is completed digitally or the loan is disbursed digitally, it is done so with the help of an agent with the bank.
- With regard to cell phone ownership, women are more likely to be using basic phones as compared to their male counterparts, for whom smartphones are more common. Basic phones appear to be the staple of those in high income volatility occupations like daily wage work, while those in salaried professions are more likely own and use a smartphone.
- Owning and operating mobile phones in itself, does not indicate the requisite ability to use mobile phones to their full capacity. Overall, there is potential for much improvement in the level of familiarity which consumers have with the online functionality of their mobile phones/computers. In particular, consumers still have little familiarity with conducting financial transactions and banking activities online. Digital proficiency also decreases with increasing consumer age group.
- Consumers with a low volatility of income are on average found to be more adept at using their mobile phones/computers. It is important to note, however, that these consumers are also more likely to own smartphones, and be relatively better educated.
- Amongst digital payments platforms, debit cards enjoy patronage across a wide range of age groups and are the most extensively used service. A contributor to this is the fact that even those with very low levels of digital literacy are able to comfortably use debit cards. On the other hand, online banking and mobile banking users are more likely to live in urban areas, are predominantly male and work largely in occupations with low cash volatility. Users are also likely to significantly younger, in the age group of 20-30 years with negligible usage among older age groups. The use of these services by consumers varies with

Executive Summary

each service. Debit cards are largely used to withdraw money at ATMs and pay for day to day goods, and are used by business owners to pay vendors for their services at retail outlets. Online banking is largely used for transferring money to other bank accounts, checking account balance and changing passwords. Mobile wallets are commonly used to deposit and withdraw money at outlets for amounts under INR 5000, transfer money to other users, and pay cable bills. USSD remains largely unpopular despite the fact that it is compatible with the basic phones that most low-income consumers use; the biggest barrier to the use of USSD is unawareness of the service amongst users.

- Amongst the barriers to greater penetration of digital financial services, the foremost is the low level of digital literacy which characterizes a large portion of the low-income population. Other challenges include the lack of prerequisites like documentation or phones, as well as lack of acceptance infrastructure by vendors and businesses frequented by this population.

Many of the recent technical innovations in the digital financial space work towards improving the efficiency of the financial service organizations. These efficiency gains potentially translate to reduced transaction costs for India's vast unbanked low-income population. The financial services community (including banks, NBFCs and other institutions) is witnessing a paradigm shift with the advent of the 'FinTech' sector. With these technology service providers being looked upon as enablers, close collaboration between traditional financial service providers and FinTech organizations is gaining ground in the form of partnership agreements, start-up incubator programs for budding FinTech firms, buying & selling of services, and financing and acquisition of these firms.

Notwithstanding this progress, there still are several challenges that need to be addressed by the sector as it moves forward. Enablers will be forced to address the challenges of erratic internet and phone connectivity in much of rural India, low penetration of smartphones, low levels of digital literacy, and high costs of product development in order to realize the full gains of digital financial inclusion.

Digital Finance in India: An Overview

Digital Finance in India: An Overview

India's tryst with digital destiny

In 2016, India was ranked 3rd among 55 countries across the world in having the most enabling environment for financial inclusion, along with Peru, Colombia and Philippines. A key driver in financial inclusion has been the digitalization of financial services since the mid-2000s. In nearly a decade of progress, multiple stakeholders have come together to enable the delivery of digital financial services to low-income households across urban and rural areas by developing a robust ecosystem. These efforts have received support from the central government: Prime Minister Narendra Modi has stood staunchly behind the Digital India campaign, proclaiming, "I dream of a digital India where mobile and e-banking ensures financial inclusion." The Reserve Bank of India has also issued recommendations encouraging digitalization of financial services, including a 2015 report which states that "a low-cost solution based on mobile technology can be a good candidate for improving financial inclusion by enhancing the effectiveness of 'last mile' service delivery." India appears to be poised to embrace its digital destiny with digital financial

services that offer interoperability, ease of use, and remote access on the rise. Given India's high cash-to-GDP ratio of 12%, these efforts must be concerted and lasting.

Hard won victories: Strides in designing a capable financial inclusion ecosystem

The preparedness of the financial ecosystem is the result of years of targeted and concerted work, with proactive/productive collaborations between the private and public sectors driving the take-off of DFS. The Indian financial inclusion ecosystem has traditionally been troubled by a number of crippling obstacles. First, the logistical difficulty of serving the rural and urban poor, who had been largely on the fringes of or excluded from the formal financial system. Second, due to the information asymmetry there is a risk associated with serving clients who did not have any official documentation, and getting consumers to easily and conveniently integrate financial products into their daily lives. This limits the gains from increasing savings and obtaining

credit in order to jumpstart economic prospects for such clients. Finally, the inability to transition large segments of the population to formal payments has both prevented transparency within the ecosystem, and allowed a parallel black economy to flourish.

ENABLERS OF THE ECOSYSTEM

- Number of mobile consumers: 1.15 Billion (December 2016)
- Number of Aadhaar cards: 1.12 Billion
- Numbers linked to Aadhaar: 399 Million (35% of those with Aadhaar cards)
- Number of bank accounts under PMJDY: 29.04 Crore

Source: UIDAI, PMJDY and TRAI websites (July 2017)



Digital Finance in India: An Overview

The penetration of mobile phones is now nearly ubiquitous in the country. An IMAI and IMRB report had estimated that there would be 450-465 million mobile internet users in June 2017.² The government, in partnership with their state-level counterparts and the private sector, is also rolling out the Bharatnet program, which aims to provide affordable 100 Mbps broadband connectivity to all gram panchayats in the country. The project targets citizens and institutions in rural and remote areas which is likely to further increase the number of rural users.³

Building on large-scale efforts that began in 2014 to financially formalize low-income consumers with no frills bank accounts and basic pension and insurance schemes, the National Payments Council of India (NCPI), a government body, has invested in building several publicly available technologies like IMPS, UPI, and NUUP that can enable both online and offline digital transactions with banks to form an interconnected, interoperable payments ecosystem across the country.

Regulators and financial service providers have also paved the way for steady construction of elaborate last mile infrastructure. These range from more traditional forms like ATMs and business correspondents to innovative technology-based strategies like mobile network operators using petty retail outlets, or India Post postal officers and financial service providers yielding mobile and computer applications that enable anyone with a phone to conduct more complex financial transactions. These innovations reduce both time and financial costs associated with reaching out to consumers in the most remote of areas.

Even convoluted Know Your Customer (KYC) processes are now linked to the pan-India Aadhaar biometric database system, largely reducing both the time and effort taken for financial service providers to verify the identities of low-income consumers. Moreover, the newer Aadhaar-based payment and other services have been developed to remain intuitive and convenient for low-income consumers.

With these paradigm shifts in the country's financial landscape, the challenges faced by the ecosystem move to more nuanced ground—from access to regular usage.

OPTING INTO PUBLIC FINANCIAL INFRASTRUCTURE

- National Financial Switch: 101 member banks and 2.3 Lakh ATMs
- Immediate Payment Service: 160 Member banks
- National Unified USSD Platform: 51 live banks
- Aadhaar Payment Bridge System: 925 banks
- Aadhaar Enabled Payment System: 131 Banks
- E-KYC Live entities: 101

Source: NPCI website (July 2017)

² Chopra A. (2017, March 02). Number of internet users in India could cross 450 million by June: report. The Live Mint. Retrieved from <http://www.livemint.com>

³ Subscriber base of landline down 4%, wireless up 11.5% in 2016 (2017, July 4), Financial Express. Retrieved from <http://www.financialexpress.com>

Digital Finance in India: An Overview

New challenges and new opportunities

Driving Adoption

With an interoperable and accessible financial infrastructure in place, possibly better than that of some developed countries, the struggle now focuses on the adoption of this infrastructure by different financial service providers and consumers from all segments of society, with low income consumers being the most acute challenge. Low income consumers are far less likely to adopt and regularly use digital financial services as they have constraints such as availability of the right kind of phones, digital literacy, and awareness. The pace at which policy and infrastructural reforms are being introduced has made it difficult for the consumers to keep pace with. Moreover, women, the elderly, and those engaged in the informal economy are at a high risk of being left behind, a fact explored in-depth in the consumer profiles in this report.

Aside from creating and popularizing effective use-cases for those most likely to resist the digital transition, service providers must systematically proliferate the acceptance infrastructure as well. It is recognized that for low-income consumers to start transacting digitally, their surrounding ecosystem, comprising of those they economically transact with (small retailers, government entities, mobile network operator agents, etc.) must be equipped to transact digitally as well. As of May 2017, India has 2.5 million point-of-sale (PoS) terminals,⁴ a small fraction of the 15 million retail establishments and 36 million small and medium businesses. This is due to the high costs of the devices which can range between US\$70 to US\$150. While there are cheaper solutions like QR codes (facilitated by payment gateways and mobile wallet providers), these only work for consumers with smartphones, thereby excluding a significant proportion of the population.

Knowledge Blind Spots

- Psychological and physical costs and benefits to customers in switching to digital use
- Systemic failures during product uses - what challenges do people really face?
- Centralizing or decentralizing systems - are we moving toward a 'single point of failure' and should we?
- Financial literacy - how to make it work and keep working?

Knowledge Mismatches

- Who will bear the costs for transactions and the infrastructure? How to split the costs?
- Investment in interoperable infrastructure: how can players come together to bear costs?
- Role of private providers - innovation; Role of government - security and incentivizing scalability

OPPORTUNITIES AND CHALLENGES IDENTIFIED BY ECOSYSTEM STAKEHOLDERS⁵

⁴ 2017. Reserve Bank of India

⁵ The research team held a round-table discussion with stakeholders including financial and technology service providers to identify the various opportunities and challenges that the industry is confronted with.

Digital Finance in India: An Overview

Disrupted Processes

As is the case with most expansive infrastructure, there are large costs to small disruptions, and such events are almost a certainty in a large, diverse population like India. Financial service providers and public architects must take note of the functional points where actions fail to converge, and disrupt financial processes. For example, despite Aadhaar's widely positive implications, there is substantial anecdotal evidence of process disruptions as a function of the variability of finger prints of manual labourers, who are then prevented from accessing their funds as a function of the mismatch. Such errors also create vulnerabilities in the data security protocols. Another charge levied at Aadhaar is that large numbers of bank account holders fail to link their Aadhaar and mobile numbers to their bank accounts, disrupting the various mechanisms within the ecosystem. This is a concern being actively tackled by public mandate and enforced by financial service providers. Entering full information into the system is a great example of effectively tackling a process gap.

Security

Digital security is another concern, both nationally and globally, with vulnerabilities in the system further fueling the inherent mistrust low-income consumers

hold towards digital finance. In November 2016, cyber criminals stole \$5 million USD from 9000 accounts in United Kingdom's Tesco Bank. In February 2016, undisclosed hackers stole approximately \$81 million USD from Bangladesh Bank. In October 2016, in a matter still being investigated, details for 3.2 million Indian debit cards were stolen as a part of malware related security breach and found to be used in. SS Mundhra, the RBI deputy governor, remarked in an official note that the "cost of orchestrating such attacks is coming down.". External attacks aside, consumers are vulnerable to losing valuable data if their phones are not password protected, risking data leakage by connecting financial applications to social media applications, leaving financial details accessible in public devices and indiscriminately sharing security measures like one-time passwords (OTPs). In 2015-2016, RBI reported 11,997 instances of net-banking or ATM frauds.

Financial service providers are aware of the simple measures consumers can take in order to be more secure—using stronger passwords, regularly updating anti-virus software, and monitoring and reporting unauthorized usage. While these suggestions are conveyed to the public, they are bound to add inscrutable layers of complexity to digital usage for those who are digitally illiterate, and feed into the existing mistrust the poor tend to have of digital services.

CREATING A CONDUCTIVE POLICY ENVIRONMENT⁶

Suitable policy support can help catalyze the adoption of digital solutions by the financial service providers:

- There is a need to consolidate guidelines on the usage of consumer data with no scope of interpreting it differently across the domain and sector and among stakeholders.
- Encouragement for paperless documentation, allowing for the option of electronic receipts and digital agreements in lieu of their physical counterparts.
- Liberalization of licensing policies to allow for regional rural banks, cooperative banks, MFIs to perform digital transactions and ease the ability of Fintechs to interact with these organizations.
- Improving the payment acceptance capabilities for rural and semi-urban customers via enhancing connectivity and physical infrastructure as well as incentivizing vendors to accept digital payments.
- Setting minimum standards for technology adoption by financial service providers and standardizing the same. E.g PCI (Payment Card Industry) DSS certification for card solution providers.

⁶ A consultation in collaboration with Sa-Dhan revealed areas of policy support that would enable process digitalization among financial service providers.

Digital Finance in India: An Overview

Customer grievances

With new platforms for transactions, largely virtual access and a first generation of digital financial service users, customer grievance mechanisms will have to adapt to identify user-related issues and ensure continued usage. Customer grievances will have to be tackled at two levels. The first is where consumers face issues navigating mobile applications and completing transactions—such grievances are expected often in the initial stage of the user's life cycle. Second a platform must be developed for customers to report any fraudulence to do with their transactions. To this end, the government is setting up a toll-free number (14442) to address all grievances related to digital transactions. NPCI platform and private players would also be wise to establish easily accessible, vernacular helplines that help customers through technical and logistical issues, with the potential of cementing customer retentiveness.

Readiness of financial service providers:

Recent roundtable discussions have revealed a widespread interest amongst MFIs to digitalize their sector and develop a digital ecosystem moving forward. There are many payment solutions providers and technology start-ups that are collaborating to make these services available to achieve larger

financial inclusion. Digitalizing payments—both disbursements and loan repayments—is a more complicated endeavor than digitalizing operations. Given that consumer-sided digitalization will take time, MFIs should consider starting with digitalizing their backend operations first. Some MFIs have already begun incorporating electronic loan management solutions, resulting in a decrease in their operational costs, and passed on these benefits to their clients, who spend less time on administrative tasks and more time on what they value.

As cited by varied stakeholders, regulatory bodies and policy-makers have the ability to ease or curtail the digitalization process based on their decisions in the coming months and years.

Strengthening these components will enable the ecosystem to not only bring more to its fold but also allow customers to transact beyond a rudimentary level. For instance, it will allow financial service providers to use the increasing digital footprint of low income households to discern patterns in payments, savings, credit and insurance. These patterns, in turn, can inform the designing of products that cater to specialized financial needs of different segments of the society.

USING THE DIGITAL FOOTPRINT GENERATED BY LOW INCOME CONSUMERS

- **Neogrowth**, an online loan provider gives loans to small businesses who either operate as an E-commerce entity or have retail Point of Sale terminals. Their loan product has a repayment flexibility component, wherein, they analyze previous sales transaction data of the small businesses to create repayment plans modeled on the business cycles of businesses i.e. in high growth periods, the firms pay back greater amounts and in slow periods the repayments are smaller.
- **Lendingkart**, another online loan service provider, has collaborated with Lenndo, which uses smartphone data to provide credit scores, while giving loans to small businesses.
- **Telenor**, the telecom operator is looking to replicate its life insurance product in Bangladesh in India as well using the “freemium” model, wherein, the telecom subscriber becomes eligible for life insurance plans based on their phone recharge behavior.

Service Providers

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handbook as

A - Scheduled Commercial Banks

1. Introduction

2. Where does the Scheduled Commercial Bank Industry in India stand in terms of digitalization of its processes?
3. How can commercial banks use technology to achieve greater financial inclusion?
4. What are the industry best practices ?
5. How tech-ready are the customers?

1 Introduction



Traditional commercial banks, or Scheduled Commercial Banks (SCBs), that usually serve retail customers in a mix of urban and rural spaces have been one of the cornerstones of India's banking sector and have been crucial in the country's current push for digitalization, deregulation of the banking sector, and financial inclusion. Under the financial inclusion mandate, commercial banks have a role to play to fulfil various components such as i) financial literacy, ii) credit counselling, iii) inclusion via business correspondents and business facilitators model, iv) KYC norms, v) general credit card scheme and kisan credit cards (GCC/KCC), vi) no-frill accounts, vii) branch expansion to under-banked and un-banked areas, viii) mobile banking and ix) other measures such as micro credit, micro insurance and small savings. Customized products like credit cards for farmers, agricultural loans, and crop insurance have furthered the reach of commercial banks towards financial inclusion immensely. A particularly significant push for financial inclusion by the SCBs

in recent times was via the PMJDY scheme, which has contributed to the creation of 29.48 crore bank accounts and the issuance of 22.7 crore RuPay debit cards since its inception.⁷

In line with higher branch expansion in semi-urban and rural areas, the compound annual growth rate (CAGR) for both the number of individual savings bank deposit accounts as well as deposit amounts outstanding grew for semi-urban regions followed by rural, urban and metropolitan regions. Between 2010 and 2015, the number of no-frill accounts rose more than six-fold and nearly half of these accounts were opened through BCs. Also in the same period, the amount of loans disbursed under agricultural credit schemes like Kisan credit cards (KCC) increased from Rs.511,029 crore to Rs.845,328 crore. Despite the push for financial inclusion through opening of no-frill accounts, deregulation of opening of ATMs and branches of SCBs and relaxations in the BC model, the number of branches per 100,000 of population in rural and semi-urban areas was still less than half

of that in urban and metropolitan areas as per a 2015 RBI report on financial inclusion.⁸ Therefore, though access to credit increased, the last-mile still needed to be bridged.

As March	Number of Branches			Estimated population* (in million)			Branches/ 100,000 population		
	Rural + Semi urban	Urban +Metro politan	Total	Rural + Semi urban	Urban +Metro politan	Total	Rural + Semi urban	Urban +Metro politan	Total
2001	44,905	20,713	65,618	851	177	1,028	5.3	11.7	6.4
2006	45,673	23,904	69,577	920	195	1,115	5.0	12.3	6.2
2010	53,086	31,072	85,158	980	211	1,191	5.4	15.2	7.2
2014	76,753	40,958	1,17,711	1,044	228	1,272	7.3	17.9	9.2
2015	82,358	43,716	1,26,074	1,061	233	1,294	7.8	18.7	9.7
June 2015	82,794	43,910	1,26,704	1,065	235	1,300	7.8	18.7	9.7

*Population estimates are based on CARG between Census 2001 and Census 2011 data

EXPANSION OF SCBS OVER 2001-2015

⁷ Figures as of August 2017. Retrieved from <https://www.pmjdy.gov.in/account>

⁸ Reserve Bank of India. (2015). Report of the Committee on Medium-term Path on Financial Inclusion. Retrieved from <https://rbidocs.rbi.org.in/rdocs/PublicationReport/Pdfs/FFIRA27F4530706A41A0BC394D01CB4892CC.PDF>

2 Commercial banks and digitalization



Commercial banks in India offer a host of digital services for customers that includes USSD and SMS based mobile banking, mobile applications, point of sale devices, and internet banking, among others. Among these, the scalability is highest for USSD and SMS based mobile banking by virtue of their compatibility with the most basic of phones, and that they do not require internet connectivity.⁹ However, the features on offer for USSD and SMS based mobile banking are limited to access to basic information and low volume transfers.¹⁰ Handling or subscribing to more complex financial products is beyond the current level of available technology. While the gap in access to features can be easily bridged by the promulgation of mobile applications, access to feature rich phones and strong mobile internet networks continue to impede uptake.

For the demography which has overcome the hindrance of mobile and network technologies, it is important to note that there has been immense growth in the integration of digital services to deliver more efficient banking services. For example, instant approvals for most kinds of small to medium ticket loans have become routine for customers belonging to this demography.

Additionally, almost all banking products can now be purchased without requiring a physical visit to a bank or physical documents for KYC. The e-KYC system based on the UIADI framework has only accelerated this process. Lastly, the integration of IMPS and UPI based payment systems for inter-bank transfers have also been a great leap forward for the digitalization of the commercial bank industry.

On the process end, most banks in India have benefitted from the deregulation of Business Correspondents (BCs), Business Facilitators (BFs), and opening of ATMs which have greatly augmented the mission of financial inclusion. However, a great deal still needs to be done in terms of incorporating digitalization in order to streamline processes. One of the major gaps in this context is the lack of infrastructure which would enable commercial banks to monitor the activities of their BCs and BFs remotely in terms of productivity, accountability, and transparency.

⁹ Bramhe V. (2011). SMS Based Secure Mobile Banking. International Journal of Engineering and Technology. Vol.3 (6). Retrieved from <http://www.enggjournals.com/ijet/docs/IJET11-03-06-29.pdf>

¹⁰ Wright G., Chopra P., Mehta S., & Shukla V. (2013). Financial Inclusion Through Digital Financial Services. Retrived from http://www.microsave.net/files/pdf/1367585756_Financial_Inclusion_Through_E_M_Banking.pdf



3 Using technology for financial inclusion



In December 2016, the RBI instructed¹¹ all commercial banks, both private and public, to draw up a broad plan for financial inclusion that were to be approved by their respective boards and implemented over the 2016-2019 period. The third iteration of the Board-approved financial inclusion plans (FIPs) is currently ongoing, the first two phases of which were implemented in 2010-13 and 2013-16 respectively. Some of the self-set targets include technology-based opening of basic savings accounts, increased number of rural brick-and-mortar branches, and employment of banking correspondents. In light of these financial inclusion goals, digitalization of processes and adoption of digital technologies could help to facilitate financial inclusion for the end customer.

While the adoption of digital technology for process improvement of commercial banks is still limited, the Reserve Bank of India reports that in the last half-decade, there has been a nearly 500% rise in the number of no-frills savings accounts holders in erstwhile unbanked areas and populations. This has been achieved through the promulgation of BCs.¹² Incorporation of digital technology into the BC

model, such as BCs collecting customer information digitally on the ground, digital MIS management as well as the offering of a wider range of digital products through BCs could potentially i) increase the monitoring of the BC network to ensure higher quality BC interactions, ii) create a digital footprint for customers that can be used to further understand and cater to the under-served segments, and iii) facilitate the transition to digital products to achieve a less-cash society.

There are a host of other innovative approaches that have been integrated from financial inclusion models in other countries that heavily rely on the uptake and integration of digital financial services. Countries like Kenya, Uganda and Tanzania have pushed for financial inclusion and have benefited heavily from the percolation of mobile money services which were adequately supported by regulatory frameworks of the country along with the technological availability. This does not only increase the access, but also reduces entry barriers like costs and other infrastructural requirements.¹³

Commercial banks can also use enhanced data analytics to achieve greater financial inclusion.

These institutions have a large customer base that serves a source of regular data. This data can be computationally modelled to reveal patterns, trends, and associations in consumer behaviour to give them an advantage over other financial institutions. These insights will improve customer relations and facilitate product design and delivery for different client segments. The data can also be used to personalize customer experience, which is imperative to reach the last-mile clients and move toward a more financially inclusive society.

Supporting the improvement of the direct benefit transfer (DBT) scheme by the government of India is another viable avenue for commercial banks to leverage digital services for financial inclusion. Other developing economies have achieved high penetration rates, such as Brazil and South Africa, where 88% and 80% of beneficiaries receive government transfers into bank accounts, respectively.¹⁴ A study on the Direct Benefit Transfer for LPG (DBTL) policy found that directly transferring subsidies which minimizes the role of local officials as well as allows for robust verification and de-duplication of the beneficiary list, leads to a reduction in subsidy leakages.¹⁵ In addition to increasing the accountability of government benefits, these schemes ensure a steady flow of finances into the accounts of hitherto unbanked populations, inducing increased use of formal banking products and digital modes of finance.

¹¹ Reserve Bank of India. (2016). Report on Trend and Progress of Banking in India. Retrieved from <https://www.rbi.org.in/scripts/PublicationsView.aspx?id=17412>.

¹² Reserve Bank of India. (2015). Report of the Committee on Medium-term Path on Financial Inclusion.

¹³ Demircuc-Kunt, A. and L. Klapper (2012). Measuring Financial Inclusion - The Global Findex Database. Policy Research Working Paper 6042. The World Bank.

¹⁴ Demircuc-Kunt, A., L. Klapper, D. Singer, and P Van Oudheusden (2015). The Global Findex Database 2014: Measuring financial inclusion around the World. Policy Research Working Paper 7255. The World Bank: Washington, DC.

4 Industry best practices



Whilst incorporating digitalization into processes and operations, there are certain risk factors that commercial banks need to keep in mind. Although digitalization could improve operational efficiency, reduce costs, and thereby improve profitability, this needs to be done in tandem with a customer-centric approach. A recent report by PriceWaterhouseCoopers' Strategy& team suggests that commercial banks could learn from lean techniques used in manufacturing to increase productivity without compromising on customer relations.¹⁶ Additionally, commercial banks need to adapt their risk management techniques to the changing financial regulation landscape. Developing a holistic understanding of risks will become vital, and risk-operating models need to be re-designed accordingly to be more effective operationally, and provide a more transparent view of risk at a broad level.

With respect to reaching the last-mile customer, microfinance institutions and small finance banks have been able to penetrate the un-served and under-served regions with greater ease due to their lower operational costs and extensive ground-level customer interactions. Given the increasing network of commercial banks branches, penetration of ATMs into remote areas and most importantly, the proliferation of the BC network, commercial banks need to capitalize on their presence and brand loyalty to compete with the more specialized financial players for the under-served segments. The BC model is critical to the goal of financial inclusion as it enables commercial banks to reach last-mile clients without adding to infrastructural and operational costs. Moreover, since the BCs are well known and trusted by the clients, they are uniquely suited to convince clients to take up digital products and impart training on the same.¹⁷ As a result, it is all the

more important to ensure quality of BC interactions and correct financial counseling by BCs, which can in turn be ensured by adequate training and sensitization of the BCs. Extensively incorporating digitalization into the BC model could help achieve these outcomes and is therefore a critical method of enabling commercial banks to successfully compete with other financial institutions in this segment.

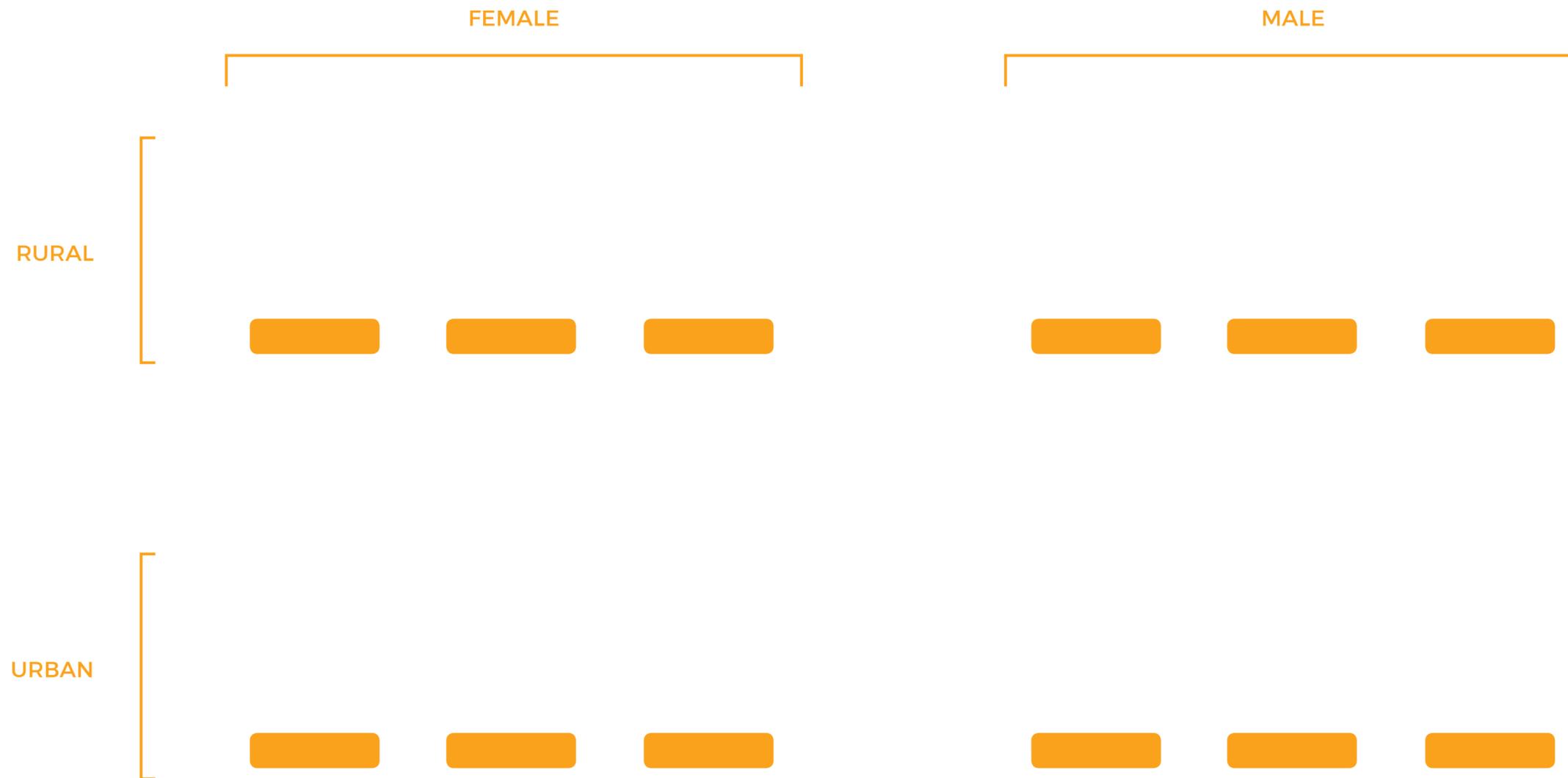
¹⁵ Barnwal P. (2016). Curbing Leakage in Public Programs with Direct Benefit Transfers Evidence from India's Fuel Subsidies and Black Markets. Retrieved from <http://pubdocs.worldbank.org/en/826341466181741330/Barnwal-DBT-India.pdf>

¹⁶ Commercial Banking. Retrieved from https://www.strategyand.pwc.com/global/home/what_we_do/industries/financial_services/fs_key_trends/46790299

¹⁷ Access Development Services. Business Correspondents and Facilitators: Pathway to Financial Inclusion. Retrieved from http://www.microfinanceindia.org/uploads/pdfs/bc_retreat_report.pdf

5 Know Your Customer

Consumer Segments



B - Microfinance institutions

1. Introduction

2. Where does the Microfinance Industry in India stand in terms of digitalization of its processes ?
3. Why is it important for MFIs to adopt digital solutions ?
4. What are the industry best practices ?
5. How tech-ready are the customers?

1 Introduction



From a modest start in 1974 with SEWA Bank incorporating the microfinance model in its operations, today the MFI sector in India has come a long way. In financial year 2016, the total lending by MFIs stood at INR 532.3 billion,¹⁸ employing 85,888 people across 9,669 branches and serving 32.5 million customers across the country. With this expansion, MFIs have also seen average loan outstanding per customer rise to INR 16,394 in 2016 after a 58% jump since 2014.

Historically, MFIs have heavily relied upon a human-centered model by employing an extensive network of credit officers responsible for mobilizing clients, performing Know Your Customer checks, loan disbursement, organizing financial group meetings, creating and updating amortization schedules, repayment collection, among other tasks, with its clientele. This model has allowed these institutions to target customers across large swaths of rural

India despite the dispersed population. Moreover, personal interactions with the MFI staff has allowed for greater awareness about financial products as well as greater trust in these products by the clientele. Additionally, both NBFC and NGO MFIs have group lending and social capital at the core of their lending and credit-worthiness models. In this context, the integration of technology provides an opportunity for the MFIs to better leverage the benefits of their human-centered model in various ways like improving the time spent by field staff (e.g. cash collection using digital platforms can help free the staff's time allowing for an increased time to be spent on client education and/or loan monitoring) as well as increasing operational efficiency, reducing costs and provide regular alerts (for repayment, new products etc.) to better serve existing customers.¹⁹

¹⁸ Assocham India (2016). Evolving landscape of microfinance institutions in India. Retrieved from [http://www.ey.com/Publication/vwLUAssets/ey-evolving-landscape-of-microfinance-institutions-in-india/\\$FILE/ey-evolving-landscape-of-microfinance-institutions-in-india.pdf](http://www.ey.com/Publication/vwLUAssets/ey-evolving-landscape-of-microfinance-institutions-in-india/$FILE/ey-evolving-landscape-of-microfinance-institutions-in-india.pdf)

¹⁹ Sa-Dhan & IFMR LEAD (2017). The Digital Ecosystem in Financial Inclusion. Retrieved from <http://www.sa-dhan.net/Resources/flyer1.pdf>



2 MFIs and digitalization



Some of the channels of digitalization that MFIs are currently using are the usage of mobile devices, biometrics, Personal Digital Assistants (PDAs), and usage of Management Information Systems (MIS), largely employed for backend processes.²⁰

While back end processes are largely digitalized by even the smaller MFIs, issues persist. These include the difficulty in merging different elements of MIS for data analysis, as well as the requirement of a new MIS for every new product innovation. In recent years, progress has also been made on digitalizing loan disbursements, either through bank deposits, debit card withdrawals or through cheques. Digitalizing repayments, however, remain unconquered terrain at scale. Customers of MFIs tend to be largely unfamiliar with digital modes of transacting, and repaying digitally appears to be bottleneck heavy, compared to the traditional alternative of collecting payments during meetings in person. Globally, efforts like those of Vodafone M-pesa have been successful in some countries such as Kenya but not

as successful in other countries such as South Africa. This differential adoption sheds some light on the challenges faced by MFIs partnering with mobile money operators as well as learnings for sustained usage. (See Table)

Nevertheless, efforts—though small in scale—are underway to overcoming these obstacles. On the repayment aspect, Svatantra Microfinance is currently piloting an Aadhaar-based payment model using UPI in order to improve upon their existing system of NEFT transfers to bank accounts that required conducting bank check procedures.²¹ Janalakshmi Financial Services, in its capacity as an MFI, has come up with a prepaid card which functions like a debit card but is not linked to a bank account.²² This allows its customers to use digital modes for payments and loan disbursement, while building their non-traditional credit profiles for future credit requirements. Nucleus Software is also experimenting with a similar technology product design. Bharat Financial Inclusion is one MFI that currently reports that 75-80

percent of their transactions with beneficiaries are cashless.²³ In addition, they are currently working on infrastructures to help them with cash disbursement centres and beneficiaries' bank accounts, and assert that tying up with a bank seems to be the most viable path forward.

Advances are also being made in digitalizing accounts maintained by self-help groups. E-shakti is a pilot program that has been launched by NABARD to test the costs and benefits of this process. SHGs can expect this digitalization process to bring easier access to loan appraisal and disbursement to SHGs by banks. This will also allow banks to efficiently track the SHGs for various transactions, repayments, and to rate them for future credit purpose.²⁴ Furthermore, it may help in bringing order to the organizational structure and accounts of SHGs, which is one of the biggest drawbacks as perceived by multiple financiers.²⁵

²⁰ Malarvizhi P., Munjal P., December 2016. Microfinance in India – Digital Financial Inclusion. International Journal of Science Technology and Management. Vol 5, Issue 12.

²¹ Retrieved from <https://www.svatantramicrofin.com/>

²² Retrieved from <http://www.janalakshmi.com/>

²³ Economic Times (2017). We are open to all merger options: MR Rao, Bharat Financial. Retrieved from <http://economictimes.indiatimes.com/markets/expert-view/we-are-open-to-all-merger-options-mr-rao-bharat-financial/articleshow/58823273.cms>

²⁴ <http://www.nabard.org/auth/writereaddata/File/E-Shakti%20Pilot%20Project%20on%20Digitisation%20of%20SHGs.pdf>

²⁵ Revathy L.N. (2015, July 21). Nabard launches initiative to digitise SHGs. The Hindu. Retrieved from <http://www.thehindubusinessline.com/economy/nabard-commences-work-on-digitising-shg-data/article7447385.ece>



2 MFIs and digitalization



Challenges	Learning
<p>Procedural failures: Customers often enter the wrong account number while making payments and this results in wrong accounts being credited with the transfer. As a result, this often requires service providers to manually reconcile and verify the transactions resulting in delays and errors.</p>	<p>Consumer protection remedies to mitigate such risks, including through financial education, should target the credit side.²⁶</p>
<p>Security concerns: Bottom of the pyramid customers often do not comprehend the importance of their PIN and often enter wrong PINs multiple times, resulting in blocking of accounts. Additionally, these customers are happy to share their PINs with other members of the community, which increases the risk of fraud and exploitation. Thirdly, customers find it difficult to distinguish fraud messages from real ones and make payments to fraud bank accounts.²⁷</p>	<p>Beyond risk mitigation and formal grievance redressal channels, literacy drives should form an integral part of the delivery of services to ensure proper understanding. Delivery of service through agents is also an important part of customer support, at least whilst the transition to digital is ongoing.</p>
<p>Customer demand: In regions of higher access to banking, the primary issue is whether MPesa meets a specific need and serves a specific purpose. Collection of payments for MFIs can then be done through direct debit and thus poses a challenge for demand for MPesa.</p>	<p>Closed systems and a lack of interoperability are the main concerns here. Interoperability between services and countries, and presence of cash-in and cash-out points is only just beginning to become a reality and is the way forward to ensure sustainability of mobile money services.²⁸</p>
<p>Literacy: Customers find the transaction charges structures difficult to understand. Some payment transfers incur a percentage-based cost whilst others a fixed fee.</p>	<p>Transparency in pricing of transactions and displaying of a final cost to the customers before making any such transactions is important.</p>
<p>Special populations: Digital platforms currently are not very accessible to special populations such as the elderly, illiterate, and visually impaired.</p>	<p>Moving forward, this could form an important consideration for such platforms, especially as MFIs do tend to lend to such populations.</p>

²⁶ Alexandre C. (2010). 10 Things You Thought You Knew About M-PESA. Retrieved from <http://www.cgap.org/blog/10-things-you-thought-you-knew-about-m-pesa>

²⁷ Kiite N. (2012) M-Pesa responds: Benefits and Challenges of using mobile money to reduce poverty for women in Kenya. Retrieved from <https://www.gsma.com/mobilefordevelopment/programme/mobile-money/m-pesa-responds-benefits-and-challenges-of-using-mobile-money-to-reduce-poverty-for-women-in-kenya>

²⁸ Jackson T. (2016). M-PESA shows why mobile money has failed to realize its true potential in Africa. Retrieved from <https://qz.com/639787/m-pesa-shows-why-mobile-money-has-failed-to-realize-its-true-potential-in-africa/>

3 Need to go digital



Stay competitive

With the recent regulatory approval to Small Finance Banks (SFBs) and the increased push for priority sector lending and financial inclusion for commercial banks by RBI, competition is increasingly intense in the sector. As a result, MFIs now need to compete for the business from the same demographic against SFBs and commercial banks which have access to higher capital and systems in place for developing customer-friendly products.

MFIs have the edge of leveraging the Banking Correspondent (BC) model²⁹ to aid the digitalization process. The model's widespread presence in rural India can work as a medium of technology and knowledge transfer between bigger banking institutions and MFIs for quicker percolation of DFS. According to a March 2017 MFIN Micrometer report, in the upcoming months, banks will become the largest player in the microfinance lending market owing to the transformation of a number of MFIs

into SFBs.³⁰ This further highlights the importance of digitalization for MFIs.

Protection against external shocks

The demonetization move of November 2016 had a significant impact on these institutions. MFIs, which have historically relied on cash heavy transactions for loan disbursements and repayments, had to reschedule majority of their loans due to a sharp dip in collection efficiencies (~75-80% in November and December 2016³¹) resulting from the currency flow constraints in the months following demonetization.³² Digitalization and the use of technology to streamline processes will not only protect MFIs against such external shocks but also make them more agile and adaptable to swift market movements.

Cost and process effectiveness

The adoption of digital solutions allows MFIs to cut costs through a variety of channels such as quicker

processing times for loan approval and disbursement, reduced costs of physical data storage, reduced risk of cash, and some insulation from external shocks such as demonetization. Bharat Financial reports that linking of the Aadhaar number helps reduce loan approval from seven days to seven minutes and expects a reduction in transaction costs by 70 basis points over two years.³³ This feature has already been made available by some commercial banks (e.g. ICICI Bank, HDFC Bank) reducing the loan turnaround time from a couple of weeks to within a single day.³⁴ There are also intangible cost reductions such as the reduction in risk associated with use and transportation of cash. Moreover, unlike small finance banks, MFIs are not able to access low-cost public savings for funds, and hence have limited capacity and methods to reduce fund cost. As digitalization aims to bring down overall cost by improving operational efficiency, this could form an important cost reduction channel for MFIs.³⁵

²⁹ Lack of access to basic financial services is still a major challenge in a country such as India where more than 65% of the population is classified as "Under Banked or Unbanked". Recognizing this problem, the "Reserve Bank of India (RBI)" introduced a regulation in 2006 allowing banks to provide service at people's doorstep through the use of third party services. This model is referred to as "Business Correspondents/Banking correspondents" in short BC's. <https://letstalkpayments.com/banking-correspondent-channel-financial-inclusion-india/> Team L.T.P. (2014, March 5). Banking Correspondent: A Channel for Financial Inclusion India and Micro ATMs. Let's Talk Payments. Retrieved from <https://letstalkpayments.com/banking-correspondent-channel-financial-inclusion-india/>

³⁰ MFIN (2017). Micrometer. Retrieved from http://mfinindia.org/wp-content/uploads/2017/05/Micrometer-Issue-21_Q4-FY-16-17_23rd-May_Public.pdf

³¹ Rising Concerns on Microfinance Institution's asset quality post demonetization (2017). Retrieved from http://www.indiaonline.com/article/news-sector-banking-financials/demonetisation-rising-concerns-on-microfinance-institutions-asset-quality-post-demonetisation-117012400549_1.html

³² Financial Express (2016). Demonetisation: How to get cash-stuck microfinance institutions (MFIs) digitally ready. Retrieved from <http://www.financialexpress.com/india-news/demonetisation-how-to-get-cash-stuck-microfinance-institutions-mfis-digitally-ready/474693/>

³³ Ray A. (2017). Bharat Financial looks to reduce cost with digital loan processing system. The Economic Times. Retrieved from <http://economictimes.indiatimes.com/industry/banking/finance/bharat-financial-looks-to-reduce-cost-with-digital-loan-processing-system/articleshow/57291079.cms>

³⁴ Parmar B. (2015). Loan processing by banks getting faster by the day. The Business Line. Retrieved from <http://www.thehindubusinessline.com/money-and-banking/loan-processing-by-banks-getting-faster-by-the-day/article7554455.ece>

³⁵ Ibid (29)

4 Industry best practices



Creating use-cases for targeted customers

To motivate customers of MFIs to adopt digital methods of transacting, the focus must be on addressing very specific pain points—which differ based on the occupational and demographic details of the customers. Considering one of the biggest MFI customer bases in India are rural-to-urban migrant workers, such digitally-based remittance-focused offerings can greatly contribute towards increasing financial inclusion in the country.

Handholding customers

For customers that have limited digital literacy, MFIs must simplify the onboarding process. BRAC, on conducting studies related to the bKash mobile money platform, found that trusted human touch

points were an important resource for onboarding new digital finance users.³⁸ Thus, building on the human touch model followed by MFIs, credit officers or field agents should be trained and required to consistently motivate and train their customers to use digital platforms.

Experimentation

For MFIs, it is crucial to be open to experimenting with their customers to arrive at the best digital platform fit. Given that a variety of options are available, MFIs should actively investigate the characteristics, benefits and drawbacks of each and work closely with technology solution providers to customize the product design required to serve their unique set of customers at scale.

CASE STUDY



- **Pamecas**, a Senegalese MFI, offers current accounts for remittance purposes, targeting the migrant customer base.³⁶ Pamecas couples the product with an easy remittance mechanism which offers interest on the account balance, and unlimited free withdrawals for beneficiaries.
- **Svatantra**, in experimenting with digital repayments, found that the customers would often forget or delay payments even through their mobile wallet account. To address this, they simplified the process by introducing an auto-debit feature, where as long as there was sufficient money in the mobile wallet, the payment would be executed automatically at a pre-defined time.³⁷

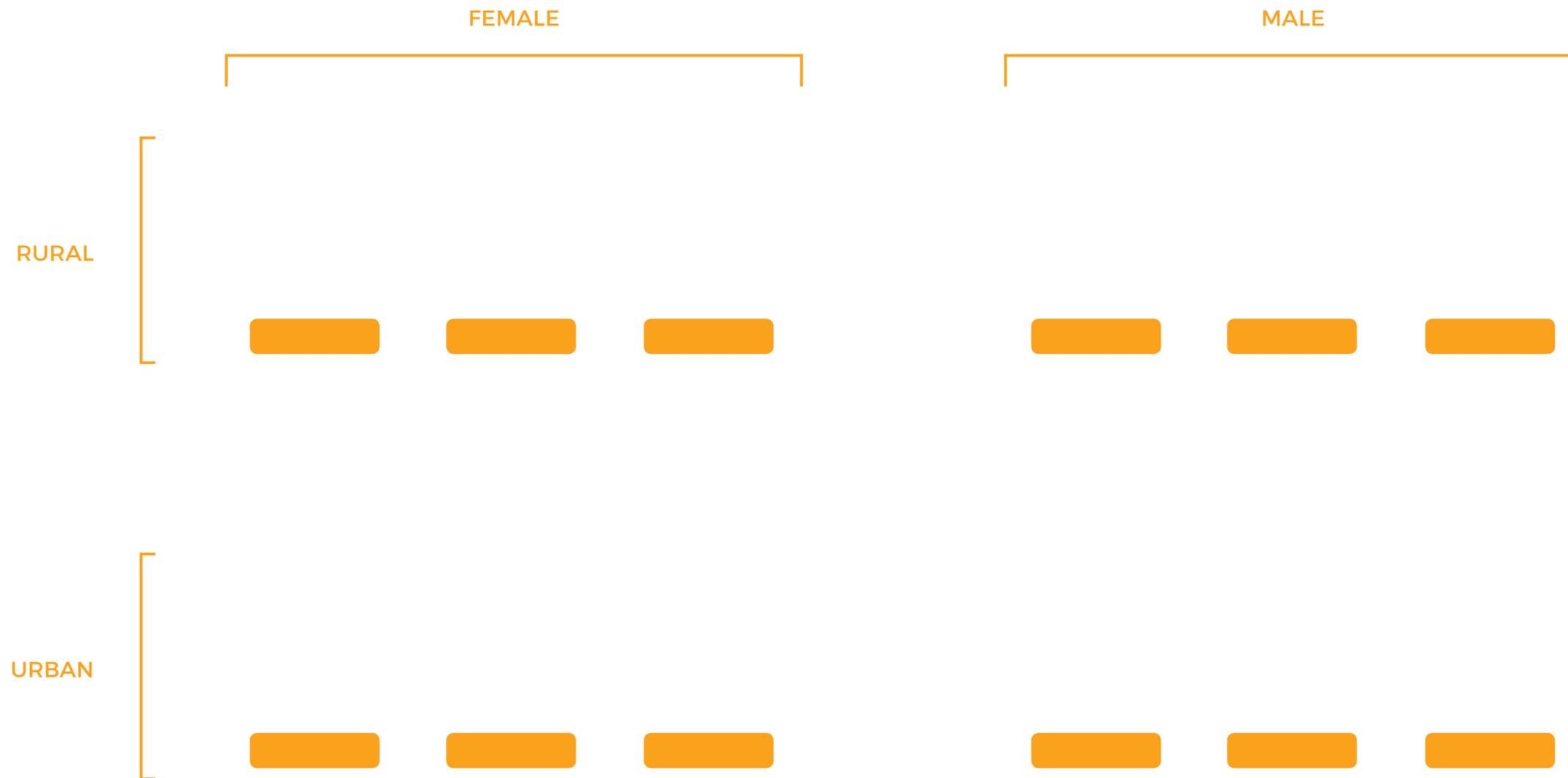
³⁶ Best Practices Guide for Microfinance Institutions Active in Remittances (2013). Retrieved from http://www.e-mfp.eu/sites/default/files/resources/2014/06/BP_UK_v20-WebLR.pdf

³⁷ Svatantra Microfin launches end-to-end cashless mobility solution for India's rural customers (2017), Retrieved from <http://www.uniindia.com/svatantra-microfin-launches-end-to-end-cashless-mobility-solution-for-india-s-rural-customers/business-economy/news/915675.html>

³⁸ InterMedia (2015). BRAC Innovation Fund for Mobile Money. Retrieved from <http://innovation.brac.net/fundchallenge/wp-content/uploads/2015/09/BRAC-Innovation-Fund-Intermedia-Qual-Findings-PDF.pdf>

5 Know Your Customer

Consumer Segments

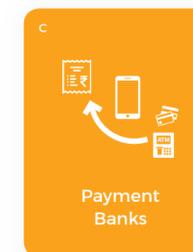


C - Payment Banks

1. Introduction

2. Where does the Payment Bank Industry in India stand in terms of digitalization of its processes?
3. Why is it important for payment banks to adopt digital solutions?
4. What are the industry best practices ?
5. How tech-ready are the customers?

1 Introduction



Payment banks were approved by RBI 'in principle' in August 2015, with 11 entities initially receiving the nod from the regulator finalized to 8. This includes the likes of Reliance, Airtel, Kotak Mahindra Bank, Vodafone's M-Pesa, Paytm, and India Post.³⁹ 7 out of these 8 awardees have now received a full license for their operations, with the exception of Vodafone M-Pesa.

Payment banks can accept restricted deposits from their customers (currently capped at ₹100,000 per customer) in savings and current accounts. They are, however, barred from issuing any kind of credit products like loans and credit cards. RBI mandates that at least 25% of a payment bank's branches need to be in rural, under-served areas. They are also required to have facilities like centralized core-banking systems from the outset.⁴⁰ This clearly sets the vision for payments banks as twofold—to provide conveniently accessible and transparent financial

services for non-lending banking purposes, and to provide financial services to the underserved—two characteristics that can be furthered by the uptake of DFS by these entities.

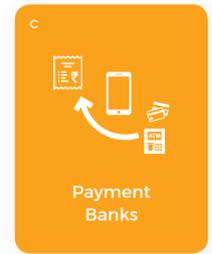
Payment banks are also expected to fill the transition gap for the first-time consumers of formal banking, which mostly includes small businesses, migrant labourers, and low-income households. This is envisioned as making customers less cash reliant without institutions having to incur high upfront cost of setting up bank branches in remote areas and instead rerouting the customer interaction to the percolation of mobile phones.

³⁹ Rebello J. & Roy A. (2015). Reliance, Airtel, nine others get RBI nod to open payments banks. The Live Mint. Retrieved from <http://www.livemint.com/Industry/BnYggWC3TpU36R1zSQaynJ/RBI-issues-11-payments-bank-licences.html>

⁴⁰ Reserve Bank of India (2013). Committee on Comprehensive Financial Services for Small Businesses and Low Income Households Report. Retrieved from <https://rbi.org.in/scripts/PublicationReportDetails.aspx?UrlPage=&ID=727>



2 Payment banks and digitalization



The demonetization announcement of 2016 gave a greater push to transitioning to a less-cash economy and encouraged usage of digital technologies for payments. Out of the 7 entities that received full approval to operate as payment banks, Airtel Money and PayTM have fully rolled out their services, India Post plans to open 650 branches by end of 2017, and Fino Payments Bank began operating in July 2017. These three major players (Airtel Money, PayTM and India Post) have developed significantly different operational models with respect to digitalization. PayTM operates purely through an online network, while Airtel Money requires branch visits only to register biometric details and linking of Aadhaar. On the other hand, India Post has planned to open around 650 branches in 2017,⁴¹ and is focused mainly on door-step banking. Therefore, whilst PayTM and Airtel Money rely on technological outreach, India Post is banking on human touch to build customer relations. Fino Payments Bank is set to offer a more

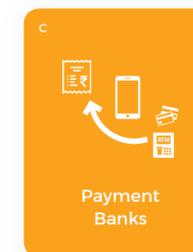
innovative outreach scheme by partnering with Bharat Petroleum to have a proportion of its 20,000 outlets across the country serve as touch points offering all banking services such as opening accounts, cash deposits and withdrawals, bill payments, recharges, insurance and remittances.

In terms of product design, besides the savings component, PayTM and Airtel Money have incorporated a wide range of additional digital services such as cash withdrawals, merchant payments, utility bill payments, mobile top ups, and online shopping. Within the financial inclusion mandate, India Post has incorporated direct benefit transfers and other social security payments for account holders in the rurally banked or under-banked areas. Fino Payments Bank has partnered with ICICI Bank to provide third-party products such as life insurance, and other insurance products.

Although payment banks, especially Airtel Money and PayTM, have incorporated a high level of digitalization from product design to delivery, the key challenges lie in user knowledge and pricing of digital transactions. Mobile money payment banks have penetrated urban and rural markets alike; however, barriers to adoption of digitalization at the customer level are still based around lack of knowledge on how to operate these digital interfaces. Additionally, Airtel Money and PayTM rely on either slab-based or percentage pricing for transactions such as withdrawals and transfers that can discourage customers from take-up. There is significant scope for innovations in digital training of these applications as well as pricing of digital transactions. Options for these can be explored by the payment banks by developing a deeper understanding of their customer segments.

⁴¹ Nagasridhar G. (2017). India Post Payment Bank to open 650 branches this year. The Business Line. Retrieved from <http://www.thehindubusinessline.com/money-and-banking/india-post-payment-bank-to-open-650-branches-this-year/article9659712.ece>

3 Need to go digital



Payment banks were conceptualized to provide easy financial services to traditional bank customers as well as the unbanked customers in those areas of the country that are under-served and not easily accessible by traditional banks.⁴² Adopting digital solutions will help the payment bank to competitively tap into this virgin customer base and provide them basic banking services.

According to an IAMAI report, there was a growth of 15% in Internet users in India between October 2015 and October 2016. Additionally, mobile Internet usage stood at 389 million users in India as on December 2016 and is expected to rise to cross 500 million users by end of 2017.⁴³ Although payment banks do not provide credit products, the recent upward trend in internet and mobile usage across urban and rural areas will ensure patronage from those parts of the population looking for easy to use services that provide savings facilities as well as transactions and payments all in one.

Adopting digital solutions is key to achieving financial inclusion and as highlighted above, payment banks are well on their way to successfully digitalizing various processes of design and delivery. However, some areas are still open to development such as customer targeting, customization of product portfolios, data acquisition and analysis, and increasing ease of access and understanding. Currently, platforms such as PayTM and Airtel Money offer little in terms of customization of products depending on customer segments and have undifferentiated marketing efforts for the rural and urban populations. Recognizing the differing digital requirements and varying level of digital literacy skills across different customer segments and targeting each segment accordingly will aid financial inclusion. Additionally, online delivery lends potential to collecting large datasets on trends in user behaviour that can be leveraged to further product design.

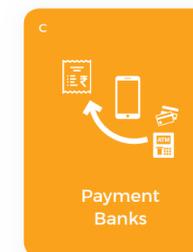
Another crucial point for payment banks is to assess the trade-off between human touch and complete online delivery. Though India Post recognizes the importance of human touch and a customer-centric approach for these last mile customers by relying on its extensive network of post offices and expanding via branches, pairing human touch with some level of digitalization in the outreach process could yield phenomenal results. The converse can be applied to market players such as Airtel Payments Bank and PayTM; pairing high digitalization with some level of human touch such as through customer service centres (CSCs) could facilitate understanding of usability of digital technologies and build technical capacity in customers as well as strike the perfect balance on the level of human touch required to build a customer base.

⁴² Reserve Bank of India (2013). Committee on Comprehensive Financial Services for Small Businesses and Low Income Households Report. Retrieved from <https://rbi.org.in/scripts/PublicationReportDetails.aspx?UrlPage=&ID=727>

⁴³ Alawadhi N. (2016). India to have 500 million mobile internet users by 2017. The Economic Times. Retrieved from <http://economictimes.indiatimes.com/magazines/panache/india-to-have-over-500-million-mobile-internet-users-by-2017/articleshow/55543589.cms>



4 Industry best practices



Given a majority of payment banks are incorporating a branchless approach to operations and customer outreach, there is large number of sensitive customer data stored on digital servers. In light of the recent claims afforded by Aadhaar data and bank account data leaks from Government websites,⁴⁴ there is an added focus on the importance of ensuring data security. Though payment banks require a PIN and one-time password to perform most transactions, security and privacy data is an aspect that payment banks need to be very cautious about.

As mentioned above, a debate stemming from branchless operations is the use of human touch – for payment banks to successfully reach the last mile customer, some amount of human touch might be beneficial in the setting up of CSCs to enable digital literacy.

As these financial service providers deal with payments only with a limit of Rs. 1 lakh, they depend on a high volume/low margin business driven by convenience and pricing. There has been much debate on whether the current interest rates offered by payments banks, such as the 7.25% interest rate offered by Airtel Money, is viable in the long-run and whether high inter-bank transaction charges will eventually discourage interoperability and customer loyalty, which are two cornerstones to financial inclusion.⁴⁵ At the same time that sustainability of high interest rate on deposit is under doubt, Consultative Group to Assist the Poor (CGAP) also suggests that due to lower financial literacy, the last-mile customer is not able to fully comprehend percentage-based pricing of transaction costs, and so the ethics of the pricing structure offered needs to be considered by payment banks.⁴⁶

CASE STUDY



- Commercial Bank of Africa has successfully leveraged M-PESA's 20 million mobile payment connections to grow its "M-Shwari" account base from 30,000 to 9.2 million in just two years.⁴⁷ Payments banks in India are trying to adopt the same approach. Fino Payments Bank recently partnered with ICICI Bank and has plans to offer ICICI group products such as home loans, life and general insurance.
- Airtel Payments Bank has partnered with Bharti AXA General Insurance Company to provide free insurance cover to its savings account customers. PayTM payments bank adopts a slightly different approach and provides payment services for paying insurance premiums for a host of insurance companies.

Going forward, there is scope to assess the potential for other partnerships beyond insurance and offer a more diverse portfolio.

⁴⁴ Aadhaar data of 130 millions, bank account details leaked from govt websites: Report (2017). India Today Tech. Retrieved from <http://indiatoday.intoday.in/technology/story/aadhaar-data-of-130-millions-bank-account-details-leaked-from-govt-websites-report/1/943632.html>

⁴⁵ <http://www.cgap.org/blog/what-digital-financial-inclusion-and-why-does-it-matter>

Lyman T. & Lauer K. (2015). What is Digital Financial Inclusion and Why Does it Matter? Retrieved from <http://www.cgap.org/blog/what-digital-financial-inclusion-and-why-does-it-matter>

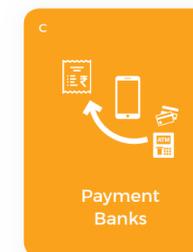
⁴⁶ <http://www.cgap.org/blog/how-do-mobile-money-fee-structures-impact-poor>

Holloway K., Rouse R. & Cook W. (2017) How Do Mobile Monet Fee Structures Impact the Poor. Retrieved from <http://www.cgap.org/blog/how-do-mobile-money-fee-structures-impact-poor>

⁴⁷ <http://www.cgap.org/blog/what-will-it-take-payments-banks-succeed-india>

Kumar K. & Radcliffe D. (2015). What Will It Take for Payments Banks to Succeed in India? Retrieved from <http://www.cgap.org/blog/what-will-it-take-payments-banks-succeed-india>

4 Industry best practices



Payments banks in other parts of the world suggest a profitable approach is to partner with credit-issuing banks to increase their product portfolio. An alternative to cross-selling could also be to offer financial advisory; as the levels of financial literacy dwindle further down the pyramid, there is a huge opportunity for payments banks to offer real advisory services to rural areas through their large digital presence and take significant steps toward financial inclusion.

Innovations in the BC model to increase banking penetration have shown encouraging results. In Chile, supermarket chains have started maintaining credit histories for their unbanked clients, by extending small store credit that is increased based on positive repayment records that can then

translate to broader access to credit. In Brazil, a public sector bank delivers its conditional cash transfer programme through lottery kiosks, pharmacies and supermarkets that serve as BCs. These BCs then also accept bill payments and offer additional financial services for the bank. Drawing insights from innovations such as these could help expand the BC structure across India.⁴⁹ Payment banks in India could benefit from similar service providers in place to make payment banks partnerships successful. However, some considerations would need to be made before adopting these models in India, such as i) infrastructural capabilities in more remote areas across India, ii) accountability of the intermediaries, and iii) regulations and guidelines for such intermediaries.

Effective partnerships are crucial for running a digital payments system—particularly if a banking correspondent (BC) model is followed for cash withdrawal/deposit points and merchant/retail points. Facilitating these relationships is often the role of special intermediary services providers like Pep Intermedius in Kenya and Uganda, which manages distribution points for major supermarkets and players like AirTel, M-PESA and KCB Mattani Bank, or Kopo-Kopo,⁴⁸ which helps to manage the merchant ecosystem in Kenya.

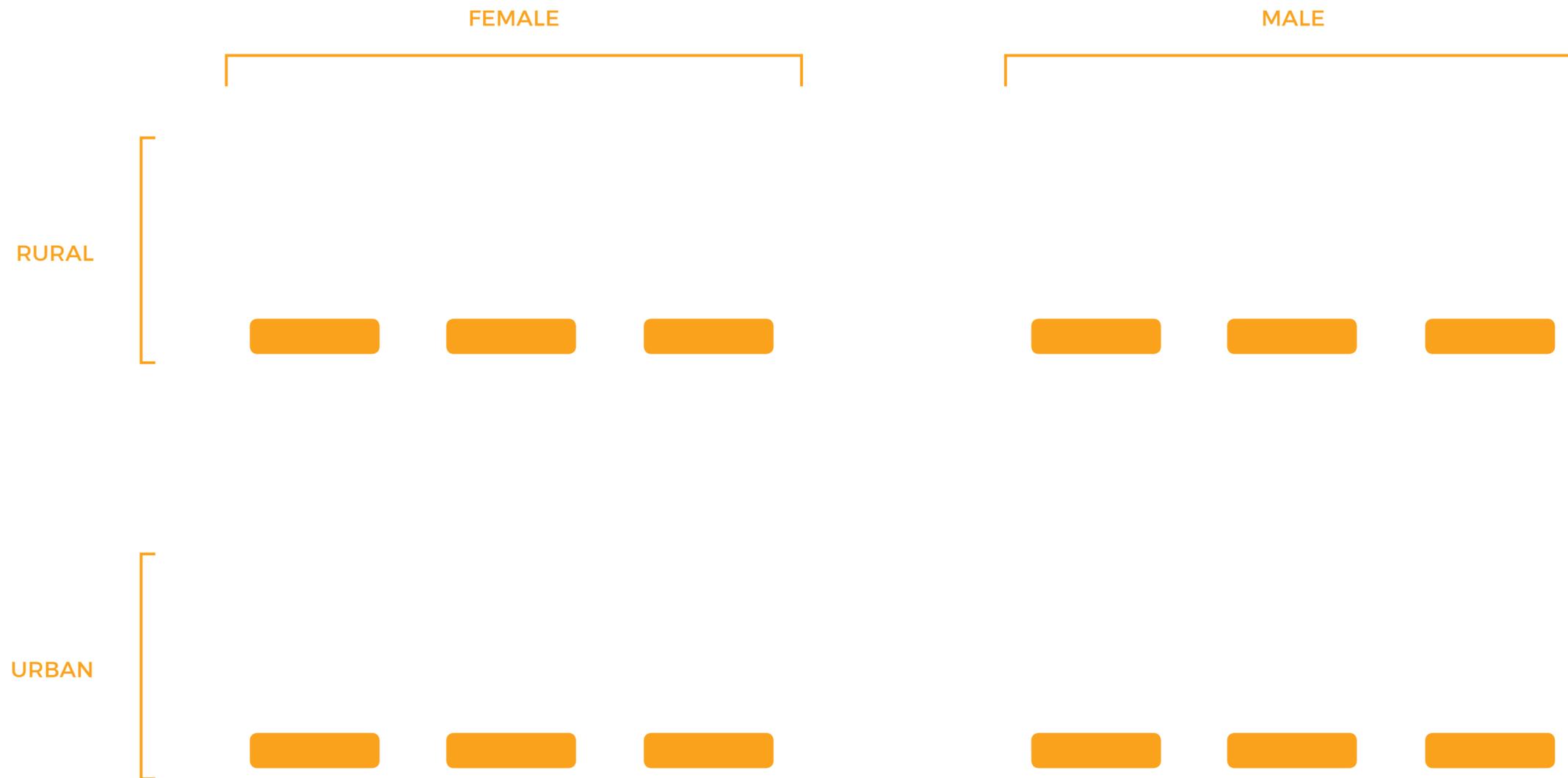
Payment banks in India could benefit from similar service providers in place to make payment banks partnerships successful.

⁴⁸ Handoo J. (2015). 10 Challenges That Could Make or Break India's Payment Banks: Their revolutionary potential is no guarantee. Retrieved from <https://nextbillion.net/10-challenges-that-could-make-or-break-indias-experiment-with-payments-banks/>

⁴⁹ Reserve Bank of India. (2015). Report of the Committee on Medium-term Path on Financial Inclusion. Retrieved from <https://rbidocs.rbi.org.in/rdocs/PublicationReport/Pdfs/FFIRA27F4530706A41A0BC394D01CB4892CC.PDF>

5 Know Your Customer

Consumer Segments



D - Small Finance Banks

1. Introduction

2. Where does the Small Finance Bank Industry in India stand in digitalization of its processes ?
3. Why is it important for small finance banks to adopt digital solutions ?
4. What are the industry best practices ?
5. How tech-ready are the customers?

1 Introduction



The RBI-approved first cohort of small finance banks in September 2015 included 10 entities, 8 of which are erstwhile microfinance institutions (MFIs). Small finance banks (SFBs) were instituted with the aim of furthering financial inclusion and access to those sections of the economy that are not being directly targeted by other banks, such as small and marginal farmers, micro and small enterprises and unorganized enterprises spread with a focus on peri-urban and rural areas. MSMEs comprise the largest and fastest growing segment—there is an estimated institutional demand-supply gap of INR 3.57 trillion (55 Billion USD for this sector,⁵⁰ presenting a huge market opportunity for SFBs. Banks with a small finance bank license can provide basic banking services such as acceptance of deposits and provision of credit. In this regard, SFBs are different from payment banks that do not provide credit and microfinance institutions that do not allow deposits.

As compared to commercial banks, SFBs offer a smaller but more targeted product portfolio in line with their aim of catering to the currently un-served and under-served sections of the economy. In line with the financial inclusion vision, the RBI guidelines mandate that 25% of SFB branches are to be opened in unbanked rural centres, and has set a target of 75% for priority sector lending that covers agriculture, small and marginal farmers, micro enterprises and advances to economically weaker societies.⁵¹ Rural branches of SFBs are also required to conduct one financial literacy camp per month focusing on digital platforms such as USSD and UPI.

⁵⁰ Thangaraj B. Providing Venture to the MSME Sector in India. Retrieved from: http://www.intellegrow.com/images/download/publication/Publication%20-%20Intellegrow_MSME%20Report.pdf

⁵¹ Reserve Bank of India (2017). Compendium of Guidelines for Small Finance Banks – Financial Inclusion and Development. Retrieved from https://rbidocs.rbi.org.in/rdocs/content/pdfs/CF06072017_AN.pdf



2 Small finance banks and digitalization



Understanding the critical role of digital technologies for growth, various SFBs have adopted digitalization at various stages of their processes to enable customer interactions as well as development of their product portfolio. As a first step to create a digital footprint and credit history for customers with no formal data history, a few SFBs have incorporated the Artoo software's approach of doorstep digitalization of customer information in their credit sourcing and underwriting processes that also increases operational efficiency and MIS management. Most SFBs have recognized the value of transitioning to a paperless loan process and are at different stages in reaching this goal. Few SFBs have been able to fully transition to this paperless loan process wherein the entire process from loan applications to customer information to instalment repayments are all

monitored by various field level and branch level staff on Android devices.

In terms of product portfolio, SFBs have started developing their own mobile banking applications. Some SFBs, such as Equitas Small Finance Bank, have also developed their own mobile money wallets that are integrated to NPCI's Unified Payments Interface (UPI). These applications also include POS at merchants, QR code based acquisition and more innovative solutions such as FASTag for digital toll payments on highways and digital fee collection services for educational institutions. Equitas, as well as some others including Ujjivan Financial Services and Janalakshmi Financial Services, are also in the process of incorporating Aadhaar Enabled Payment

System (AEPS) through the banking correspondent channel, empowering customers to use their Aadhaar to access and transact across various banking services.

However, as most SFBs have transitioned from MFI status, they are facing challenges in transitioning to digitalized processes with respect to re-wiring systems that were in place earlier as well as in changing the mindset of their customers by educating them on digital technologies.



3 Need to go digital



The large scale usage of Aadhaar and NPCI has enabled the popularity of UPI as a method of payment, presenting SFBs with opportunity for market expansion. Usage of digital modes to conduct financial transactions by customers leaves a digital footprint which is a source of important data on their financial behaviour. Effectively used, such data can be helpful in customizing loan products⁵² and creating credit worthiness profiles for customers who have limited or no formal credit history. Innovations in the field of psychometric credit scoring coupled with analyses of mobile and small payments usage data is making headway through financial technology (fintech) companies, who are putting concerted effort into providing lending services to the hard to reach population.

In addition to immense potential in product development that digital financial services affords, there are other operational benefits that are crucial to SFBs. Digitalization of customer information at the ground level leads to gains in processing speeds and eases customer transitions between loan officers. This also leads to efficiency gains in tracking repayment statuses and defaulters, and creating a credit history that allows quicker underwriting for second loans and thereby accelerates the lending process. In terms of offering deposits, mobile banking and other e-investment platforms allow SFB customers to perform transactions digitally without visiting the branch, thereby saving time for both the banking staff as well as customers.

CASE STUDY



- **Lenddo**, a credit assessment financial technology that uses smartphone tracking of contacts, SMSes, call history and browser history to develop a credit rating is expanding its services to include partnering with SFBs in India.
- **India Lends**, uses banking transactions, utility payments, etc. to build a comprehensive credit score for those who have no previous lending or credit history. Considering that the SFBs' mission is to increase the banked population of the country by providing not only deposit facilities but also by extending credit to various small and medium entrepreneurial activities, this is a treasure trove for SFBs in India.

⁵² Ujjivan (2017). Launching Ujjivan Small Finance Bank. Ujjivan Patrika Vol. 142. Retrieved from http://ujjivan.com/html/news_archive_stories/2017/Special_Edition%E2%80%93Launch_of_Ujjivan_SFB.pdf

4 Industry best practices



The small finance bank industry is still in its infancy in India. Hence, examples from around the world are a good way to highlight the industry best practices and innovations in terms of operations, product design, and technology adoption that Indian institutions can learn from.

As SFBs in India were previously MFIs, a completely branchless approach might be more difficult to adopt in the short-term. However, it might be more profitable for SFBs to target hard to reach geographical areas and different customer segments through an online network.

In terms of product design, SFBs need to develop products after developing a deeper understanding of the mental processes and behavioral patterns behind savings decisions, and design products to enable shifts from informal to formal savings. As SFBs target the middle-low income groups, empirical analysis suggests that products need to be designed by SFBs

keeping in mind the mental money management capabilities of this particular segment. MicroSave's MetaMon research concludes that people's savings behaviour is a direct result of the way in which they perceive life goals and how income and expenses are managed through lumping and buffering mechanisms. Thus, formal saving products need to position themselves aligned with this mental money management model. Additionally, people generally show an aversion toward committing to save and defer long-term saving choices despite the need and availability of such products. To counter this, an increased focus on commitment savings mechanisms and term deposits is encouraged.⁵⁴

For delivering credit, industry-level research suggests⁵⁵ the importance of institutional credit risk management frameworks complemented by new product development risk management methodology. These processes have been shown to minimize loan defaults across the SFB industry.

CASE STUDY



- In response to the increase in mobile usage and emergence of 'netbanks', Japan's **Jibun Bank**, which was conceived as a merger between **Bank of Tokyo-Mitsubishi UFJ (BTMU)** and a mobile network operator, **KDDI**, offers credit and deposit facilities. It leveraged this partnership and the growth in mobile usage and developed an online only presence for operations; Jibun Bank does not operate through a standard network of branches. This has allowed Jibun Bank much lower cost of operations and thus the bank can refocus resources in new product development.⁵³
- Such a model of branchless banking has also been successfully adopted by **Zuno Bank** in the Czech Republic.

⁵³ Jibun Bank thrives without a branch network (2016). The Asian Banker. Retrieved from <http://www.theasianbanker.com/updates-and-articles/jibun-bank,-japan:-achieving-profitability-and-growth-without-a-branch-network>

⁵⁴ MicroSave (2012). Small Finance Banks: What Can We Learn From International Experience? Retrieved from http://www.microsave.net/files/pdf/151207_Small_Finance_International_Book.pdf

⁵⁵ MicroSave (2012). Small Finance Banks: What Can We Learn From International Experience? Retrieved from http://www.microsave.net/files/pdf/151207_Small_Finance_International_Book.pdf

4 Industry best practices



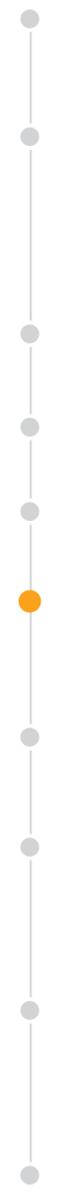
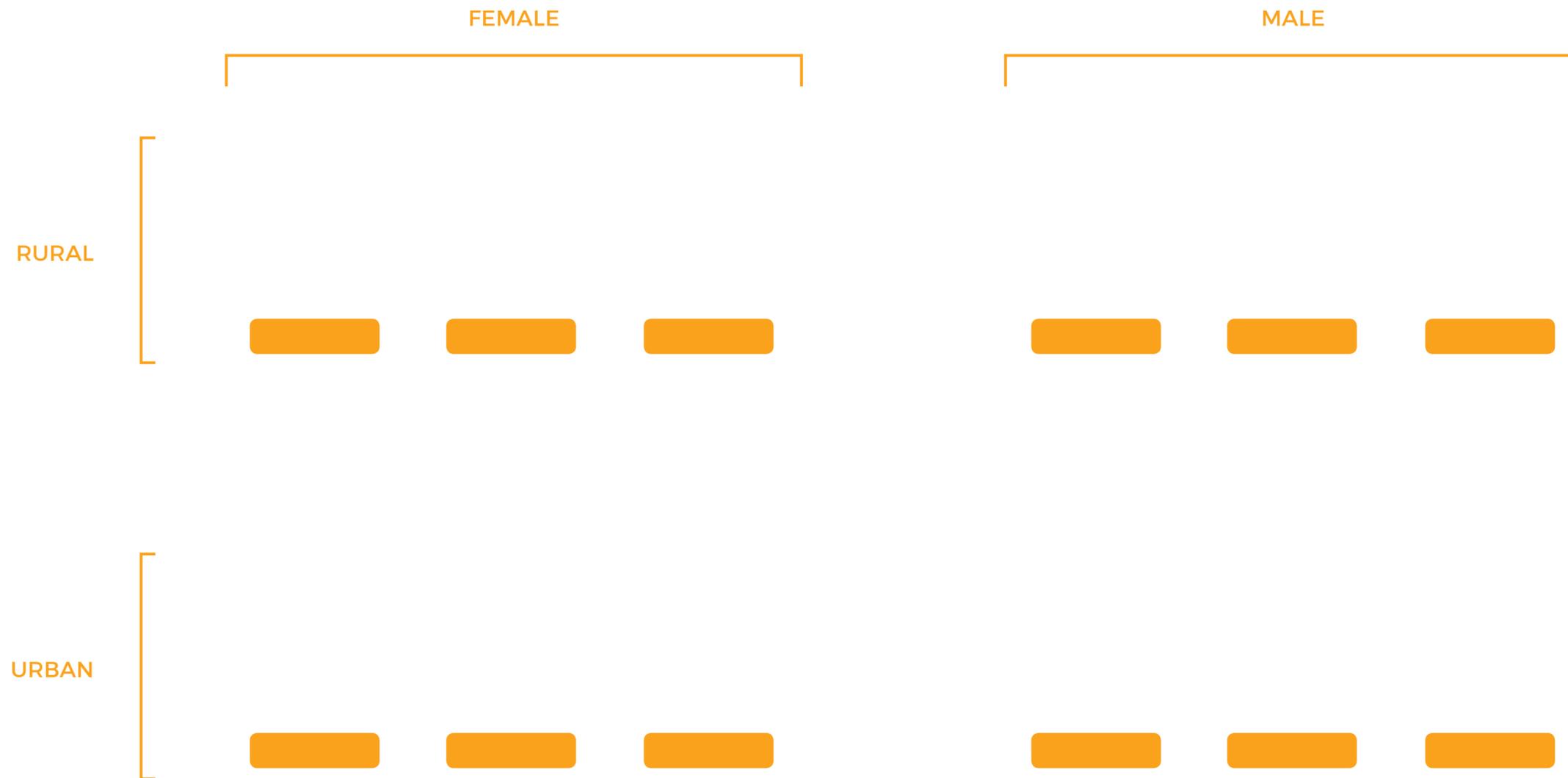
Finally, as far as technology adoption is concerned, though SFBs are incorporating digital technologies to build credit scorecards, MicroSave's research in Central Africa suggests that judgmental scorecards are better suited over statistical scorecards for small banks and microfinance institutions. Whilst statistical scorecards are highly beneficial, they can only be accurately developed once a financial institution has high quality data on past loans as well as other related indicators such as savings history, industry for loan use, experience, demographics and so on. The institution must also have access to expert statisticians that can develop robustly the probability risk estimation models. Thus, MicroSave suggests SFBs could rely on using judgmental scorecards that are based on identifying the factors and components for the scorecard (such as factor – past financial behaviour, component – credit history), assigning criterion for each component (eg. 1 or less late repayments= score of 1, 2 or more late repayments

= score of 2, 5 or more late repayments= score of 3) and then assigning weights to different factors that are analogous to the weight given during the actual underwriting process and then assign categories such as low, medium and high risk to differentiate customer profiles and guide pricing decisions according to the profile. This model does not require past data or statistical estimation and therefore is more viable for SFBs. The report also highlights the need to recognize that credit scorecards might not be able to predict default in all circumstances and institutions should test out multiple models using pilot exercises across the segment and business entity types.



5 Know Your Customer

Consumer Segments



Digital Dynamics of Low-Income Consumers: An Overview

Digital Dynamics of Low-Income Consumers

Theoretically defined as availability and affordability of financial services, the scope of financial inclusion has expanded to accommodate digital financial inclusion, encouraging providers to now work toward digitalization of financial services. Innovators in technology are developing FinTech solutions aimed at making financial transactions faster, cheaper, and convenient, as the government and regulators make efforts to create an infrastructure that can enable this transition.

This backdrop stresses two imperatives to developing a coherent strategy for digitalization and its successful implementation. First, the ability to target consumers - the low-income segment -, to adopt digital solutions. This is governed by enablers such as access to banking services, access to credit, access and usage of mobile phones, and digital

literacy and awareness. Second, the willingness of these consumers to actually take up digital solutions for their financial transactions in an environment of availability of choices / options, complete information and total awareness.

Therefore, it is essential that service providers study and understand the nexus of these imperatives in order to identify their customer segments appropriately and design products, services and processes that will cater to their needs.



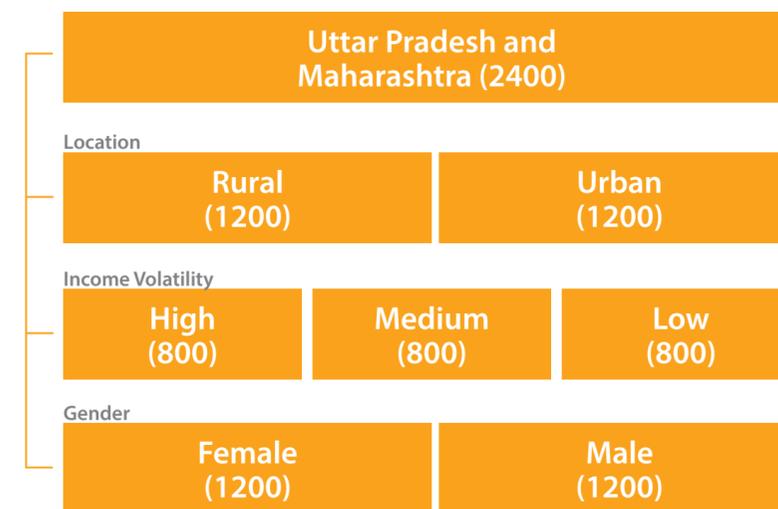
Digital Dynamics of Low-Income Consumers

For this study, 2400 individuals in the states of Uttar Pradesh and Maharashtra were surveyed. The two states lie on either side of the national average tele-density of 93.98 telephone subscribers per 100 people. As of June 2017, Uttar Pradesh reported a tele-density of 74.93 subscribers per 100 persons, whereas Maharashtra reported a tele-density of 110.26 subscribers per 100 persons.⁵⁶ As Maharashtra and Uttar Pradesh are highly populous states with varying levels of tele-density, studying these two states helps further our understanding of the role that telephone subscription plays in driving the ability and willingness of consumers to adopt digital financial services. The survey has shown that even as tele-density and digital literacy are positively correlated, awareness about various digital platforms is lacking in both states. It is essential to look into

the regional requirements and disparities to develop physical infrastructure that supports digital financial inclusion. Additionally, the development of this infrastructure should be strategized around the requirements, ability and willingness of the population of the respective regions – the end consumers.

To look at the landscape from this perspective, the consumer sample for this study was stratified based on varying levels of income volatility – high, medium, and low.

This stratification is essential as the difference in income flow and expense and investment patterns would lead to a differentiated need for digital financial services.



STRATIFICATION OF THE SAMPLE

⁵⁶ TRAI. (2017, August 14). Highlights of Telecom Subscription Data as on 30th June 2017, Retrieved from http://www.trai.gov.in/sites/default/files/PR_60_TSD_Jun_170817_0.pdf

Digital Dynamics of Low-Income Consumers

Enablers of Digital Integration

For financial services to reach consumers in digital form and to motivate the customers to use them, there are a few physical and non-physical infrastructural aspects that need to be in place; these are the 'enablers of digital integration.'

Access to formal financial services

Financial inclusion precedes digital financial inclusion. The presence (physical or digital) of formal banking and financial institutions as well as access to formal channels for conducting financial transactions, including deposits, credit, and remittance, are prerequisites for digital integration. 95% of low-income individuals that were surveyed reported having bank accounts, an expected occurrence, given the rigorous efforts on the part of the government to increase bank account ownership nationally. Those without bank accounts are largely from peri-urban / rural areas, have received no formal education, and are most likely to be engaged in jobs within the informal sector without regular contracts. This segment had fewer bank accounts as they report

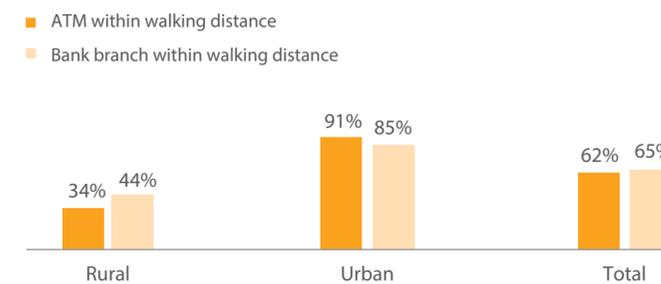
not having enough savings to deposit in an account or not having the requisite Know-Your-Customer documents like Aadhaar and residential proofs. 65% of the sample report having walking distance access to banks and 62% have ATMs within walking distance. Within this, those in urban areas are more likely to find these services in easy proximity.

Despite the extremely high proliferation of bank accounts, this does not translate to ownership of debit cards. Only 50% of those with bank accounts have debit cards, and a major proportion of these live in urban areas and engaged in salaried occupations (low income volatility).

Credit card penetration is much lower than that of debit cards; only 1.3% of the sample report having a credit card. This small group of users largely use credit cards at retail Point of Sale terminals, and are yet to use it regularly; most individuals report using their card once every month or report having used it only once. In terms of payment of credit card bills, this segment pays off these bills over the counter at

bank branches or using the auto debit feature linked to their bank accounts.

When it comes to credit, individuals in this group mainly access credit from formal sources like banks, microfinance institutions and self-help groups but continue to patronize informal networks and appear to regularly take loans from family members, friends and even shopkeepers. The formal borrowings are accessed manually, over the counter at the financial institutions, and even when the application is completed digitally or the loan is disbursed digitally, it is done so with the help of an agent with the bank.



ACCESS TO BANKS AND ATM'S



Digital Dynamics of Low-Income Consumers

Access and use of Mobile Phones and Internet

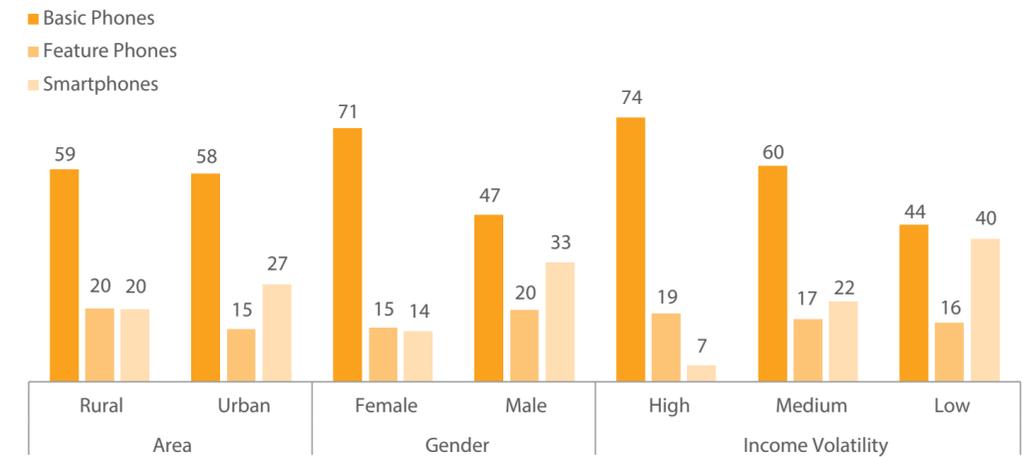
In addition to financial infrastructure, presence of a robust digital infrastructure is crucial. In the context of financial integration of customers, this includes access to telephonic networks, mobile phones, internet, and POS machines. A large majority of individuals in India owns or uses a mobile phone regularly, with TRAI reporting 1210.84 Million wireless and wire line subscribers as of June 2017. With 57.3% of these subscribers being from urban areas, the rural-urban disparity in phone ownership is soon to be a feature of the past. Broadband subscriptions, including mobile phone connections are steadily increasing as well, currently standing at 300.84 Million subscribers as of June 2017.⁵⁷ The high number of subscriptions also translates to a greater spread of mobile phones amongst the households in the country with the 'Household Survey on India's Citizen Environment & Consumer Economy' (ICE 360° survey) reporting that as December 2016, 88% of households in India have at least one mobile phone.⁵⁸

Consumers in low-income households are yet to entirely move beyond basic phones; 59% of low-income individuals own basic phones, while only 24% own smartphones. Women are far likelier to be using basic phones, while men are 19% more likely to be using smartphones. Across occupation and income volatilities, basic phones appear to be the staple of those in high-income volatility occupations such as daily wage work, whilst those in salaried professions are nearly 37% more likely to own, as well as use a smartphone.

On average, low-income consumers have been using mobile phones for the last 4.5 years, with men reporting having used it for longer. In the context of a highly competitive service provider market, low income consumers are driven first and foremost by choosing providers with the best coverage in their area, along with the cheapest options available. Users are also motivated to choose service providers that their friends, neighbors and relatives have and are often drawn in by promotional incentives. In the event of issues with their mobile phones, they are

most likely to approach family members and friends, failing which, 37% report heading to shopkeepers and recharge outlet agents for help.

Basic phone users spend an average of INR 110 a month on mobile phone recharges, while smartphone users spend more than double of this on a monthly basis. 82% of smartphone users report spending on Internet services (2G, 3G or 4G), while only 11% of feature phone users spend on internet services monthly, accessed on other internet-enabled devices.



MOBILE PHONES - CATEGORIZATION (IN %)

⁵⁷ TRAI. (2017, August 14). Highlights of Telecom Subscription Data as on 30th June 2017. Retrieved from http://www.trai.gov.in/sites/default/files/PR_60_TSD_Jun_170817_0.pdf

⁵⁸ ICE 360° Survey. (2016, December) Household Survey on India's Citizen Environment & Consumer Economy. Retrieved from <http://www.livemint.com/Politics/kZ7j1NQf5614UvO6WURXfo/88-of-households-in-India-have-a-mobile-phone.html>

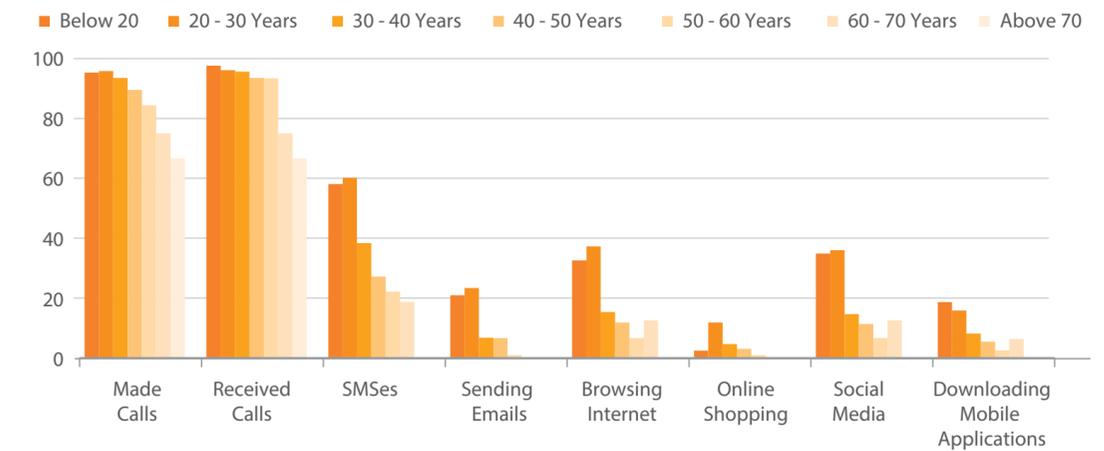
Digital Dynamics of Low-Income Consumers

Digital Literacy

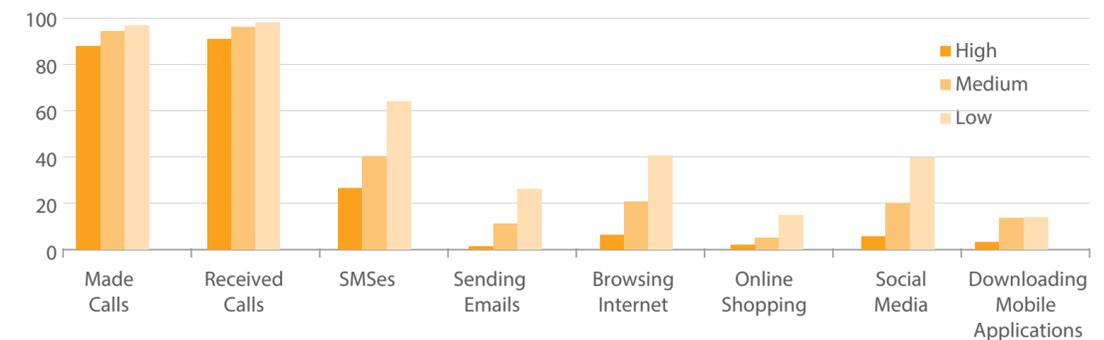
Owning and operating mobile phones in it-self does not indicate the requisite ability to use mobile phones to their full capacity. Digital literacy in the context of mobile phones refers to a set of competencies that enable a user to use mobile phones to their full potential. Overall, there is potential for improvement in the level of familiarity that consumers have with the online functionality of their mobile phones/computers. Only 5% of the sample indicate proficiency in conducting financial transactions and banking activities online. In comparison, usage of mobile phones/computers for actions like browsing the internet, send e-mails, social media and downloading mobile applications are more common with the users being slightly more comfortable with these. With regard to offline functionality, while making and receiving calls are functions that nearly 95% of the individuals sampled

are familiar with, SMS services find a lesser number of proficient users at 45% of the individuals sampled.

The proficiency across the different digital uses decreases with the increase in the age-group under which the consumers fall. Consumers in the age-bracket 20 to 30 are most familiar with using digital applications.



DIGITAL LITERACY - BY AGE (%)

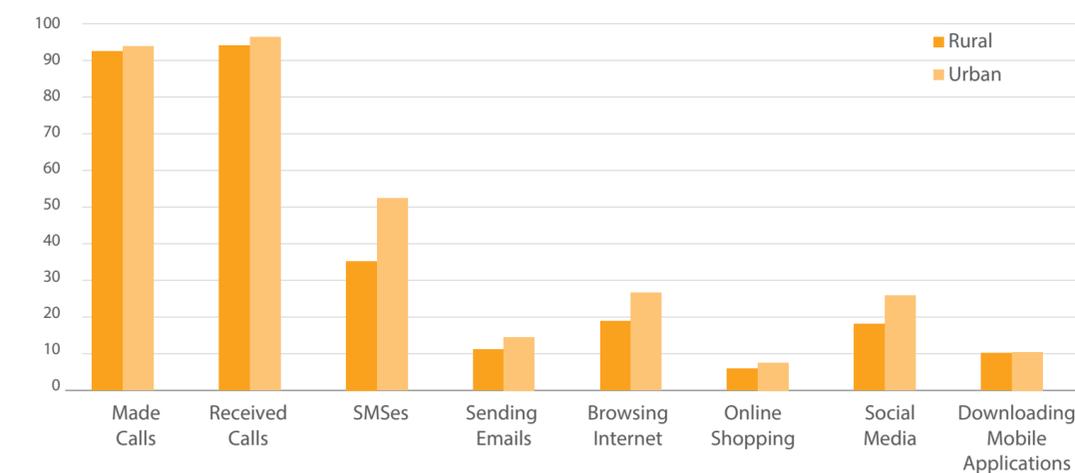


DIGITAL LITERACY - BY INCOME VOLATILITY (%)

Digital Dynamics of Low-Income Consumers

Consumers with a low volatility of income are on average found to be more adept at using their mobile phones/computers. That fact that these consumers are also more likely to own smartphones as well as being relatively better educated than their high income volatility counterparts are likely reasons that explain the higher digital literacy of this consumer group.

For the most part, there is not much variation in the digital literacy levels of consumers in urban areas, vis-à-vis consumers in rural areas. The use of social media, browsing the internet and SMS services are the three functions in which consumers in urban areas show considerably more proficient than consumers in rural areas.

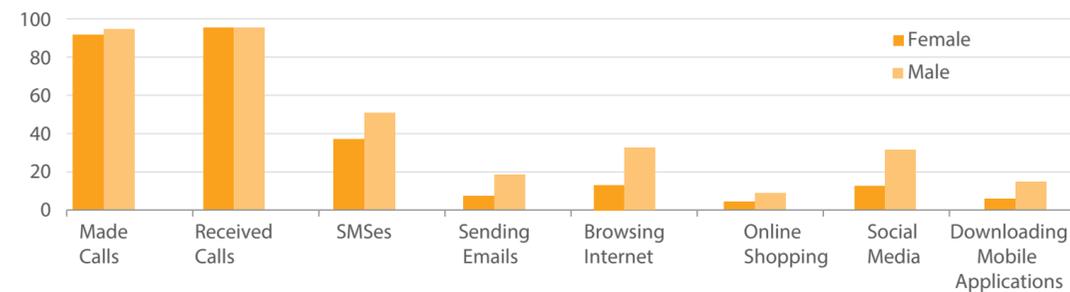


DIGITAL LITERACY - BY AREA



Digital Dynamics of Low-Income Consumers

On average, male consumers exhibit higher levels of digital literacy as compared to female consumers. While the difference is insignificant in the case of making/receiving calls, a significant difference emerges with uses of SMS services and online functionalities.



DIGITAL LITERACY - BY GENDER

SECURITY: AN ESSENTIAL USAGE DRIVER



Ram Kumar is the key go-to person for using mobile phones for financial transactions in his village in rural Uttar Pradesh. He speaks about the growing concern surrounding security of digital financial products. He mentions that individuals are primarily concerned with the use of OTPs, passwords and CVV to log in; many men and women in his area are not familiar with how these provide security and often share these details with family, friends and even agents. Often time, they forget these passwords and rely on others' recall. Apart from security concerns, he feels that there is a general distrust towards digital products, especially private applications that require the linking of bank account details, due to a lack of awareness and low levels of literacy. Customers are willing to forgo functionality and the time and cost benefits of using digital platforms as long as they are convinced on security.

Some ways that service providers can use to build customer trust in rural areas are through transparent pricing, easily accessible customer care, and a quick complaint redressal system.

Digital Dynamics of Low-Income Consumers

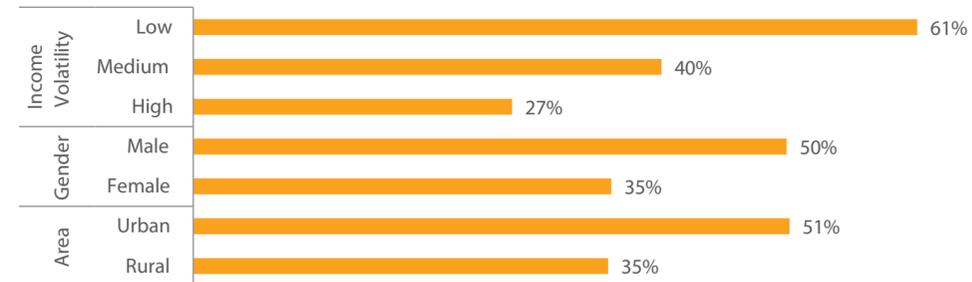
Use of debit cards

Who are the users?

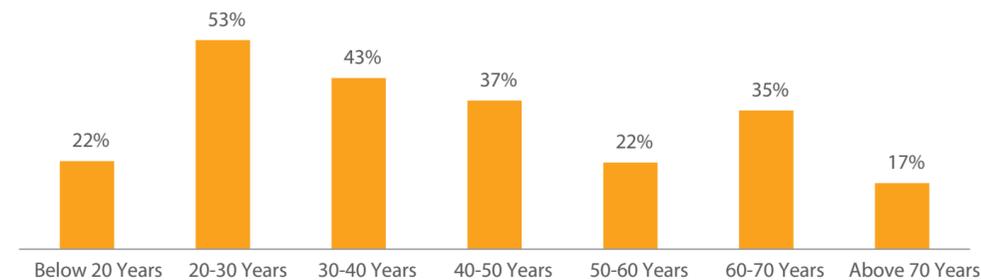
43% of the sample use debit cards, making it the most regularly and extensively used digital platform, among those available. Debit cards are used more commonly in Maharashtra, compared to Uttar Pradesh, among men more than women, and most widely among those with low cash volatility or salaried occupations, especially in urban areas.

Debit cards also enjoy patronage among a wide cross section of age groups – most commonly used by those between 20-40 years, with the above 40 years age sub-group registering the lowest usage.

In terms of education, high school graduates and above are the main users of debit cards, however, even those who have only completed middle school are comfortable with using debit cards. Debit card users are likely to be able to read and write and even perform higher order mathematical functions and have no concerns with regard to recognition of numbers.



USAGE OF DEBIT CARDS



USE OF DEBIT CARDS - BY AGE

“Interestingly, even those with very low levels of digital literacy i.e. those who can only make or receive calls using phones, are able to comfortably use debit cards.”



Digital Dynamics of Low-Income Consumers

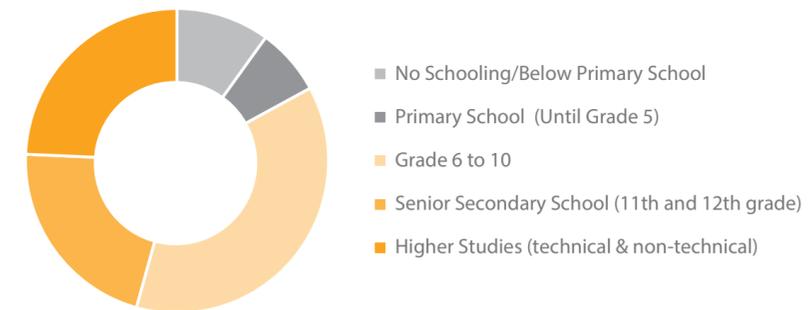
Use of debit cards

Purpose of use

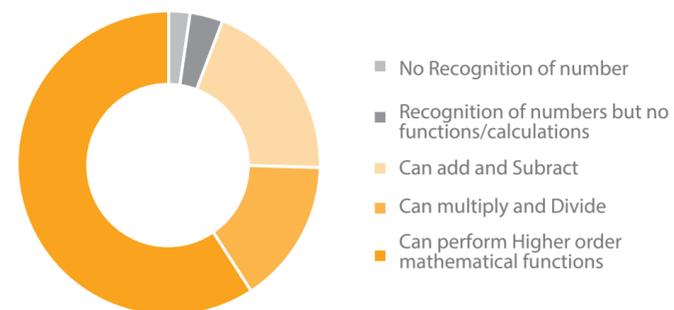
Debit cards are largely used to withdraw money at ATMs, pay for day to day goods and even by business owners to pay vendors for their services at retail outlets. While a small user base does use it to pay electricity and other utility bills, cable and medical bills and even transfer money to mobile wallets, pay loan installments and transfer money to other bank accounts, the general usage appears to be skewed towards the basic functions of a debit card. With withdrawal too, consumers appear to largely restrict themselves to withdrawing up to INR 5000, with only 7% using debit cards to withdraw more than INR 10000.

What about those who don't use debit cards?

The primary barriers to use for those who do not use debit cards is availability, and not ability; these individuals either do not have a bank account or do not have a debit card despite having a bank account. For those who have debit cards but don't use them, 70% report not knowing how to use debit cards. The less significant reasons are lack of proximity to an ATM or shops around them that accept debit cards as a mode of payment.



USE OF DEBIT CARDS - BY LITERACY LEVELS



USE OF DEBIT CARDS - BY NUMERACY LEVELS



Digital Dynamics of Low-Income Consumers

Use of Internet banking

4% of those interviewed report using Internet banking on smartphones or computers. These users report using the online banking applications provided by banks like SBI, ICICI and Axis. 88% of those who use online banking also report using debit cards, around half report using mobile wallets., However, only 11% report using the USSD based platform NUUP or *99#.

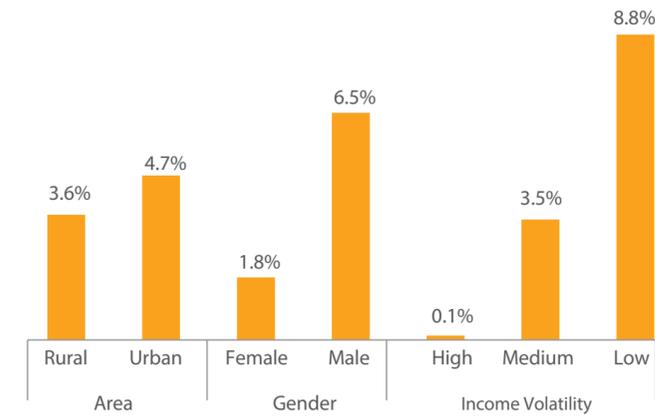
Who are the users?

Online banking users are more likely to be in urban areas, are predominantly male, and work largely in occupations with low income volatility. Users are also likely to be significantly younger, in the age group of 20-30 years with negligible usage among older age groups.

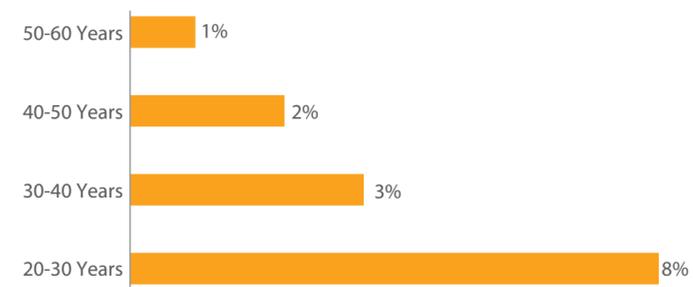
Users are likely to be better educated than the average low income individual, with 93% of users having at least completed their high school education. All users can read and write and can perform high order mathematical functions.

They are also extremely likely to live in close proximity to ATMs and bank branches, which could be a reason for their above-average awareness. Finally, they also appear to be among the higher income earning individuals even within the low-income segment.

“60% of online banking users report extremely high levels of digital literacy, almost unanimously being comfortable with making and receiving calls, sending messages and browsing the internet.”



USE OF INTERNET BANKING



USE OF INTERNET BANKING - BY AGE

Digital Dynamics of Low-Income Consumers

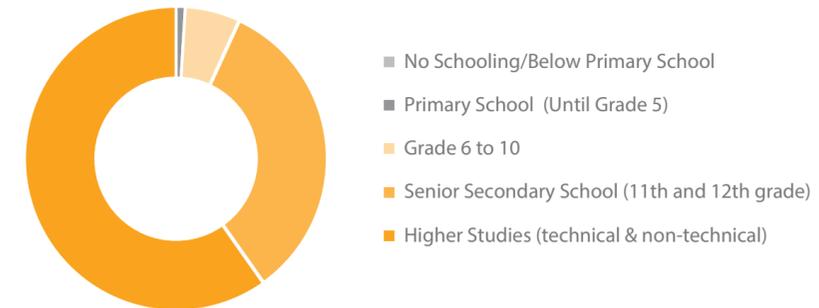
Use of Internet banking

Purpose of use

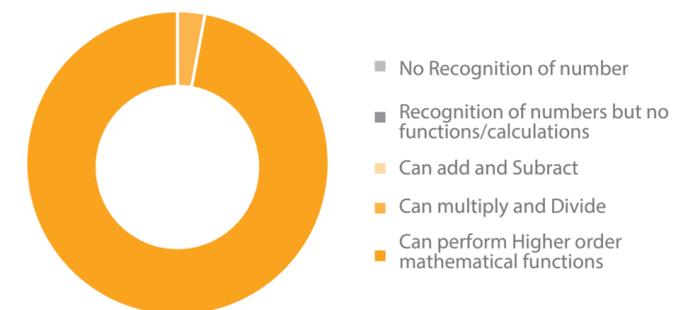
Online banking users largely use these services for transferring money to other bank accounts, checking their balance and changing their passwords. A subgroup of users use online banking to its fuller capacity – by using it to make online payments while making e-commerce purchases, paying utility, cable and medical bills, even paying school fees and government taxes. Though a small set, the users of online banking appear primed to use it to its full potential when it comes to making payments.

What about those who don't use online banking?

While only 3% of non-users report being unaware of online banking as a digital platform, the driving factors behind the poor levels of usage appear to be that consumers are not aware of how and where to access the digital platform with 73% of the non-users reporting the same. Additionally, even if awareness exists, given the low penetration of smartphones and laptops amongst this sub-group, they are not infrastructurally equipped to use this service. Among those who do know how to access and are somewhat able to use it, the factors dissuading them from using it regularly are instances where they attempted transactions a few times but failed or found the transaction costs too high.



USE OF INTERNET BANKING - BY LITERACY LEVELS



USE OF INTERNET BANKING - BY NUMERACY LEVELS



Digital Dynamics of Low-Income Consumers

Use of Mobile Wallets

5% of the consumers in the sample report using mobile wallets. The popular mobile wallets are Paytm, Oxigen and even mobile network operator (MNO) based wallets like Airtel Money and M-Pesa. Around 10% of mobile wallet users use more than 1 wallet. 39% of mobile wallet users also use internet banking, while 92% use debit cards and 7% use the USSD platform NUUP.

Who are the users?

The users of mobile wallets appear to be primarily urban, male and working in either medium income volatility occupations like owning small businesses or low income volatility occupations that involve regular salaries. Similar to the findings above, the users are younger on average, between 20-30 years, with a small user base in the 30-40 age group.

96% of the user base is likely to have completed their schooling till 10th grade at least and are able to almost unanimously read and write. They are largely able to, at the very least, add and subtract, if not perform higher order mathematical functions.

“Only 2.3% of users have low levels of digital literacy, with majority being able to perform higher order activities using their phones – sending messages and browsing the Internet.”

INTERPLAY BETWEEN DRIVERS OF MOBILE MONEY APPLICATIONS



- Income Volatility and Gender
 - o Women with low to medium income volatility were equally familiar with digital products as younger men across income groups.
 - o Women with high income volatility had limited to no knowledge on any digital financial services (other than ATMs), or mobile money applications.
- External Shocks and Take-Up
 - o Customers opened accounts on various mobile money platforms post demonetization. However, usage of these platforms has been low ever since.
 - o Aggressive advertising was the primary reason for opening accounts. However, with no follow up training and awareness, usage has remained low.
- Pricing/Transaction Costs and Literacy
 - o Various mobile money applications available today offer either a slab-based pricing model, or a percentage based pricing model. Rural customers, both men and women, are not always able to differentiate between these two models, and thus are often unable to identify the most cost-effective and suitable product option for their transactions.

Digital Dynamics of Low-Income Consumers

Use of Mobile Wallets

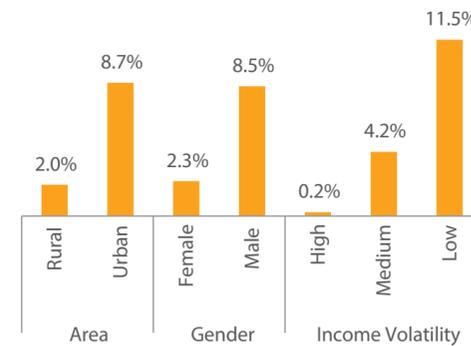
Purpose of use

Users primarily employ mobile wallets to deposit and withdraw money at their outlets for amounts under INR 5000, and transferring money to other users, and even paying cable bills. Small business owners also use it to make payments to vendors and even receive payments from customers, though exclusively in urban areas.

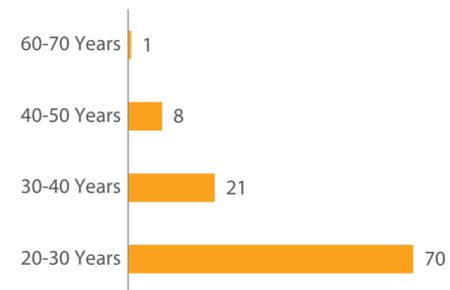
What about those who don't use mobile wallets?

Majority of the non-users do not own a smart phone. However, 71% of them also report not being aware of what a mobile wallet is, what functions it can serve, how it works and what it requires to create a mobile wallet.

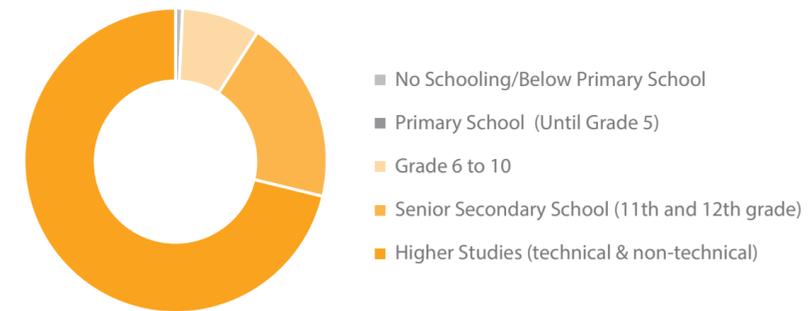
Among those who are aware but remain non-users, 13% report having tried to install and use it but being unable to do, while 7% contest that shops around them do not accept payments through wallets.



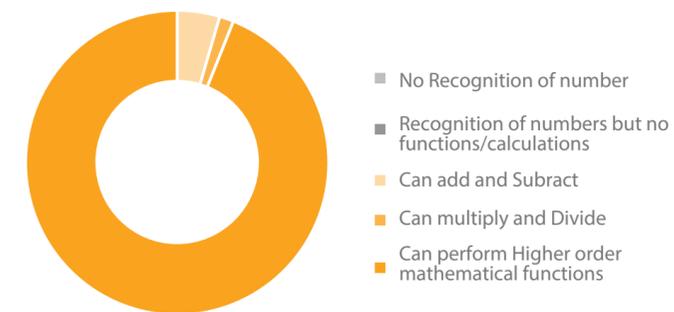
USE OF MOBILE WALLETS



USE OF MOBILE WALLETS - BY AGE



USE OF MOBILE WALLETS - BY LITERACY LEVELS



USE OF MOBILE WALLETS - BY NUMERACY LEVELS



Digital Dynamics of Low-Income Consumers

Use of USSD Platform *99#

In the 2016-2017 financial year, NPCI reported 47.16 Million transactions using its USSD platform NUUP. This study finds that among low-income households only 3% report using this platform, despite almost 60% of our sample reporting that they use basic phones, for which this interface has specifically been created.

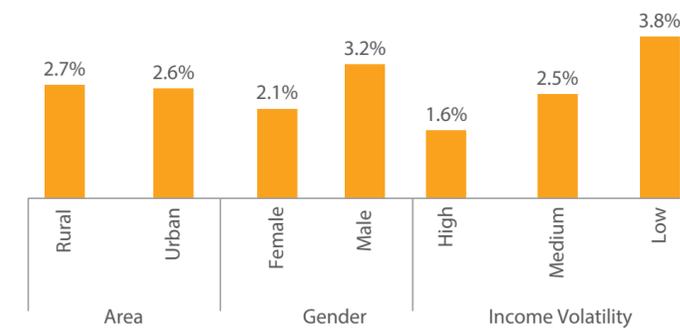
Who are the users?

Users of this platform appear to be equally likely to be from rural or urban areas, and are likely to be male. Unlike other digital platforms, NUUP finds users among those with high income volatility employment in the informal sector (casual laborers, contract workers etc.) NUUP also finds a user base with a higher average age, with 71% of its user base being over the age of 30.

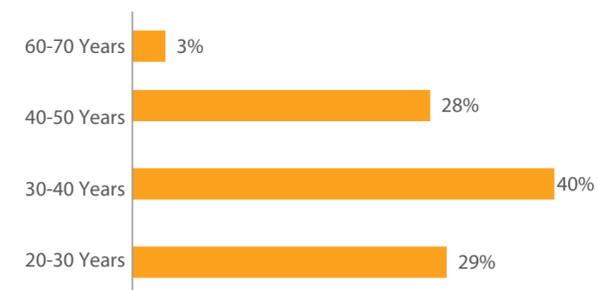
While 6% have had no formal schooling. While 91% can read and write, and 74% have good numeracy skills, NUUP is a platform that also appears to be welcoming of those who cannot read or write and have limited numeracy skills.

NUUP users are also significantly on the lower end of the income category – with 34% earning less than INR 1 Lakh a year.

“53% have low levels of digital literacy skills – while being largely able to make and receive phone calls but unfamiliar with browsing the Internet or using social media.”



USE OF NUUP



USE OF NUUP - BY AGE

Digital Dynamics of Low-Income Consumers

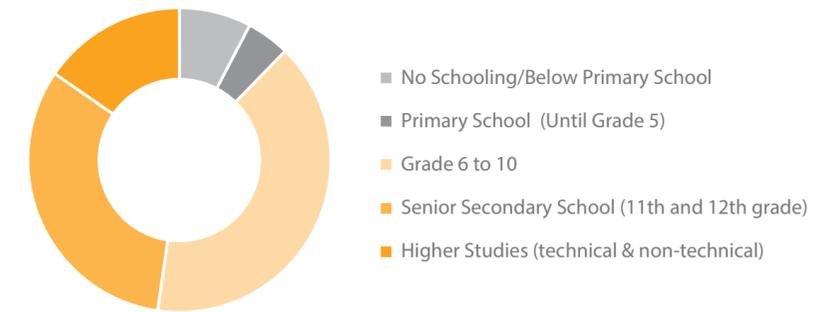
Use of USSD Platform *99#

Purpose of use

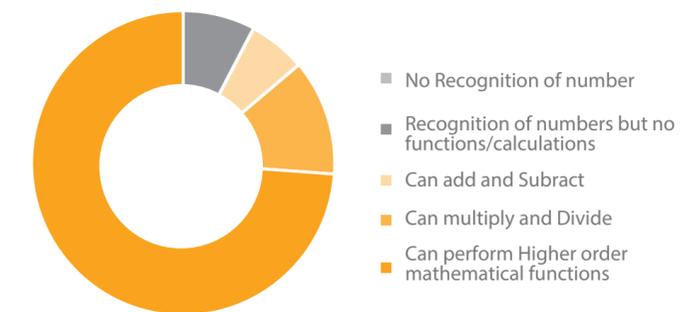
NUUP is yet to attain a critical mass of users. Its users are also yet to learn how to use NUUP for a diverse set of transactions. Currently usage is restricted to only basic banking activities, such as making money transfers. Users have not begun exploring its utility as a tool to pay utility bills, medical bills and even to buy day to day goods. Even among business owners, NUUP has not been considered as a viable option to transact with vendors and customers.

What about those who don't use NUUP?

With NUUP, the biggest barrier is that users have not heard of it or its uses, with 85% of non-users having little or no idea about this particular method. Among those who had heard of it, the challenges reported are that they hadn't linked their mobile numbers to bank accounts, an essential requirement of using NUUP, and 26% noted that they had attempted to perform transactions but they either failed or they could not complete it, on account of finding the interface cumbersome.



USE OF NUUP - BY LITERACY LEVELS



USE OF NUUP - BY NUMERACY LEVELS



Case Study



Testing of Digital Products

Given the various types of population segments (i.e rural & urban; high, medium & low income volatility, different age groups) that constitute prospective customers of digital financial services, it is safe to assume that a 'one size fits all' solution would not work for each segment, and different types of solutions are required. That being said, it is imperative to note that a lack of awareness and familiarity regarding digital financial products and their usage is an overarching barrier to increased adoption of these services.

An integral part of understanding how to increase awareness through training is to understand the nature of personalized interactions needed. To this end, a series of one-on-one interactions with low-income consumers (with differing income volatilities) was conducted that included a demonstration of various digital platforms to understand usability and preferences of customers thereon.

General Insights:

Following the one-on-one demonstrations of each digital product, participants were able to successfully carry out transactions using these services. On the whole, the participants in the younger demographic showcased a higher level of pre-existing knowledge about these devices and were also able to use these devices with greater ease, post-demonstration.

Reflecting a high potential for such training, a majority of participants reported greater comfort using the products following the demonstration, before which, a fair number of them reported having a low familiarity with digital financial products. This gives rise to a need for more widespread and personalized dissemination about the usage of these products. Several participants mentioned that digital products need to be equipped with easy user interfaces. Additionally, pre-existing users of digital products were much more open to experimenting with other services than new users due to apprehensions about security of digital transactions.

Case Study



Testing of Digital Products

Non-internet based mobile solution (NUUP/*99# Service)

Well received by: Individuals who use basic phones and those who do not regularly use online applications. Specifically, consumers in older age groups or with medium to high income volatility seemed to be more interested in this product. The service also received better traction in rural areas as compared to urban.

Very few (<10%) of the respondents, particularly in rural areas, were aware of the existence of this product but many expressed a willingness to use the product post-demonstration. The ability to access their banking information remotely was the most appreciated feature of the product especially among individuals who did not have smartphones.

Offline, non-mobile based solution (Payse Purse*)

Well received by: Individuals with relatively lower levels of digital literacy, particularly those with high income volatility.

While the potential of this product to carry out offline micro-transactions was highly sought after, the need to obtain additional hardware apart from mobile phones is the primary barrier to take up of non-mobile based solutions. Additionally, customers recognized the importance of accepting this product in the digital ecosystem, especially amongst vendors they interact with.

Online smartphone based solution (Oxigen Wallet)

Well received by: Individuals with higher levels of digital literacy, and more commonly, low income volatility. Also, younger participants were more pre-disposed to this service than older participants.

Non-users of smartphones and those with low literacy levels found it difficult to navigate the user-interface of this service. Those who were comfortable with the service were more inclined to use the service to carry out basic transactions like transferring money as compared to more complex tasks like online shopping.

Different types of digital products work well with different types of consumers; consumers who have high digital literacy and low income volatility gravitate towards online mobile based solutions while mobile/non-mobile based offline solutions are more effective among users of basic phones and those with low digital literacy. These insights need to be kept in mind by digital finance service providers as they design products targeting various segments of the population.

* The PaySe Solution is a multi-channel digital payments platform (whose main components include: NFC enabled cards, a non-phone based digital wallet and a mobile application) which can allow for offline micro transactions.
Retrieved from: <http://payse.cash/>

Digital Dynamics of Low-Income Consumers

General Barriers

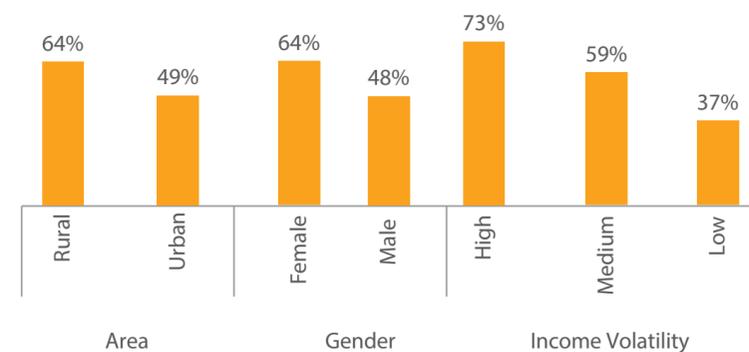
57% of the low-income individuals interviewed reported not using any digital platforms at all.

Individuals in rural areas are more likely to not be using any digital platform, as compared to those living in urban areas. Moreover, women are far more likely than men to not use any sort of digital platform. Even in terms of income volatility, those who engage in high volatility occupations are more likely to not be participating in any digital platform.

57% of those who are not on any platform are either illiterate, without any formal schooling or have only had schooling up to primary levels. 40% have either no recognition of numbers or can only recognize numbers up to 10, 44% can neither read nor write, and 91% are unable to speak English.

Poor Digital Literacy

One of the major causes of the absence of these individuals from any digital platform is that they lack the ability or knowledge to use or access these platforms. Non-users of any digital platform also have very low levels of digital literacy in general – while 88% can make and receive calls, only 22% can send text messages and only 5% have browsed the social media.



NON-USERS OF DIGITAL PLATFORMS

DIGITAL FINANCIAL LITERACY AND TRANSFERABILITY OF KNOWLEDGE



- Government initiatives at increasing digital financial literacy have not found much ground. Despite exposure and training through the Reserve Bank of India's posters on USSD and UPI, individuals were not able to comprehend these processes, since the basic knowledge on linking phone number with a bank account, or where to look for an IFSC code, or how to create a USSD/UPI pin, is missing.
- Although digital service providers are moving toward interoperability, there is a need for customers to also be able to operate multiple platforms. After extensive training on the BHIM app on how to create an account, send money, collect money and scan and pay, individuals were largely unable to navigate the PayTM application due to a lack of understanding of smartphone features and low willingness to experiment with different buttons in the application.
- These highlight the need for a more targeted, customized and personal training to increase literacy.

Digital Dynamics of Low-Income Consumers

General Barriers

The data supports the intuitive correlation between education and digital literacy. But a closer look at the degree of relationship in different segments can help in developing more targeted interventions to enhance digital literacy. Individuals with education up to 8th grade or less have basic cellphone capabilities and would therefore require elementary training and awareness of digital techniques. Individuals between 8th and 12th grade education can use more advanced functions and can be trained in platforms such as NUUP and Internet banking. Individuals with vocational training and higher education degrees can be trained on mobile wallets.

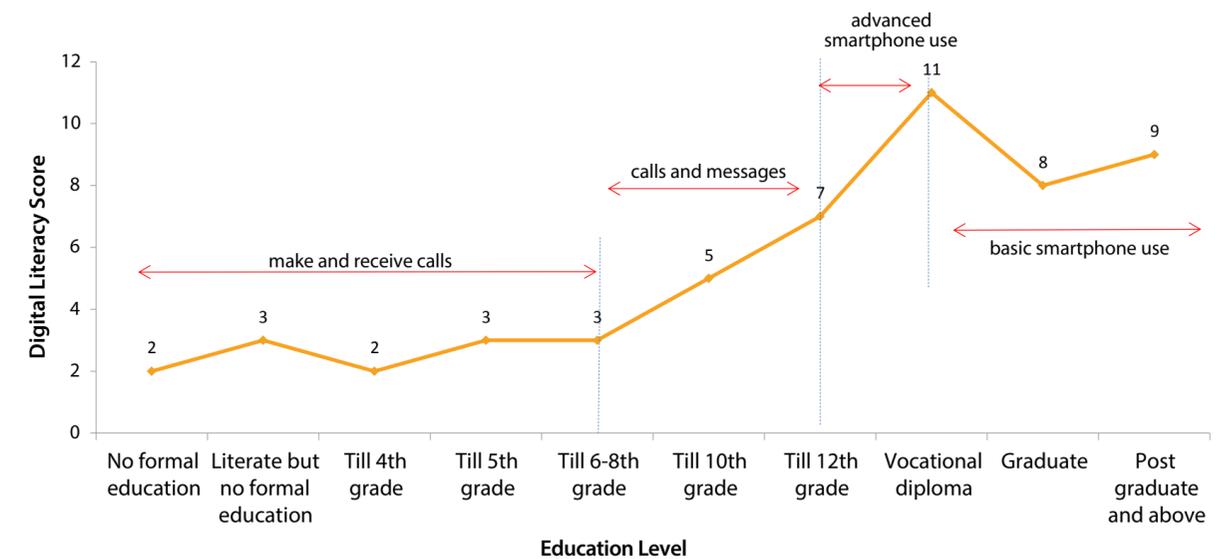
Lack of prerequisites

For a smaller sub-group of 10% of the sample, the critical pain point is not having the right prerequisites – either bank accounts, or phones or even the KYC documents required to obtain and use digital accounts.

Poor Infrastructure

Among respondents that own businesses, less than 3% have PoS terminals at their establishments. As of May 2017, India has 2.5 Million PoS terminals, compared to the 15 Million retail establishments and 36 Million small and medium businesses. This is due to the high cost of these devices that fall in the range of US\$70 to US\$150 (INR 4,550 to INR 9,750) per device. However, cheaper terminals like QR codes (facilitated by payment gateways and mobile wallet providers) only work for smartphone users.

For others, another issue is the lack of trust and misinformation regarding digital platforms; 6% feel digital financial transactions are unsafe, whereas, others believe they will incur extra taxes with a greater digital footprint.



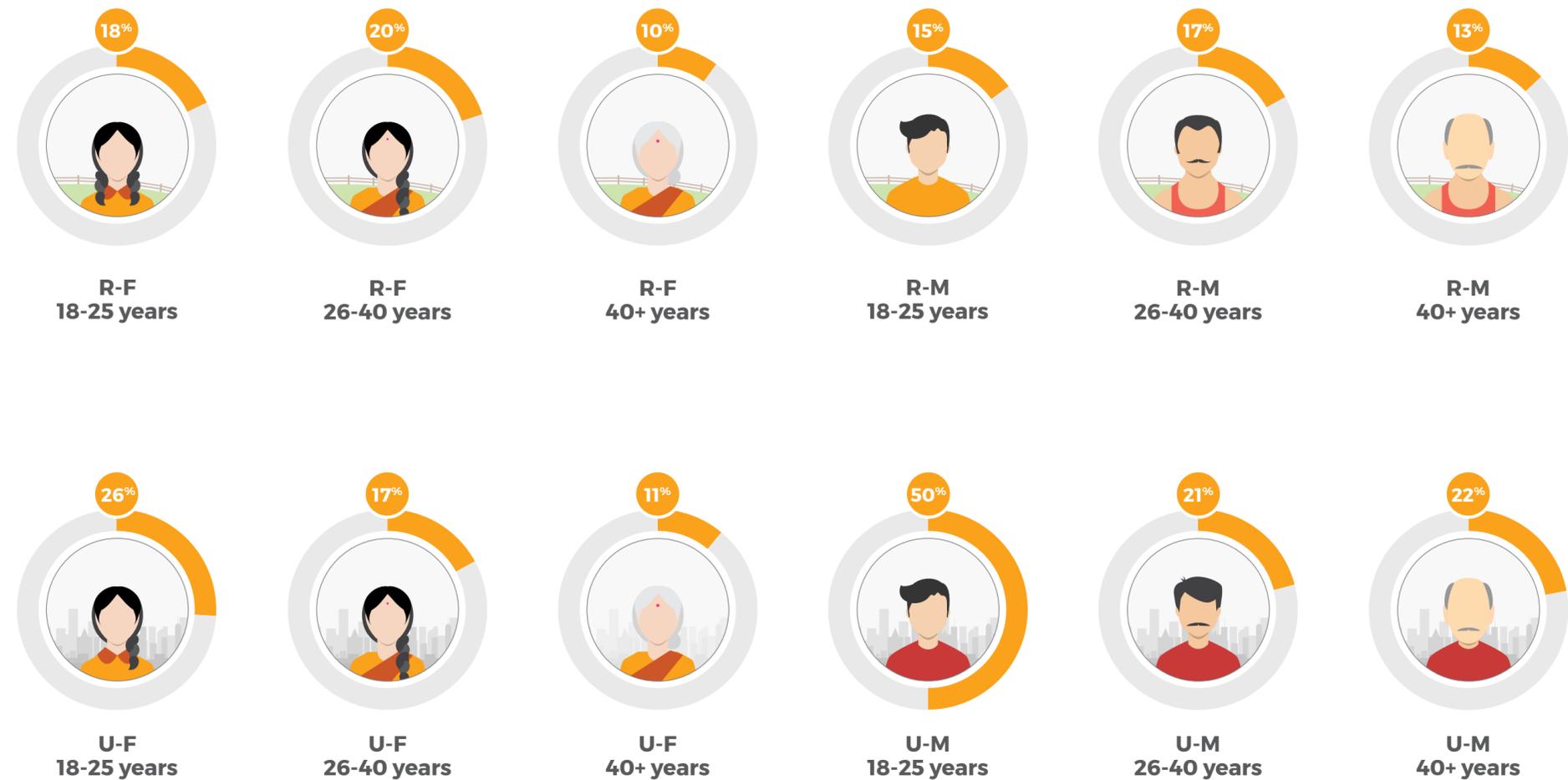
EDUCATION AND DIGITAL LITERACY

Digital Dynamics of Low-Income Consumers

Immediate outcome of the demonetization move of November 2016

Preliminary results indicate that demonetization, as an external shock to availability of cash, motivated limited people in the low-income segment toward using digital platforms. Those who were driven toward usage of digital cash were more inclined to use of debit cards. As highlighted below, the highest impacted were people working in urban areas and those in lower age groups.

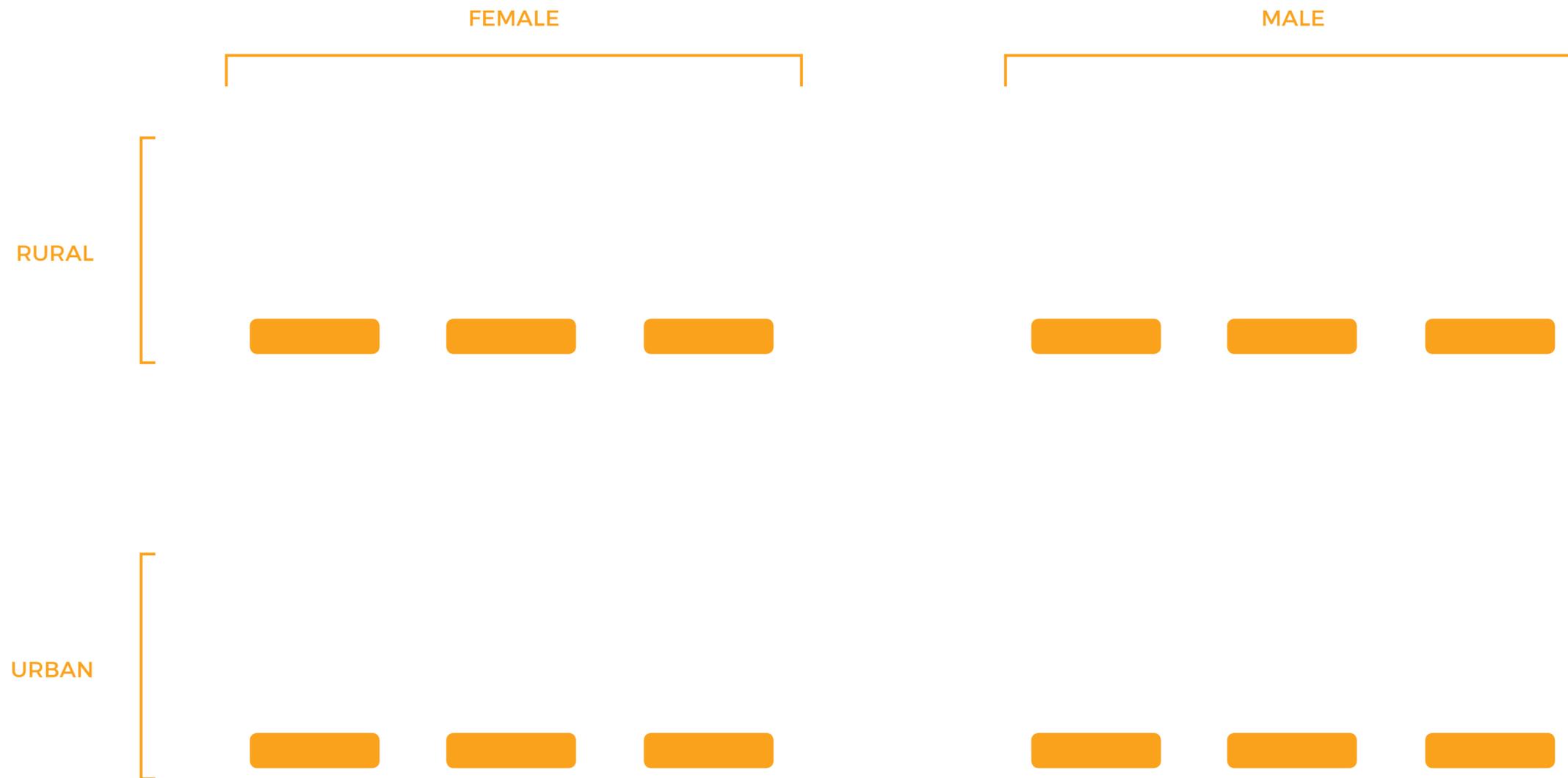
However, the long-term impact and sustenance of this transition to digital methods depends on the innate characteristics of different customer segments, such as levels of education, digital literacy, preference for cash, access to financial and digital services, etc. These are discussed in detail for each segment in the consumer profiles.



SAMPLE MOTIVATED BY DEMONETIZATION

5 Know Your Customer

Consumer Segments



Know Your Customer



Female, Rural, 18-25 years

OCCUPATION
CATEGORY



USE OF
DIGITAL PRODUCTS



DIGITALIZING
FINANCIAL
BEHAVIOUR



ADDRESSING
THE GAPS



OCCUPATION CATEGORY

AVERAGE
MONTHLY INCOME

₹ 3,595



INCOME VOLATILITY

HIGH

Construction workers
Agricultural laborers

OCCUPATION

₹ 5,250



MEDIUM

Retail/petty shop
Tailor Shop

₹ 6,843



LOW

Private company employees,
Government workers



Know Your Customer



Female, Rural, 18-25 years

OCCUPATION CATEGORY



USE OF DIGITAL PRODUCTS



DIGITALIZING FINANCIAL BEHAVIOUR



ADDRESSING THE GAPS



USE OF DIGITAL PRODUCTS

Women in the age group of 18-25 years in rural areas largely use debit cards among the available digital platforms. Among debit card users, the majority of users are those with salaried jobs or low income volatility – but with substantial usage among those with occupations that have medium and high volatility as well. However, only low income volatile individuals use mobile wallets or Internet banking.



NUUP

Checking account details



DEBIT CARDS

Withdrawal of money, Pays for day to day goods and services Pays for day to day goods and services, Checking balance and changing PIN,



UP-TO ₹ 5,000

INTERNET BANKING

Transferring money to other bank accounts, Checking balance.

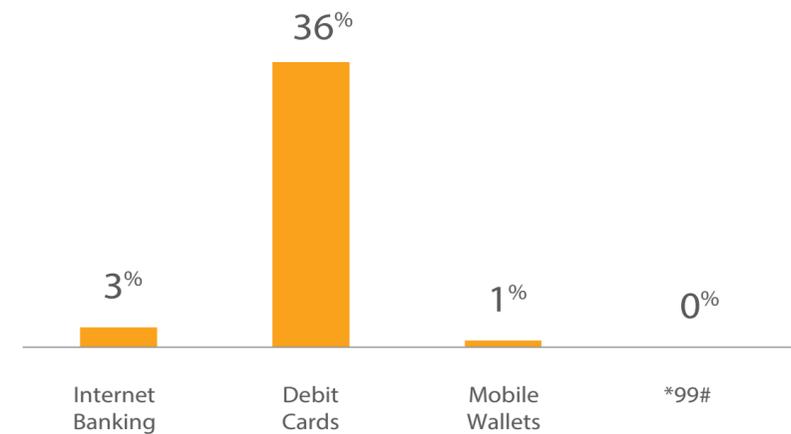


UP-TO ₹ 5,000

MOBILE WALLETS

Transferring money to other mobile wallets, Checking balance

MOST COMMON USAGE OF DIGITAL PRODUCTS



USE OF DIGITAL PLATFORMS

Know Your Customer



Female, Rural, 18-25 years

OCCUPATION
CATEGORY



USE OF
DIGITAL PRODUCTS



DIGITALIZING
FINANCIAL
BEHAVIOUR



ADDRESSING
THE GAPS



 Most difficult
barriers to address

 Easiest potential
to leverage



DIGITALIZING FINANCIAL BEHAVIOR: ENABLERS

BARRIERS

DIGITAL LITERACY



Only 24% of these women use smartphones and the rest largely use basic phones. While basic phone users are able to make and receive calls, only 42% of these users report being able to send SMS messages. The few smartphone users in this segment are, however, adept at making phone calls and sending SMSes, along with regularly browsing the internet, downloading applications and using social media like Whatsapp and Facebook

ACCESS TO FINANCIAL INFRASTRUCTURE



While 92% have access to some bank account but only 42% have debit cards and even fewer have credit cards. 67% do not have an ATM within walking distance.

AWARENESS



Women in this group report not being aware of digital platforms like internet banking, mobile wallets and the *99# mobile banking feature. Moreover, among those who are aware, there is lack of knowledge about how to access these products digitally.

POTENTIAL

LITERACY AND NUMERACY



86% of the women in this segment can read and write and only 9% report not being able to do either. In terms of numeracy, 50% can perform higher order mathematical functions but 16% report either no recognition of numbers or are able to only recognize numbers till 10.

PROPENSITY TO PAY



A considerable number of women in this segment have reported the use of mobile phones for an average 3.5 years. On an average, women reported spending approximately Rs.95 per month on their mobile phone recharges but smartphone users in this group spend 2.75 times the amount basic phone users spend. All smartphone users report paying for a 2G, 3G or 4G internet service.



Know Your Customer



Female, Rural, 18-25 years

OCCUPATION
CATEGORY



USE OF
DIGITAL PRODUCTS



DIGITALIZING
FINANCIAL
BEHAVIOUR



ADDRESSING
THE GAPS

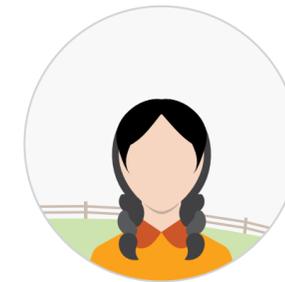


ADDRESSING THE GAPS

1. Given that the smartphone users of this segment have extremely high digital literacy and propensity to pay for mobile services, they have the potential of being regular users of mobile wallets and internet banking applications. It is crucial to educate women in this segment in rural areas about the existence and utilities of these applications. Women in this group prefer to approach shopkeepers for technical support on their mobiles and these are outlets that can be leveraged to increase awareness and knowledge.
2. In this context, it is critical to increase the awareness and usage of debit cards within this group, especially among those women who do not have smartphones. There is also potential to educate existing users about the additional uses of debit card beyond simply withdrawing money. However, these are dependent on the availability of more acceptance infrastructure in their immediate areas.



Using Debit cards ensures that my money is secure. Cash can be stolen, however even if debit cards get stolen our money is safe. This is really helpful when we are travelling, if cash is needed at any point it can be withdrawn using the debit card and when not needed it is safe in our bank accounts



Know Your Customer



Female, Rural, 26-40 years

OCCUPATION CATEGORY



USE OF DIGITAL PRODUCTS



DIGITALIZING FINANCIAL BEHAVIOUR



ADDRESSING THE GAPS



OCCUPATION CATEGORY

AVERAGE MONTHLY INCOME

₹ 3,675



INCOME VOLATILITY

HIGH

OCCUPATION

- Construction or factory workers
- Agricultural laborers
- Domestic workers

₹ 5,428



MEDIUM

- Petty shops owners
- Agriculture
- Tailor shops

₹ 12,692



LOW

- Private company employees
- Government workers
- Domestic workers



Know Your Customer



Female, Rural, 26-40 years

OCCUPATION CATEGORY



USE OF DIGITAL PRODUCTS



DIGITALIZING FINANCIAL BEHAVIOUR

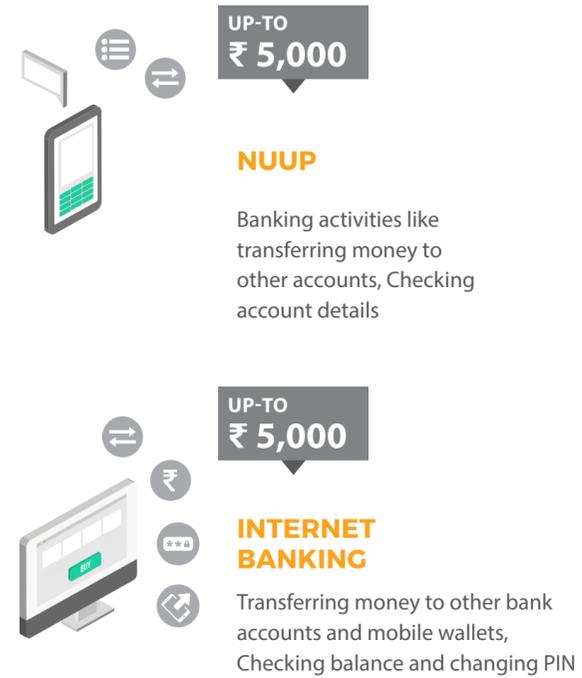


ADDRESSING THE GAPS

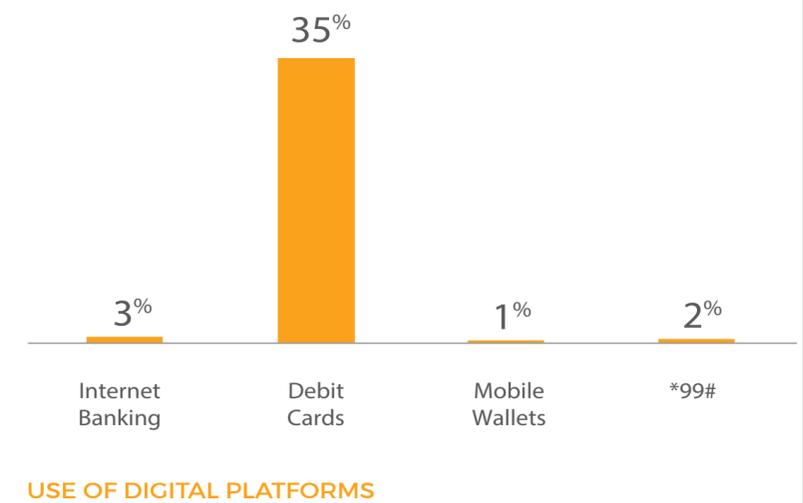


USE OF DIGITAL PRODUCTS

The women in this age segment largely take loans from banks, cooperatives and MFIs, followed by informal sources. 33% of these loans are disbursed digitally, but all women report paying back in cash.



MOST COMMON USAGE OF DIGITAL PRODUCTS



Know Your Customer



Female, Rural, 26-40 years

OCCUPATION
CATEGORY



USE OF
DIGITAL PRODUCTS



DIGITALIZING
FINANCIAL
BEHAVIOUR



ADDRESSING
THE GAPS



 Most difficult
barriers to address

 Easiest potential
to leverage



DIGITALIZING FINANCIAL BEHAVIOR: ENABLERS

BARRIERS

ACCESS TO FINANCIAL INFRASTRUCTURE



95% have access to bank accounts, but only 45% have access to debit cards and 1% have credit cards. 33% have access to an ATM within walking distance while 43% have access to bank branches within walking distance.

DIGITAL LITERACY



66% of the segment own basic phones, while 15% own smartphones. Workers with less volatile income are most likely to own smartphones while those with highly volatile income are least likely. While both basic and smart phone users are comfortable with making and receiving calls, basic phone users can further develop their proficiency with the SMS service. Smartphone users are seen to be familiar with browsing the internet, downloading applications and using social media; however, they are less knowledgeable about conducting transactions online.

POTENTIAL

LITERACY AND NUMERACY



70% of this segment can read and write, while 72% have basic numerical recognition. Only 25% have no formal schooling and 63% have completed at least primary schooling

PROPENSITY TO PAY



On average, women in this group have owned mobile phones for 4 years. Basic phone users spend an average of INR 72 for mobile phone recharges while those with smartphones spend 3.5 times the amount. 88% of those with smartphones spend on internet services.



Know Your Customer



Female, Rural, 26-40 years

OCCUPATION
CATEGORY



USE OF
DIGITAL PRODUCTS



DIGITALIZING
FINANCIAL
BEHAVIOUR



ADDRESSING
THE GAPS



ADDRESSING THE GAPS

1. Campaigns, advertisements and local training camps can be developed and implemented to increase awareness about the usage of digital financial services. Places like SHGs, Anganwadi, Local shops (e.g petty shops offering mobile recharges) that are frequented by the women in this segment could form channels to circulate information.

2. Owners of smartphones, many of whom report low income volatility and are relatively more familiar with internet based applications, can be targeted for improving the usage of mobile wallet and internet banking services. On the other hand, the basic phone owners are likely to respond well to the *99# mobile banking service on which there is currently a lack of awareness.



While I know of the advantages offered by digital services, I lack knowledge on how to use them. However, I would like to learn. If some training camp for mobile banking or Internet banking or mobile wallets is held in the village, I and many other women would go”



Know Your Customer



Female, Rural, 40+ years

OCCUPATION
CATEGORY



USE OF
DIGITAL PRODUCTS



DIGITALIZING
FINANCIAL
BEHAVIOUR



ADDRESSING
THE GAPS



OCCUPATION CATEGORY

AVERAGE
MONTHLY INCOME

₹ 3,086



INCOME VOLATILITY

HIGH

Agricultural laborers

OCCUPATION

₹ 4,442



MEDIUM

Agriculture, animal husbandry
Tailor shops

₹ 9,635



LOW

Government workers
Private company employees



Know Your Customer



Female, Rural, 40+ years

OCCUPATION CATEGORY



USE OF DIGITAL PRODUCTS



DIGITALIZING FINANCIAL BEHAVIOUR



ADDRESSING THE GAPS



USE OF DIGITAL PRODUCTS

82% of this group do not use any digital financial product. Among those who do - debit cards reign dominant, with even the less popular *99# mobile banking feature finding users in this group. Among this segment too, individuals with less cash volatility occupations or salaried women predominantly use digital products. Rural women in this group report taking loans largely from banks and microfinance institutions and informal sources. These loans are disbursed to them either over the counter at branches, or at SHG meetings or directly from their informal sources and even repayments are only done in cash.



UP-TO ₹ 5,000

NUUP

Banking activities like transferring money to other accounts, Checking account details



₹ 5,000 - ₹ 10,000

DEBIT CARDS

Withdrawal of money, Pays for goods and services for transactions, Checking balance and changing PIN



UP-TO ₹ 5,000

INTERNET BANKING

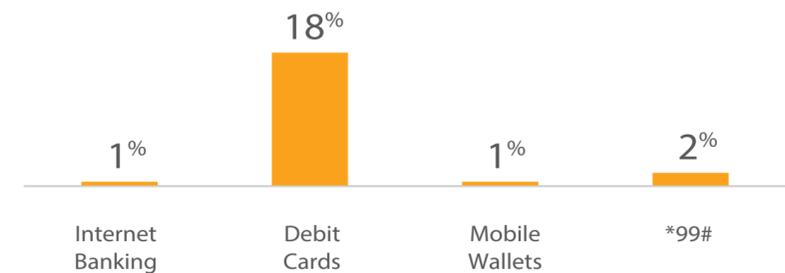
Transferring money to other bank accounts and mobile wallets
Checking balance and changing PIN



-

MOBILE WALLETS

MOST COMMON USAGE OF DIGITAL PRODUCTS



USE OF DIGITAL PLATFORMS

Know Your Customer



Female, Rural, 40+ years

OCCUPATION
CATEGORY



USE OF
DIGITAL PRODUCTS



DIGITALIZING
FINANCIAL
BEHAVIOUR



ADDRESSING
THE GAPS



 Most difficult
barriers to address

 Easiest potential
to leverage



DIGITALIZING FINANCIAL BEHAVIOR: ENABLERS

BARRIERS

LITERACY AND NUMERACY



49% of the women in this group have no formal schooling and more than half of them are unable to read or write. Moreover, 33% do not recognize any numbers and 13% can only recognize numbers up till 10. Those without basic numerical recognition are unable to even use debit cards at an ATM.

DIGITAL LITERACY



This group is likely to own basic phones, specifically among those with low and medium income volatility occupations. While women in this group are largely able to make and receive phone calls, only 11% can send SMS messages, rendering majority of this group without the ability to use even offline digital platforms. Even among smartphone users, only 50% are comfortable downloading applications and browsing the internet. Not knowing how to use these applications is the primary reason women in this segment are not using any digital platforms.

ACCESS TO FINANCIAL INFRASTRUCTURE



While 97% have bank accounts, around 70% do not own debit cards. Only 23% report access to an ATM within walking distance while 28% report a bank branch within walking distance.

POTENTIAL

PROPENSITY TO PAY



This segment has been using mobile phones for 3.5 years and basic phone users spend INR 70 per month on mobile phone recharges, while those with smartphones spend around 5 times as much. 7 out of 10 smartphone users spend on internet monthly while only 4% of feature phone users spend on the same.



Know Your Customer



Female, Rural, 40+ years

OCCUPATION
CATEGORY



USE OF
DIGITAL PRODUCTS



DIGITALIZING
FINANCIAL
BEHAVIOUR



ADDRESSING
THE GAPS



ADDRESSING THE GAPS

1. There is a need to generate more awareness regarding the digital financial services amongst this population group. Given the high ownership of basic phones, this segment is likely to respond well, although slowly, to *99#, provided they get sufficient training and hand-holding. Women in this segment would however respond better when taught in groups. One strategy could be to provide training during SHG meetings, or other small social gatherings. Moreover, these women are regular users of basic phones and are acquainted with the basic technology and also have other smartphone owners in the household (eg: husband, children). These household members can be a means through which this segment can improve their familiarity with digital products.
2. Despite a high overall usage of debit cards, there is potential for increasing its penetration amongst this segment. A more widespread proliferation of ATM machines, POS terminals in shops and other related infrastructure could help increase usage further.



Something I really like about using Debit cards is the possibility to keep track of my expenses thanks to SMS alerts after every transaction and the possibility to access my transaction history at the ATM. This contributes positively to management of my finances



Know Your Customer



Male, Rural, 18-25 years

OCCUPATION CATEGORY



USE OF DIGITAL PRODUCTS



DIGITALIZING FINANCIAL BEHAVIOUR



ADDRESSING THE GAPS



OCCUPATION CATEGORY

AVERAGE MONTHLY INCOME

₹6,539



INCOME VOLATILITY

HIGH

OCCUPATION

Construction or factory workers
Agricultural laborers
Carpentry

₹6,411



MEDIUM

Petty shops owners
Camera/video Studio
Agriculture

₹15,188



LOW

Private company employees
Driver for household
Government workers



Know Your Customer



Male, Rural, 18-25 years

OCCUPATION CATEGORY



USE OF DIGITAL PRODUCTS



DIGITALIZING FINANCIAL BEHAVIOUR



ADDRESSING THE GAPS



USE OF DIGITAL PRODUCTS

Men in the age group of 18-25 years in rural areas mostly use debit cards among the available digital platforms. Only individuals with medium or low income volatility use mobile wallets, internet banking and *99# mobile banking. For men engaged in high income volatile jobs, 77% of them do not use any digital products while the remaining 23% use debit cards. Loans taken by the individuals of this category were most commonly from Banks followed by Informal sources. Furthermore, for most of the loans taken, the application, disbursement and repayment were carried out over the counter.



NUUP

Checking balance and changing PIN



DEBIT CARDS

Withdrawal/Deposit of money, Pays for goods and services for transactions, Checking balance and changing PIN



UP-TO ₹ 5,000

INTERNET BANKING

Transferring money to other bank accounts, Checking balance and changing PIN, Pay TV/Cable/Satellite Bill

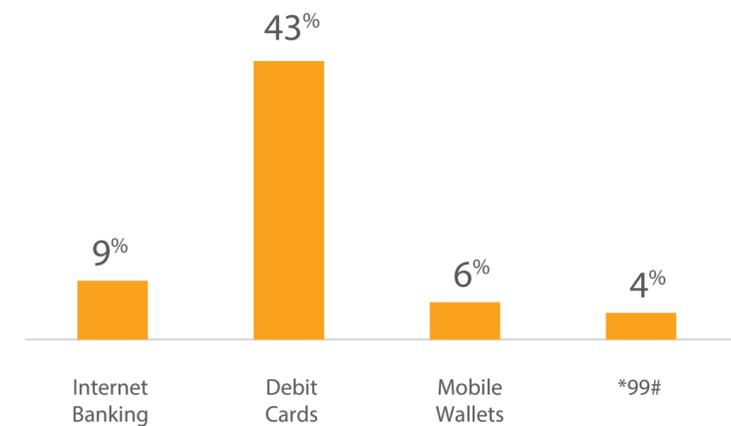


UP-TO ₹ 5,000

MOBILE WALLETS

Withdrawal/Deposit of money, Checking balance, Pay TV/Cable/Satellite Bill as well as the electricity Bill

MOST COMMON USAGE OF DIGITAL PRODUCTS



USE OF DIGITAL PLATFORMS

Know Your Customer



Male, Rural, 18-25 years

OCCUPATION
CATEGORY



USE OF
DIGITAL PRODUCTS



DIGITALIZING
FINANCIAL
BEHAVIOUR



ADDRESSING
THE GAPS



 Most difficult
barriers to address

 Easiest potential
to leverage



DIGITALIZING FINANCIAL BEHAVIOR: ENABLERS

BARRIERS

ACCESS TO FINANCIAL INFRASTRUCTURE



While 83% have bank accounts, around 45% do not own debit cards. 76% do not have an ATM within walking distance while only 54% report having a bank branch within walking distance.

AWARENESS



A lack of awareness in the access and usage of digital platforms like Internet banking and mobile wallets is the most commonly cited reason for the non-usage of these products.

POTENTIAL

LITERACY AND NUMERACY



90% of the men in this group have had some formal schooling with 88% being able to read and write to read or write. Moreover 50% can perform higher order mathematical functions while 13% report either no recognition of numbers or are able to only recognize numbers till 10.

PROPENSITY TO PAY



Men in the age group of 18 to 25 years, living in rural areas, largely use mobile phones and have been doing so for an average of 4.5 years. On average, men reported spending approximately Rs.165 per month on their mobile phone recharges but smartphone users in this group spend 2 times the amount basic phone users spend. All smartphone users report paying for a 2G, 3G or 4G internet service.

DIGITAL LITERACY



While 95% of these men own mobile phones only 41% of these use smartphones. Basic phones are more common for individuals with high income volatility. 42% of those who have basic phones report being able to send SMS messages.



Know Your Customer



Male, Rural, 18-25 years

OCCUPATION
CATEGORY



USE OF
DIGITAL PRODUCTS



DIGITALIZING
FINANCIAL
BEHAVIOUR



ADDRESSING
THE GAPS



ADDRESSING THE GAPS

1. The physical access to financial services is limited for this customer segment. However, given low levels of digital literacy, awareness and training are crucial to begin digital financial inclusion of this segment. These could take the form of group training sessions and handholding through platforms like NUUP and mobile wallets for those who own smartphones.
2. Given that the smartphone users of this segment have relatively high digital literacy and propensity to pay for mobile services, they have the potential of being regular users of mobile wallets and internet banking applications. Better dispersion of knowledge regarding access and usage can help increase the take up of digital products amongst this segment.



It is advantageous for us to use more of digital finance services and we know this, what many don't know is how to operate these services. Something which is common for most households is that the younger members (kids) are the ones knowledgeable about these things. I taught my parents about mobile wallets and now we use it to pay our electricity and television bills.



Know Your Customer



Male, Rural, 26-40 years

OCCUPATION CATEGORY



USE OF DIGITAL PRODUCTS



DIGITALIZING FINANCIAL BEHAVIOUR



ADDRESSING THE GAPS



OCCUPATION CATEGORY



AVERAGE MONTHLY INCOME

₹ 6,776



INCOME VOLATILITY

HIGH

OCCUPATION
Construction or factory workers
Agricultural laborers

₹ 15,208



MEDIUM

Petty shops owners
Agriculture

₹ 10,985



LOW

Private company employees
Government workers



Know Your Customer



Male, Rural, 26-40 years

OCCUPATION CATEGORY



USE OF DIGITAL PRODUCTS



DIGITALIZING FINANCIAL BEHAVIOUR



ADDRESSING THE GAPS



USE OF DIGITAL PRODUCTS

Only 44% of the men in the age group of 26-40 years in rural areas report using digital products. Amongst those using digital products, debit card is the most popular service. Mobile wallets and Internet banking services are used predominately by individuals with medium or low income volatility. *99# mobile banking service finds very low usage across all income types. Banks are the main source of credit for individuals of this category. Comparatively, SHGs and MFIs were not as popular. In terms of Informal sources, loans from friends/family/relatives are most common. Furthermore, for most of the loans taken, the application, disbursement and repayment are carried out over the counter.



NUUP

Checking balance and changing PIN



DEBIT CARDS

Checking balance and changing PIN, Pays for goods and services for transactions, Withdrawal/Deposit of money



INTERNET BANKING

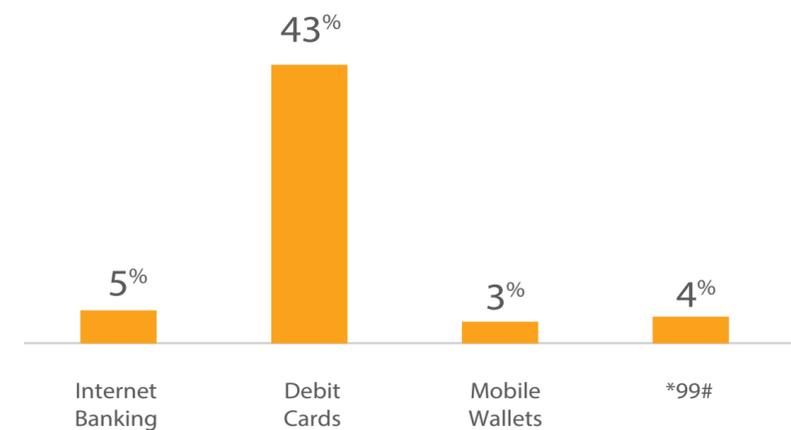
Checking balance and changing PIN, Transferring money to other bank accounts, Pay TV and electricity bills as well as day to day expenses



MOBILE WALLETS

Transferring money to mobile wallets, Checking balance and changing PIN, Pay TV/Cable/Satellite Bill, the electricity Bill as well as day to day expenses

MOST COMMON USAGE OF DIGITAL PRODUCTS



USE OF DIGITAL PLATFORMS

Know Your Customer



Male, Rural, 26-40 years

OCCUPATION
CATEGORY



USE OF
DIGITAL PRODUCTS



DIGITALIZING
FINANCIAL
BEHAVIOUR



ADDRESSING
THE GAPS



 Most difficult
barriers to address

 Easiest potential
to leverage



DIGITALIZING FINANCIAL BEHAVIOR: ENABLERS

Men in rural areas in this age group are relatively more pre-disposed towards the use of various digital platforms and remain an untapped population.

BARRIERS

ACCESS TO FINANCIAL INFRASTRUCTURE



While 96% have bank accounts, around 52% do not own debit cards. 62% don't have an ATM within walking distance while only 48% report having a bank branch within walking distance.

AWARENESS



A lack of awareness in the access and usage of the service is a commonly cited barrier for Internet banking. For mobile wallets, individuals expressed a low degree of knowledge regarding what the service is.

POTENTIAL

LITERACY AND NUMERACY



85% of the men in this group have had some formal schooling with 81% being able to read and write. Moreover 42% can perform higher order mathematical functions while 19% report either no recognition of numbers or are able to only recognize numbers till 10.

DIGITAL LITERACY



94% of these men own mobile phones and 24% use smartphones. Basic phones are more common for individuals with high income volatility. All basic phone users in this segment are comfortable make and receiving calls while there is still room to develop their familiarity with SMSes. Smartphone users are adept at making phone calls and sending SMSes, along with regularly browsing the internet, downloading applications and using social media like Whatsapp and Facebook.

PROPENSITY TO PAY



Men in the age group of 26 to 40 years, living in rural areas, largely use mobile phones and have been doing so for an average of 5 years. On average, men reported spending approximately Rs.146 per month on their mobile phone recharges but smartphone users in this group spend 1.5 times the amount basic phone users spend. All smartphone users report paying for a 2G, 3G or 4G internet service.



Know Your Customer



Male, Rural, 26-40 years

OCCUPATION
CATEGORY



USE OF
DIGITAL PRODUCTS



DIGITALIZING
FINANCIAL
BEHAVIOUR



ADDRESSING
THE GAPS



ADDRESSING THE GAPS

1. Men in rural areas in this age group are relatively more pre-disposed towards the use of various digital platforms and remain an untapped population. Awareness programs to acquaint them with variety of digital platforms, in particular those that use USSD – NUUP, and other private service providers – to reach the customers with high income volatility for basic transactions like transferring money and repayment of loans.
2. The high penetration of bank accounts in this group allows for them to become regular-users of debit cards. To improve the take-up of debit cards, better infrastructure (widespread ATM machines) and increased presence of POS machines amongst vendors would form a crucial first step.
3. Given that the smartphone users of this segment are have relatively high digital literacy and propensity to pay for mobile services, they have the potential of being regular users of mobile wallets and internet banking applications. Better dispersion of knowledge regarding access and usage can help increase the take up of digital products amongst this segment.



Many of us got to know of mobile wallets only after demonetization, so this is still new to us. But I think there are many things which can be done to increase the use of these services in areas like ours: More discussion in the media and in the locality about these services to spread awareness, more ATM machines near our homes, better internet connectivity so that we can always access these services without interruption, more local shopkeepers accepting ATM cards/mobile wallets



Know Your Customer



Male, Rural, 40+ years

OCCUPATION
CATEGORY



USE OF
DIGITAL PRODUCTS



DIGITALIZING
FINANCIAL
BEHAVIOUR



ADDRESSING
THE GAPS



OCCUPATION CATEGORY

AVERAGE
MONTHLY INCOME

₹ 5,898



INCOME VOLATILITY

HIGH

Construction Workers
Agricultural worker

OCCUPATION

₹ 14,378



MEDIUM

Retail/Petty shops
Agricultural Business

₹16,202



LOW

Private company employees
Government workers



Know Your Customer



Male, Rural, 40+ years

OCCUPATION CATEGORY



USE OF DIGITAL PRODUCTS



DIGITALIZING FINANCIAL BEHAVIOUR



ADDRESSING THE GAPS



USE OF DIGITAL PRODUCTS

32% of this group uses at least one digital financial product. This fraction is higher for the low income volatility group; 51% of the group reports using a financial instrument. This is comparatively higher than 17% of middle income volatility and 31% of high income volatility groups that use digital services. Of the digital products the use of debit cards remains pre-dominant as other digital services report limited usage.



NUUP

Checking account details, Changing PIN



DEBIT CARDS

Withdraw & Deposit Money, Checking balance, Changing PIN



INTERNET BANKING

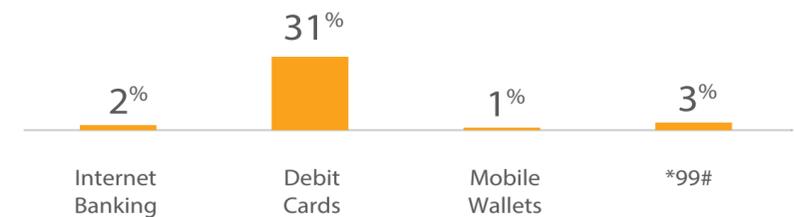
Checking account details, Transferring money to other bank accounts



MOBILE WALLETS

Transferring money to other mobile wallets, Withdraw & Deposit Money

MOST COMMON USAGE OF DIGITAL PRODUCTS



USE OF DIGITAL PLATFORMS

Know Your Customer



Male, Rural, 40+ years

OCCUPATION CATEGORY

USE OF DIGITAL PRODUCTS

DIGITALIZING FINANCIAL BEHAVIOUR

ADDRESSING THE GAPS

Most difficult barriers to address

Easiest potential to leverage



DIGITALIZING FINANCIAL BEHAVIOR: ENABLERS

BARRIERS

PREFERENCE FOR CASH

This population group is characterized by a high dependence on cash for most of their transactions. This can also be seen from the preference for over the counter transactions while applying, taking out and repaying loans.

DIGITAL LITERACY

9 out of 10 consumers in this segment have mobile phones with basic phones (66%) being the most common phone type. Apart from making/receiving calls the men in this group are not comfortable with using offline/online functions on their phones/computers. Lack of knowledge poses as a barrier preventing them from using internet banking and mobile wallet services.

ACCESS TO FINANCIAL INFRASTRUCTURE

While 98% of the consumers in this segment have bank accounts and 66% own debit cards, 40% report an ATM machine being within walking distance and only 36% have a bank branch within walking distance.

POTENTIAL

EDUCATION AND LITERACY

80% of this segment has attended formal schooling and 79% are able to read and write. Furthermore, 36% can perform higher order mathematical functions, 18% can perform multiplication and a further 21% add and subtract.

PROPENSITY TO PAY

Despite the low digital literacy, members in this group have high propensity to pay for mobile services. Moreover, consumers have on average owned mobile phones since 5 years and spend INR 117 per month on mobile services (Basic phone users – INR 100, Smartphone users – INR 221). Finally, 80% of smartphone owners report a monthly expense towards availing mobile internet services.



Know Your Customer



Male, Rural, 40+ years

OCCUPATION
CATEGORY



USE OF
DIGITAL PRODUCTS



DIGITALIZING
FINANCIAL
BEHAVIOUR



ADDRESSING
THE GAPS



ADDRESSING THE GAPS

1. As indicated by the low level of digital literacy, there is a need to generate more awareness regarding the digital financial services amongst this segment. Toward this end, given the high level of literacy and numeracy levels in this population group, a simplified interface for internet based digital platforms can help reduce unfamiliarity of consumers with such applications and allow them to easily learn and use these financial products.
2. While debit cards are the most commonly used digital product, take up and usage of these products still shows room for growth. Increasing the acceptance of POS machines among local vendors, ensuring bank account holders have debit cards and are informed of its various functionalities are some of the measures that can be taken to improve the usage of this product.



Being able to send money to others via the internet is very useful, I personally use Internet banking and mobile wallets to send money to my son who is pursuing college in another state. However there are still a lot of people who have yet to use these services: Lack of awareness and unstable connection to mobile networks are two of the major reasons why people in our village don't start using these services more."



Know Your Customer



Female, Urban, 18-25 years

OCCUPATION
CATEGORY



USE OF
DIGITAL PRODUCTS



DIGITALIZING
FINANCIAL
BEHAVIOUR



ADDRESSING
THE GAPS



OCCUPATION CATEGORY

AVERAGE
MONTHLY INCOME

₹ 4,635



INCOME VOLATILITY

HIGH

OCCUPATION

Construction workers

₹ 6,950



MEDIUM

Retail/petty shop

₹ 10,107



LOW

Private company employees,
Domestic/Household Worker



Know Your Customer



Female, Urban, 18-25 years

OCCUPATION CATEGORY



USE OF DIGITAL PRODUCTS



DIGITALIZING FINANCIAL BEHAVIOUR

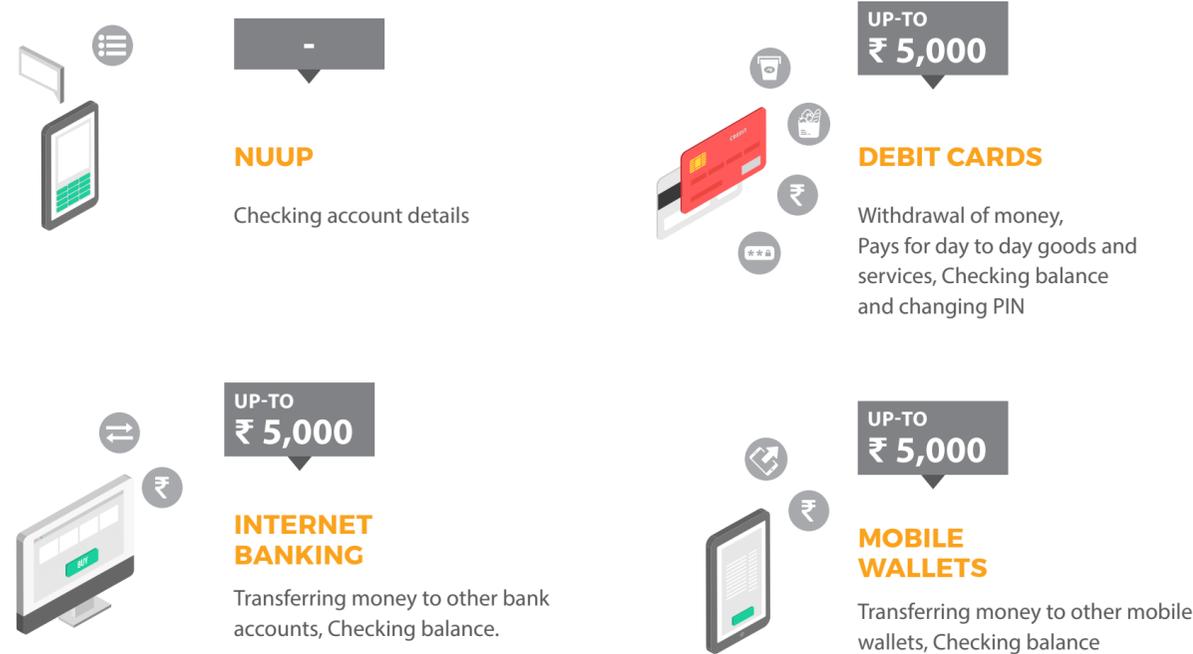


ADDRESSING THE GAPS

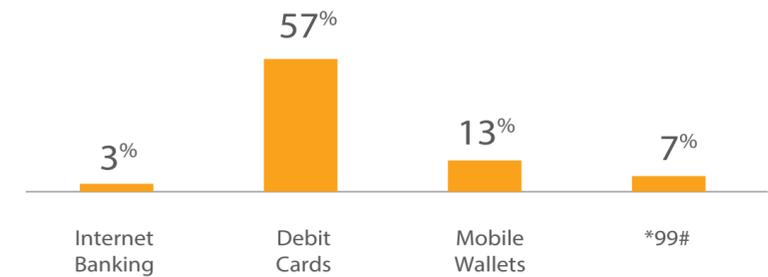


USE OF DIGITAL PRODUCTS

57% of this segment reports using at least one digital financial product. Individuals with low income volatility predominantly report use of digital products while individuals with medium/high income volatility report only marginal usage. Among the products available – debit cards are the most popular, followed by mobile wallets, the relatively lesser known*99# mobile banking feature also finds some users in this group.



MOST COMMON USAGE OF DIGITAL PRODUCTS



USE OF DIGITAL PLATFORMS

Know Your Customer



Female, Urban, 18-25 years

OCCUPATION
CATEGORY



USE OF
DIGITAL PRODUCTS



DIGITALIZING
FINANCIAL
BEHAVIOUR



ADDRESSING
THE GAPS



 Most difficult
barriers to address

 Easiest potential
to leverage



DIGITALIZING FINANCIAL BEHAVIOR: ENABLERS

BARRIERS

PREFERENCE FOR CASH



This segment conducts most of their transactions via cash, in fact 4 out of 10 individuals in this group report only using cash for transactions. Even among ATM card users reported by this group, cash withdrawal is the most common feature used.

AWARENESS



43% of the consumers in this segment do not use any digital platforms. The use of digital platforms is particularly low for women with medium/high income volatility. Individuals in this segment are largely unwilling to take up digital platforms as there is a lack of knowledge regarding usage and features of mobile wallets, internet banking and *99#.

POTENTIAL

ACCESS TO FINANCIAL INFRASTRUCTURE



95% of this segment has bank accounts and 63% own debit cards. 85% report an ATM machine being within walking distance while 83% have a bank branch within walking distance.

PROPENSITY TO PAY



A woman in this segment has on average has owned her mobile phone for 4.3 years and spends INR 157 per month on mobile phone recharges.

DIGITAL LITERACY



The use of mobile phones is quite prevalent amongst this population group with 96% of the women being owners of basic or smart phones. Individuals in this group with high/medium income volatility mostly use basic phones as opposed to individuals with low income volatility who mostly use smartphones. While basic phone owners are familiar with making and receiving calls/SMS, there is low familiarity with using the Internet (i.e. browsing, mobile apps, social media etc.)



Know Your Customer



Female, Urban, 18-25 years

OCCUPATION
CATEGORY



USE OF
DIGITAL PRODUCTS



DIGITALIZING
FINANCIAL
BEHAVIOUR



ADDRESSING
THE GAPS



ADDRESSING THE GAPS

1. The high level of digital literacy and mobile usage amongst the smartphone users in this segment indicates a high potential for them to take up the use of mobile wallets and internet banking applications. Women in this group approach shopkeepers in the area for technical assistance on their phones. These outlets, therefore, are important sources for spreading awareness and provide training among the group.
2. Given the low literacy and numeracy of consumers with high income volatility along with the fact that most of them have bank accounts and have bank branches and ATM machines close to them; encouraging the use of debit cards amongst this group and providing information on the additional functionality of debit cards should help increase the usage of this service. Moreover, given the high ownership rates of basic phones and the familiarity with SMS suggests that the *99# mobile banking service would be a good fit for these consumers.



Know Your Customer



Female, Urban, 26-40 years

OCCUPATION
CATEGORY



USE OF
DIGITAL PRODUCTS



DIGITALIZING
FINANCIAL
BEHAVIOUR



ADDRESSING
THE GAPS



OCCUPATION CATEGORY

AVERAGE
MONTHLY INCOME

₹ 3,086



INCOME VOLATILITY

HIGH

Agricultural laborers

OCCUPATION

₹ 4,442



MEDIUM

Agriculture, animal husbandry
Tailor shops

₹ 9,635



LOW

Government workers
Private company employees



Know Your Customer



Female, Urban, 26-40 years

OCCUPATION CATEGORY



USE OF DIGITAL PRODUCTS



DIGITALIZING FINANCIAL BEHAVIOUR

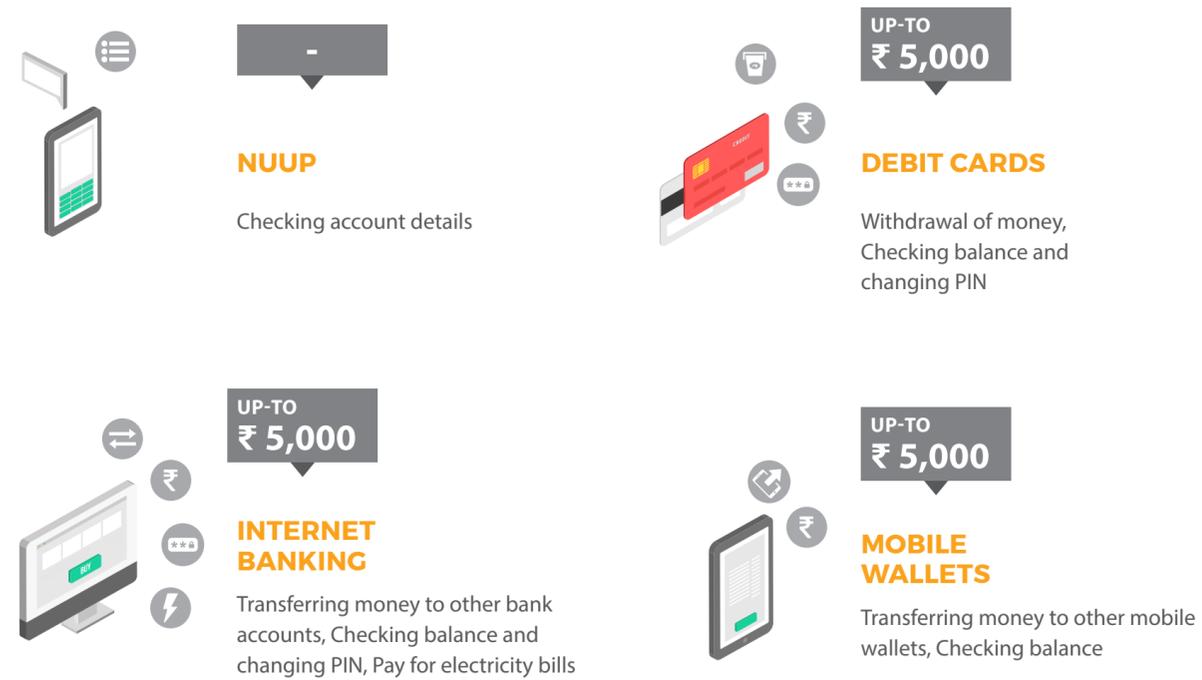


ADDRESSING THE GAPS

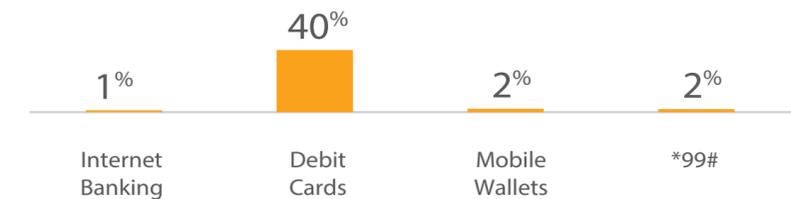


USE OF DIGITAL PRODUCTS

60% of this group do not use any digital financial product. Among those who do - debit cards are the most common. Rural women in this group report taking loans largely from banks and microfinance institutions. These loans are mostly disbursed to them either over the counter at branches, or at SHG meetings or directly from their informal sources and even repayments are only done in cash.



MOST COMMON USAGE OF DIGITAL PRODUCTS



USE OF DIGITAL PLATFORMS

Know Your Customer



Female, Urban, 26-40 years

OCCUPATION
CATEGORY



USE OF
DIGITAL PRODUCTS



DIGITALIZING
FINANCIAL
BEHAVIOUR



ADDRESSING
THE GAPS



 Most difficult
barriers to address

 Easiest potential
to leverage



DIGITALIZING FINANCIAL BEHAVIOR: ENABLERS

BARRIERS

LITERACY AND NUMERACY



37% of the women in this group have no formal schooling and 41% are unable to read or write. Moreover, 23% do not recognize any numbers and 16% can recognize numbers up till 10. Those without basic numerical recognition are unable to access debit cards at ATM.

DIGITAL LITERACY



91% of this segment has mobile phones, mainly basic phones. While women in this group are largely able to make and receive phone calls, only 43% can send SMS messages indicating some room to grow in terms of basic phone capability for this group. The familiarity with internet based application is low in this group, even among smartphone users only 20% are comfortable downloading applications and browsing the internet.

POTENTIAL

ACCESS TO FINANCIAL INFRASTRUCTURE



While 95% have bank accounts, around 50% do not own debit cards. 85% report an ATM machine being within walking distance while 83% have a bank branch within walking distance.

PROPENSITY TO PAY



Women have on average used mobile phones for 3.9 years and spend INR 126 a month on mobile phone recharges. While basic phone owners spend an average of INR114 per month, those with smartphones spend INR 217 per month. 7 out of 10 smartphone users spend on internet monthly as compared to only 4% of feature phone users.



Know Your Customer



Female, Urban, 26-40 years

OCCUPATION
CATEGORY



USE OF
DIGITAL PRODUCTS



DIGITALIZING
FINANCIAL
BEHAVIOUR



ADDRESSING
THE GAPS



ADDRESSING THE GAPS

1. Given the low digital literacy and smartphone ownership in this segment, smartphone dependent digital platforms like mobile wallets or Internet banking applications would be a difficult first step. Instead, the high penetration of basic phones and mobile use can be leveraged to promote the *99# mobile banking service. Toward encouraging usage of *99#, awareness would be a pivotal first step which using channels frequented by these women, i.e local shops, SHGs seem as promising places to disseminate information.
2. Although this segment might be slower in adopting digital services, as these women have greater access to savings and credit, customizing training and products to match their money usage patterns will help in including them digitally.



Know Your Customer



Female, Urban, 40+ years

OCCUPATION CATEGORY



USE OF DIGITAL PRODUCTS



DIGITALIZING FINANCIAL BEHAVIOUR



ADDRESSING THE GAPS



OCCUPATION CATEGORY

AVERAGE MONTHLY INCOME

₹ 5,050



INCOME VOLATILITY

HIGH

Construction Workers

OCCUPATION

₹ 8,691



MEDIUM

Retail/Petty Shop
Fruit/Vegetable Vendor

₹ 8,397



LOW

Domestic/Household worker
Private company employees



Know Your Customer



Female, Urban, 40+ years

OCCUPATION CATEGORY



USE OF DIGITAL PRODUCTS



DIGITALIZING FINANCIAL BEHAVIOUR



ADDRESSING THE GAPS



USE OF DIGITAL PRODUCTS

65% of this group does not use digital financial products. For the other 35%, debit cards are the most preferred. Individuals with lower income volatility occupations predominantly use digital products. Women in this group report taking loans largely from banks followed by informal sources (moneylender, friends & relatives). These loans for the most part, are disbursed to them either over the counter at branches, or at SHG meetings or directly from their informal sources and even repayments are only done in cash.



NUUP

Checking account details, Changing PIN



DEBIT CARDS

Withdraw & Deposit Money, Checking balance, Changing PIN, Pay for day to day goods/ services



INTERNET BANKING

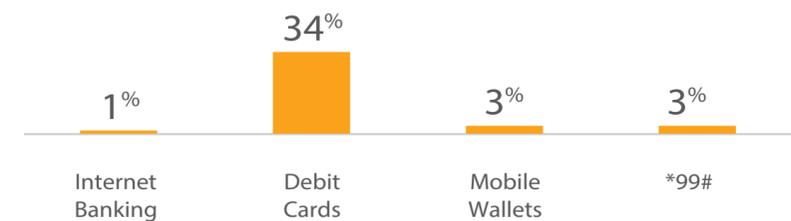
Checking account details, Transferring money to other bank accounts



MOBILE WALLETS

Transferring money to other mobile wallets, Withdraw & Deposit Money

MOST COMMON USAGE OF DIGITAL PRODUCTS



USE OF DIGITAL PLATFORMS

Know Your Customer



Female, Urban, 40+ years

OCCUPATION
CATEGORY



USE OF
DIGITAL PRODUCTS



DIGITALIZING
FINANCIAL
BEHAVIOUR



ADDRESSING
THE GAPS



 Most difficult
barriers to address

 Easiest potential
to leverage



DIGITALIZING FINANCIAL BEHAVIOR: ENABLERS

BARRIERS

LITERACY AND NUMERACY



49% of the women in this group have no formal schooling and 50% are unable to read or write. Moreover, 26% do not recognize any numbers and 17% can recognize numbers only up till 10. Those without basic numerical recognition are unable to even access debit cards at ATM.

DIGITAL LITERACY



This group is largely likely to own basic phones (75%), across all income volatility groups. While this segment is largely able to make and receive phone calls, only 28% can send SMS messages. However, smartphone users (10% of the group), are more comfortable downloading applications, browsing the internet and using social media. The primary reason this segment does not use any digital platforms is the lack of knowledge on usage of these applications.

AWARENESS



Individuals who do not use mobile wallets, internet banking and *99#, are either not aware of the product or lack user knowledge.

POTENTIAL

PROPENSITY TO PAY



This segment has been using mobile phones for 5 years on average and spend INR 125 per month on mobile phone recharges.

ACCESS TO FINANCIAL INFRASTRUCTURE



While 96% have bank accounts, only 44% own debit cards. 91% report having access to an ATM within walking distance while 89% report having a bank branch within walking distance.



Know Your Customer



Female, Urban, 40+ years

OCCUPATION
CATEGORY



USE OF
DIGITAL PRODUCTS



DIGITALIZING
FINANCIAL
BEHAVIOUR



ADDRESSING
THE GAPS



ADDRESSING THE GAPS

1. This segment would also respond mildly to the typical digital platforms. It is important to identify the nature of the transactions they do. Also, for this demographic, focusing on ease of use, similarity with cash in terms of transferability, and liquidity, is needed to include them digitally.
2. This demographic also has the ability to transfer learnings to other members of the household. Spreading awareness and demonstrating the outcomes of using digital platforms can inspire them and in turn, the household to transact digitally.



Cash can be used in all transactions as opposed to digital services which small to medium scale vendors may not accept. Moreover I have a basic phone which prevents me from using the mobile based digital services.



Know Your Customer



Male, Urban, 18-25 years

OCCUPATION CATEGORY



USE OF DIGITAL PRODUCTS



DIGITALIZING FINANCIAL BEHAVIOUR



ADDRESSING THE GAPS



OCCUPATION CATEGORY

AVERAGE MONTHLY INCOME

₹ 8,421



INCOME VOLATILITY

HIGH

Construction workers
Drivers, barbers

OCCUPATION

₹ 11,642



MEDIUM

Petty shop owners
Workers

₹ 11,480



LOW

Private company employees
Government employees



Know Your Customer



Male, Urban, 18-25 years

OCCUPATION CATEGORY



USE OF DIGITAL PRODUCTS



DIGITALIZING FINANCIAL BEHAVIOUR



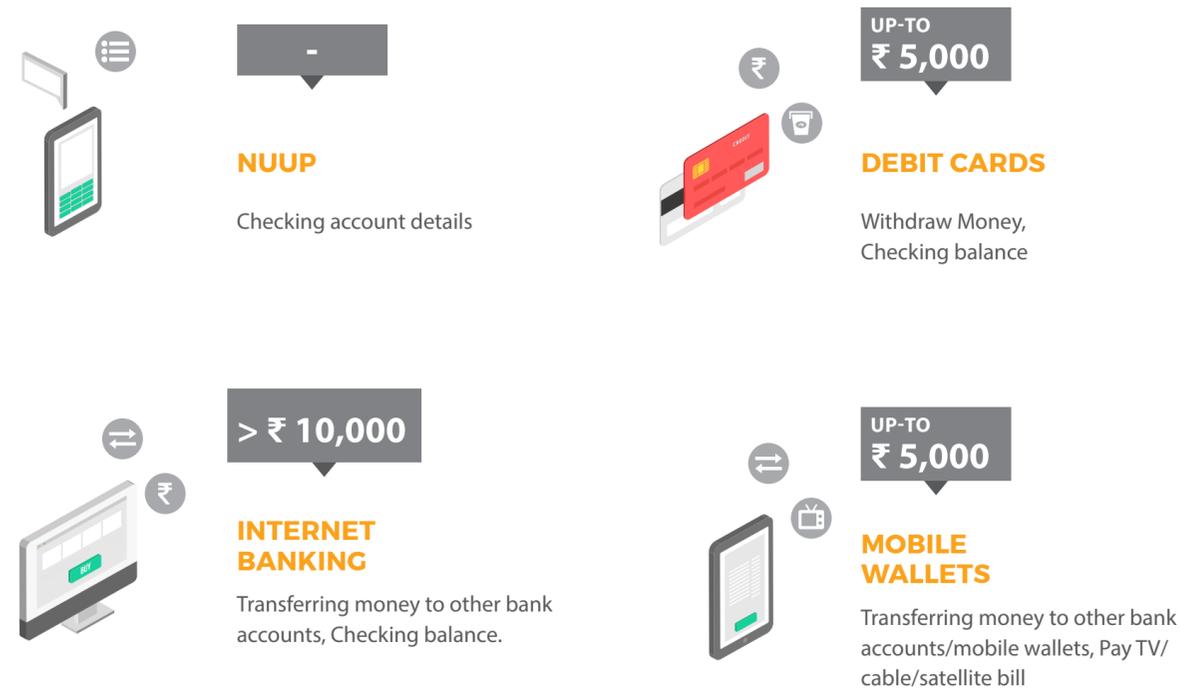
ADDRESSING THE GAPS



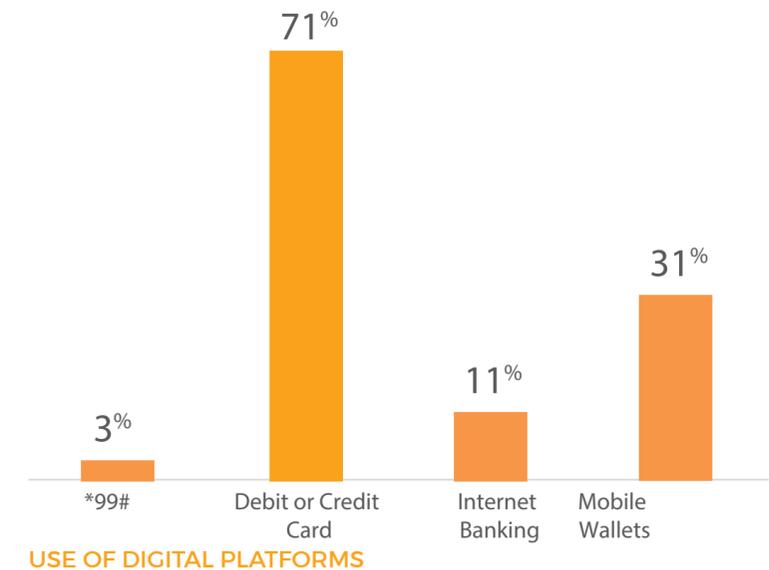
USE OF DIGITAL PRODUCTS

Individuals with low income volatility use one or more of all the digital platforms, however, those with highly volatile income, rely solely on the use of debit cards.

Debit cards are the most commonly used mode for banking transactions. However, they are primarily used to withdraw money from the ATMs, and only marginally for payment of utility bills. However, with mobile wallets, the users are able to execute transactions to transfer funds, pay vendors and other utility bills. Almost half of the outstanding credit in this segment was taken from informal sources.



MOST COMMON USAGE OF DIGITAL PRODUCTS



Know Your Customer



Male, Urban, 18-25 years

OCCUPATION
CATEGORY



USE OF
DIGITAL PRODUCTS



DIGITALIZING
FINANCIAL
BEHAVIOUR



ADDRESSING
THE GAPS



 Most difficult to address

 Easiest to Leverage



DIGITALIZING FINANCIAL BEHAVIOR: ENABLERS

BARRIERS

PREFERENCE FOR CASH



This segment both receives and spends in cash; even ATM cards are predominantly used for withdrawing money. Borrowers of formal and informal credit also report cash as their preferred mode of repayment. Thus, transitioning this segment to digital platforms poses a challenge.

POTENTIAL

ACCESS TO FINANCIAL INFRASTRUCTURE



95% of individuals have a bank account and for 93% of them an ATM is within walking distance. This Infrastructural advantage, in terms of access to both digital and financial assets, and knowledge of usage, makes this segment of consumers a viable segment to target for various digital solutions.

DIGITAL LITERACY



93% have mobile phones, 63% of which are smartphones. This segment is able to make/ receive calls, SMS, browse the Internet, and use social media. Within this segment, individuals with high income volatility have low familiarity with online functionality of phones.

PROPENSITY TO PAY



This potential is further cemented by the high propensity to pay observed amongst this group with basic and smart phone owners spending INR168 and INR 245 respectively, per month on mobile services. Additionally, 8 out of 10 smartphone users report spending on internet services every month. While access to digital assets is high, there is potential for greater penetration of financial services.

Know Your Customer



Male, Urban, 18-25 years

OCCUPATION
CATEGORY



USE OF
DIGITAL PRODUCTS



DIGITALIZING
FINANCIAL
BEHAVIOUR



ADDRESSING
THE GAPS



ADDRESSING THE GAPS

1. Consumers with medium income volatility, such as small business owners, in this segment report usage of mobile wallets to facilitate payments with buyers and vendors. This presents an opportunity to use the digital footprint of these customers to capture their financial behavior and history to customize products.
2. The customers with high income volatility tend to be more inclined to the use of debit cards as compared to mobile wallets. Various technology service providers are developing solutions that imitate the user interface of debit cards for disbursement of credit and repayment of monthly instalments. Customization of such solutions for different financial service providers, adoption of such solutions and their effective promotion can be used to make a headway toward inclusion of this segment.



I feel that it is only a matter of time before the use of Mobile wallets, Internet Banking is more widespread. For example: 20 years ago not many people were using ATM cards whereas these days most people use it. The same thing will happen with the internet and mobile based services



Know Your Customer



Male, Urban, 26-40 years

OCCUPATION CATEGORY



USE OF DIGITAL PRODUCTS



DIGITALIZING FINANCIAL BEHAVIOUR



ADDRESSING THE GAPS



OCCUPATION CATEGORY

AVERAGE MONTHLY INCOME

₹ 9,560



INCOME VOLATILITY

HIGH

Construction Workers
Drivers, Factory Workers

OCCUPATION

₹ 12,613



MEDIUM

Petty shop owners
Fruit/Vegetable vendor,
cycle/auto-repair shop

₹ 13,591



LOW

Private company employees
Government employees



Know Your Customer



Male, Urban, 26-40 years

OCCUPATION CATEGORY



USE OF DIGITAL PRODUCTS



DIGITALIZING FINANCIAL BEHAVIOUR



ADDRESSING THE GAPS



USE OF DIGITAL PRODUCTS

Debit card usage is highly prevalent amongst all income groups, however, the split is not so even for Internet banking, mobile wallets and *99#; usage of the latter is mainly concentrated amongst low and medium volatile groups.

Debit cards are primarily used to withdraw and deposit money at the ATM and at times to pay for day-to-day goods and services. The main use of Internet banking is to transfer funds to other bank accounts. The usage of mobile wallets is most varied, with users conducting transactions to transfer funds, as well as payment to vendors and other utility bills.



NUUP

Checking account details



DEBIT CARDS

Withdraw/Deposit Money, Checking balance, Changing PIN, Pay for day to day goods/services



INTERNET BANKING

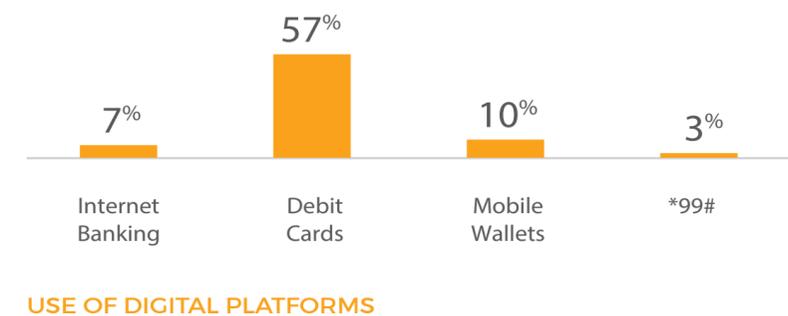
Transferring money to other bank accounts, Payment of electricity bills



MOBILE WALLETS

Transferring money to other bank accounts/mobile wallets, Pay TV/cable/satellite bills, Pay for day to day goods/services, Pay for medical bills

MOST COMMON USAGE OF DIGITAL PRODUCTS



Know Your Customer



Male, Urban, 26-40 years

OCCUPATION
CATEGORY



USE OF
DIGITAL PRODUCTS



DIGITALIZING
FINANCIAL
BEHAVIOUR



ADDRESSING
THE GAPS



 Most difficult to address

 Easiest to Leverage



DIGITALIZING FINANCIAL BEHAVIOR: ENABLERS

BARRIERS

PREFERENCE FOR CASH



This segment conducts most of their transactions through cash. While a large proportion of this population segment has access to bank accounts, 41% of the existing outstanding loans are from informal sources.

Also, less than 4 % of the transactions/ procedures involving loans from the formal sector (i.e. loan application, disbursement, repayment) happen digitally. Thus, there is room for growth both for the formal sector as a source of credit as well as the adoption of digital solutions for credit products.

AWARENESS



42% of the consumers in this segment report not using any digital platforms, discounting debit cards this becomes 80% of the population. A lack of knowledge with respect to the usage and features of mobile wallet, internet banking and *99# is a common refrain amongst the non-users of digital products. This lack of awareness could be a contributing factor to the unwillingness of people to take up digital platforms.

POTENTIAL

ACCESS TO FINANCIAL INFRASTRUCTURE



97% of this segment has bank accounts, however, a lesser fraction of 63% own debit cards. 91% report an ATM machine within walking distance and 84% have a bank branch within walking distance.

DIGITAL LITERACY



This consumer segment boasts a high penetration of mobile phones with 95% owning one. Basic phone users are proficient in making and receiving calls/ SMS, while the smartphone users are additionally able to browse the Internet, use social media etc.

PROPENSITY TO PAY



This segment also reports high propensity to pay for mobile services; basic phone users on average spending INR 163 per month and smartphone users spending 1.5 times the aforementioned amount.



Know Your Customer



Male, Urban, 26-40 years

OCCUPATION
CATEGORY



USE OF
DIGITAL PRODUCTS



DIGITALIZING
FINANCIAL
BEHAVIOUR



ADDRESSING
THE GAPS



ADDRESSING THE GAPS

1. The high literacy and numeracy of consumers with medium/low income volatility along with their high propensity to pay can be leveraged to encourage take up of mobile wallets and Internet banking among this sub-group. As lack of awareness and unfamiliarity of the usage of these services is a significant limiting factor, dissemination of relevant information about these services (specifically answering the 'how to use' question) by way of advertisements, media campaigns and online out-reach has the possibility of enabling adoption of these services
2. Individuals with high income volatility tend to be more inclined to the use of debit cards as compared to mobile wallets. Increasing the functionality of debit cards to offer more services or using its well recognized interface for other financial services are some ways of facilitating an increased financial inclusion for this sub-group. Finally, given that customers with high income volatility largely use basic phones, the promotion of the *99# services targeting this segment should also contribute to greater use of digital services.



Internet banking and mobile wallets are really helpful, thank to them I can carry out transactions sitting at home at any time. And the cash back offers on the mobile wallets and some debit cards saves me some money.



Know Your Customer



Male, Urban, 40+ years

OCCUPATION
CATEGORY



USE OF
DIGITAL PRODUCTS



DIGITALIZING
FINANCIAL
BEHAVIOUR



ADDRESSING
THE GAPS



OCCUPATION CATEGORY

AVERAGE
MONTHLY INCOME

₹ 9,071



INCOME VOLATILITY

HIGH

Construction Workers
Factory Workers

OCCUPATION

₹ 10,472



MEDIUM

Retail/Petty Shop
Laundry/Ironing services

₹ 26,540



LOW

Private company employees
Government workers



Know Your Customer



Male, Urban, 40+ years

OCCUPATION
CATEGORY



USE OF
DIGITAL PRODUCTS



DIGITALIZING
FINANCIAL
BEHAVIOUR



ADDRESSING
THE GAPS



USE OF DIGITAL PRODUCTS

60% of this group uses at least one digital financial product. However, the use of debit cards remains pre-dominant with the other digital services exhibiting limited usage.



NUUP

Checking account details,
Changing PIN



DEBIT CARDS

Withdraw Money, Checking
balance, Changing PIN, Pay
for day to day goods/services



INTERNET BANKING

Checking account details, Transferring
money to other bank accounts



MOBILE WALLETS

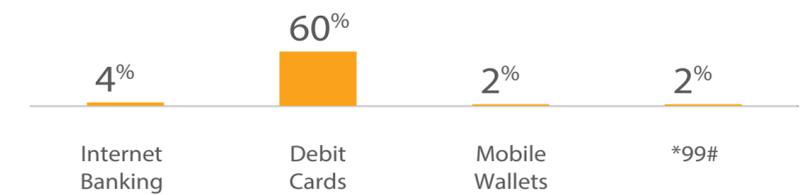
Transferring money to other mobile
wallets, Pay TV/cable/satellite bills

MOST COMMON USAGE OF DIGITAL PRODUCTS

UP-TO
₹ 5,000

₹ 5,000 -
₹ 10,000

UP-TO
₹ 5,000



USE OF DIGITAL PLATFORMS

Know Your Customer



Male, Urban, 40+ years

OCCUPATION
CATEGORY



USE OF
DIGITAL PRODUCTS



DIGITALIZING
FINANCIAL
BEHAVIOUR



ADDRESSING
THE GAPS



 Most difficult to address

 Easiest to Leverage



DIGITALIZING FINANCIAL BEHAVIOR: ENABLERS

BARRIERS

PREFERENCE FOR CASH



This segment is characterized by a high dependence on cash for most of their transactions. The most commonly used digital product – debit cards – is used primarily for cash withdrawals. Less than 10% transactions / processes involving formal sector loans (including loan application, disbursement and repayment) happen digitally.

AWARENESS



Lack of awareness regarding the usage and features of digital financial products can prove to be a challenge for the adoption of digital products. 40% of the consumers in this segment report not using any digital platforms. The most commonly stated reasons for the non-usage of these platforms are 'not knowing the usage' and 'not being aware of the product'.

DIGITAL LITERACY



All individuals in this segment have mobile phones; basic phones (65%) is the most common phone type. This group is comfortable with offline phone functionality like making/receiving calls and SMS. However, the familiarity with the internet and online functionality is quite low even amongst the low income volatility group and smartphone owners. Lack of knowledge on usability of applications is a major barrier; preventing this segment from using Internet banking and mobile wallet services.

POTENTIAL

LITERACY AND NUMERACY



85% of the men in this group have had some formal schooling and 89% are able to read and write. Furthermore, 43% can perform higher order mathematical functions, 16% being able to perform multiplication and a further 27% being able to perform addition and subtraction.

ACCESS TO FINANCIAL INFRASTRUCTURE



All consumers in this segment have bank accounts and 66% own debit cards. 91% report an ATM machine being within walking distance while 84% have a bank branch within walking distance.

PROPENSITY TO PAY



Despite the low digital literacy, this segment has high propensity to pay for mobile services. These customers have owned mobile phones for 5 years on average and spend INR 180 per month (Basic phone users – INR 142, Smartphone users – INR 292). 88% of smartphone owners report a monthly expense towards availing mobile internet services.



Know Your Customer



Male, Urban, 40+ years

OCCUPATION
CATEGORY



USE OF
DIGITAL PRODUCTS



DIGITALIZING
FINANCIAL
BEHAVIOUR



ADDRESSING
THE GAPS



ADDRESSING THE GAPS

1. As older members of the household, people in this segment find it easier to approach younger men / women if transaction become digital beyond use of debit cards. Improving awareness and comfort with technology would require daily hand-holding and awareness sessions for easy to use and retain solutions. Transactions that occur as often as every day, like payments to local vendors, could be a starting point.
2. Toward this end, mobile recharge shops are a prospective node through which information regarding these products can be disseminated.
3. Keeping in mind the high level of literacy and numeracy levels in this group, a simplified interface for the internet based digital platforms can help with the unfamiliarity of the consumers with such applications and allow them to easily learn and use these financial products.



I am quite satisfied with using a combination of cash and ATM cards for my transactions. I am not very familiar with using the internet and mobile applications and hence am hesitant to shift to online services right now. If the need for using an internet based transaction arises, I ask my son to do the task for me.”



Case Study



Digital Financial Services and Migrants

An important motivation behind furthering digital financial inclusion is to extend digital platforms to marginalized and underserved populations. Migrants that move across state borders in search of better socioeconomic outcomes frequently engage with the remittance market, relying on traditional cash and carry methods or money order services to send money back to their families. This gives rise to a large potential market for digital remittance-based products.

Profile of Migrants

- Location: From Rajasthan: Dungarpur, Banswara, and Udaipur, To: Gujarat, Ahmedabad
- Occupations: Labourers in construction sites, domestic cooks, hotel staff, sweepers, caterers
- Gender: Male
- Duration: Average 8 years
- Commonly used methods for remittance: Physical cash and carry through self or others, followed by physical bank transfer

Challenges of traditional remittance products, as stated by migrants:

- Dependence on self or others to travel to village
- Fees paid to middlemen
- Danger of cash and carry
- Psychological stress associated with cash and carry
- Lack of timely delivery
- Slow response to emergency

Although there is a large potential for take up of digital financial services (as evidenced by the last two challenges) to make remittances back home, only 3% of the migrant population interviewed uses mobile transfers through mobile banking or mobile wallets to send remittances. The main reasons for lack of take up of digital platforms include lack of smartphone usage, reduced familiarity with technology, reduced literacy, and a perception that digital platforms are expensive. However, there remain several factors

that signal the potential success of digital remittance methods:

- Nearly 8 out of every 10 migrants expressed high willingness to learn and adopt digital products given easy access inexpensive to use.
- Transactional safety and quick transfers are the main perceived advantages of shifting to digital platforms.
- Mobile money platforms that do not require KYC for smaller transfers could uniquely benefit members of this community who often do not have proof of permanent residence as a result of migration.

Whilst focusing on digitalizing payments for this section, an important consideration is the need to digitalize payments for the entire ecosystem they operate in, i.e. it is not only important to on-board migrants to use digital platforms but on-board and train recipient households as well.

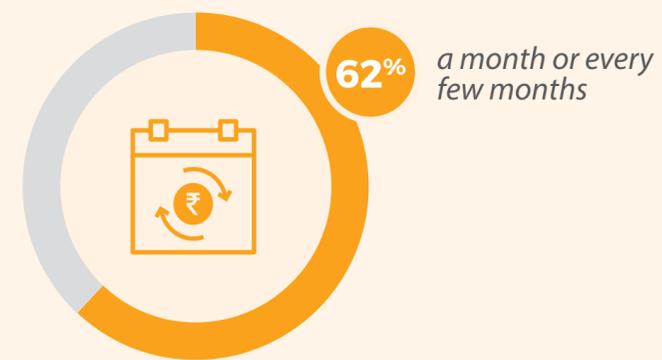
Case Study



Digital Financial Services and Migrants

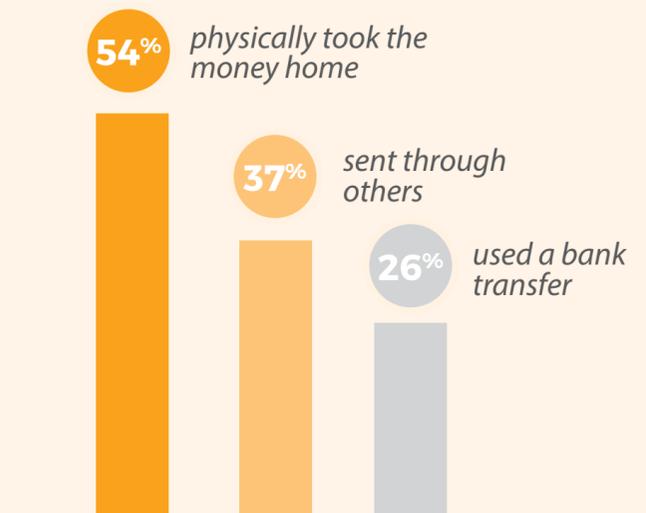


A third of all respondents did not have a bank account, while the rest reported, either in their home state or in the work state, or both.



Frequency of remitting money home

Most respondents (62%) reported a frequency of remittance of a month or every few months, while a few reported that they send money weekly or multiple times a month. A small proportion remits once or twice a year.



Mode of remitting money

The most popular mode of remittance is physically taking money home, as reported by 54%, followed by bank transfer (26%) and sending it with someone going to the village (19%). Sending money with friends and relatives was reported as a frequently used method by 18% of all respondents, while only 3% reported having used mobile transfers.

Case Study



Digital Financial Services and Plantation Workers

PLANTATION WORKERS

Profile:

- Male and female workers
- Poor literacy rate (under 5th standard)
- Very basic / rudimentary understanding of the formal banking system
- Lack of familiarity with banking services, even simple interactions such as using an ATM card for withdrawals appear to be a serious challenge

Findings:

- Even post-demonetization, account ownership is not universal (as required by law for plantation workers).
- Very low rates of debit card ownership, and usage rates are close to zero.

- Currently, workers have to go to the bank to withdraw their salaries (process takes half a day), for which they required to take leave.
- No understanding of digital platforms for financial services.
- Major barriers include low levels of awareness and comfort, and very poor infrastructure in terms of Internet availability.
- Clear differences in terms of perceptions, comfort and attitude are apparent between male and female workers.
- Scope for training interventions, as respondents indicated a willingness to learn and start using basic formal banking services at the very least, as well as offline platforms such as *99#.

Case Study



Digital Financial Services and Plantation Workers

PLANTATION SUPERVISORS

Profile:

- Male
- Literacy: 10th standard/12th standard
- Basic understanding of the formal banking system
- Familiar with debit cards, ATM withdrawals, POS transactions, and cheque; no difficulty understanding financial statements.
- Smartphone ownership is fairly prevalent (7/10)

Findings:

- Insufficient knowledge regarding DFS, online banking etc.
- Despite having mobile phones, zero reported usage of mobile banking/ Internet banking etc.
- Willingness to learn more about DFS, online banking and mobile banking
- Benefits of DFS are apparent to half the respondents – savings in terms of time, costs, and the value of DFS in building credit history
- Concerns regarding the safety of DFS/ online transactions – hidden charges etc.
- Awareness camps and training are required to increase usage of DFS that can then transcend down the hierarchy to plantation workers.

LOCAL KIRANA STORE:

- Familiar with digital payment options (POS device, Debit/Credit card, Net banking)
- Had PoS machine, cancelled due to “hidden charges”, poor usage
- Supplier payments - online payments
- Customers are not aware of DFS/ prefer to transact in cash; as a result, kirana stores are forced to use cash

Serving the Underserved: India's Digital Infrastructure

Serving the Underserved: India's Digital Infrastructure

What infrastructure is available to technology solution providers?

India was ranked 3rd in the Global Microscope Survey 2016⁵⁹ for nurturing an environment that enables financial inclusion. With the government's efforts of driving an increase in the ownership of bank accounts, RBI licensing payment banks, the availability of technological infrastructure such as India Stack and the more recent demonetization of certain currency denominations, consumers are being highly incentivized to switch to digital financial transactions.

Enabling this switch is the telecommunication and technological network in the country:

1. **United Payments Interface (UPI):** A system that powers multiple bank accounts into a single mobile application (of any participating bank), merging several banking features and merchant payments into one hood.

2. **Aadhaar Enabled Payment System (AEPS)** is a bank led model that allows online interoperable financial transactions at PoS (MicroATM) through a business correspondent of any bank that uses Aadhaar authentication.

3. **Immediate Payment Service (IMPS):** Offers an instant, 24X7, interbank electronic fund transfer service through mobile phones or internet banking or ATMs.

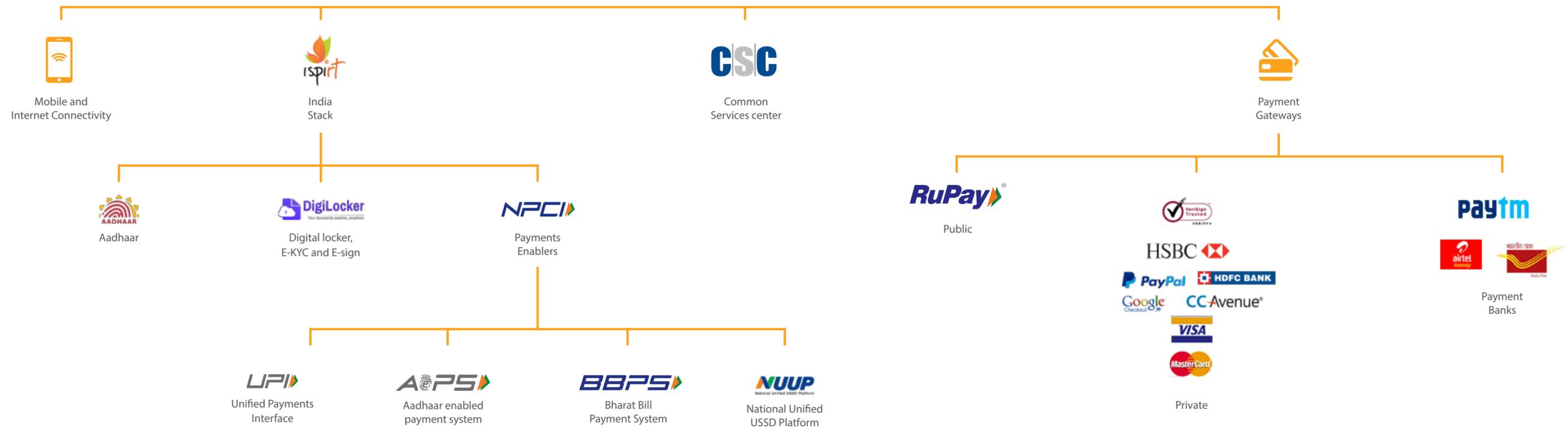
4. **National Automated Clearing House (NACH)** is a product for Banks, Financial Institutions, Corporates and Government. It is a web-based solution that facilitates interbank, high volume, electronic transactions which are repetitive and periodic in nature.

5. **RuPay:** a new card payment scheme conceived to offer a domestic, open-loop, multilateral system which will allow all Indian banks and financial institutions in India to participate in electronic payments.

⁵⁹ Global Microscope Survey 2016, The Economist



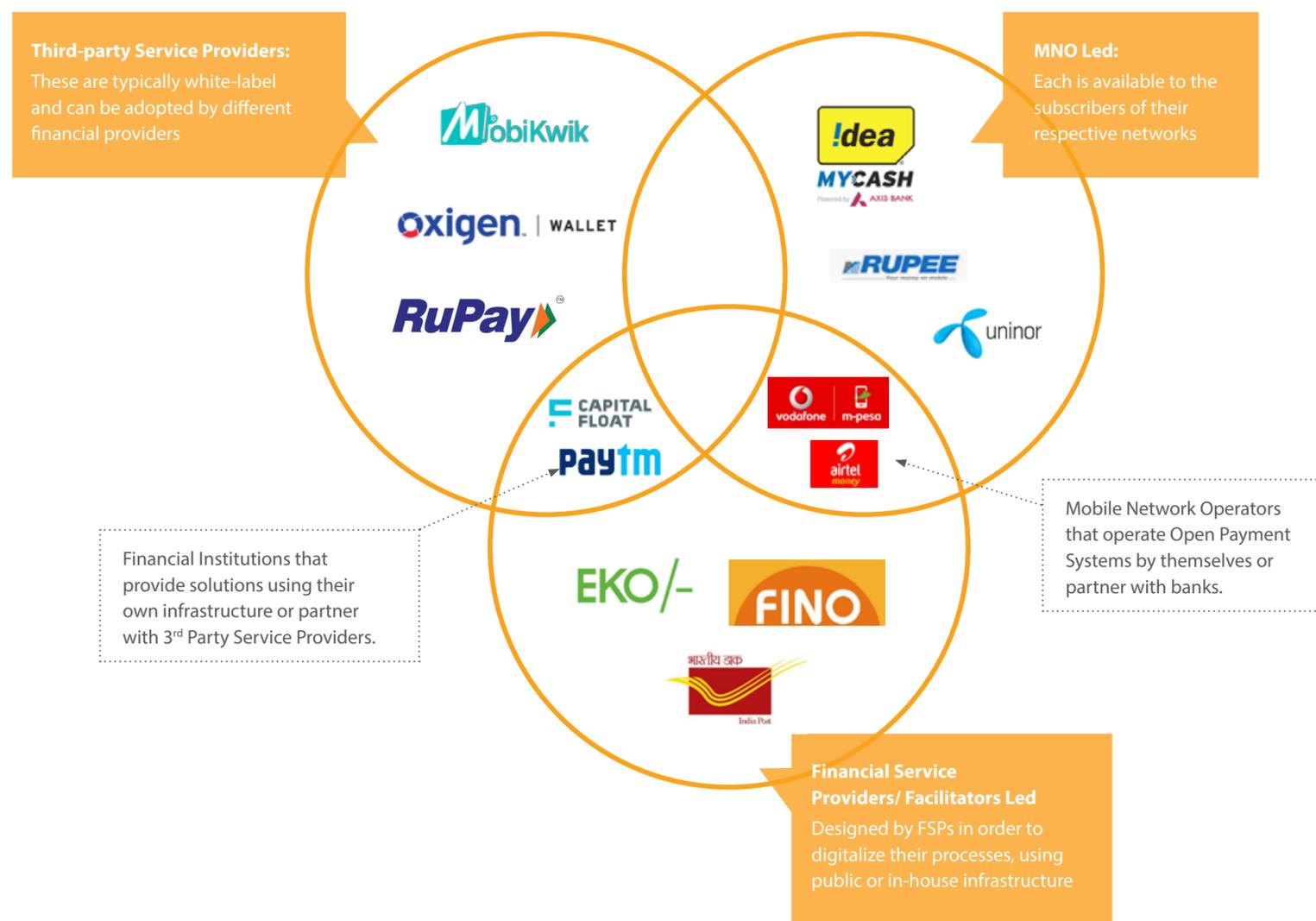
Serving the Underserved: India's Digital Infrastructure



Serving the Underserved: India's Digital Infrastructure

India has 1.18 billion telephone subscribers, 97% of who have wireless connections.⁶⁰ Aadhaar cards are now owned by nearly 99% of the adult population. This network has motivated the digital payment system. The Aadhaar bridge payment system has generated 826 million total transactions since January 2016.⁶¹ There are 63%⁶² Indians who have bank accounts that can be accessed through basic feature-phones which have been provided the National Unified USSD Platform (NUUP) promoted by the National Payments Corporation of India (NPCI).

This platform is interoperable and works without internet connectivity. Furthermore, with 29 banks creating applications using the United Payment Interface (UPI), person-to-person payments, bank transfers, utility payments and payments to businesses, can now be made using smartphones. These are the few technology solutions that host basic financial transactions. Both private and public players have begun collaborating, and co-creating innovative solutions to bring financial services to consumers. They come together as digital solution providers, enabling digitalization of one or more financial service – payments, credit, savings, insurance or investment and can be classified as shown.



TYPES OF DIGITAL SERVICE PROVIDERS

⁶⁰ Telecom Regulatory Authority of India, Feb 2017

⁶¹ ABPS analytics 2016-2017, Aadhaar Payment Bridge System, National Payments Corporation of India Website

⁶² Financial Inclusion Insight Survey 2016, Intermedia

Serving the Underserved: India's Digital Infrastructure

Developments in the Financial Technology Space

Enabled by the supporting infrastructure environment and the high penetration of smartphone use, it has been forecasted that the Indian FinTech software market would be worth USD 2.4 billion by 2020 as compared to a current USD 1.2 billion (as per NASSCOM). Furthermore, the growth of technology services within the financial services space is being seen to be driven by innovation and collaboration.

Many recent innovations developed by technology solution providers, work toward improving the efficiency of financial service organizations. Additionally, they present the possibility of reducing transactions costs in providing financial access to the vast unbanked low-income population of the country. Some of the most notable developments include semi-closed e-wallets, providing digital remittance services to the low income segment (e.g. Eko Mobile Wallet); alternate models to assess the creditworthiness of individuals using their mobile transaction data, credit or debit history and even

social media (e.g. Fintech Labs); messaging services like Wechat, Hike and WhatsApp which have begun incorporating support for United Payments Interface in their products;⁶³ integrated solutions using e-KYC, Aadhaar enabled payments etc. to channel core banking operations through a third party interface (e.g. 'Bank in a Box' services by Shivalik Co-operative Bank and Yes Bank);⁶⁴ solutions to reduce the turn-around-time for loan processing and disbursement by using the QR code in Aadhaar cards to extract the details of the applicants and initiate the on-boarding process; and applications built on the Unified Payment Interface (UPI) which are being designed to facilitate bulk wage payments to laborers and contract workers.

⁶³ Gooptu, D. (2017, July 25). India set to offer Whatsapp mobile payments soon. Retrieved from <https://www.enterpriseinnovation.net/article/india-set-whatsapp-mobile-payments-soon-563364497>

⁶⁴ Kong, A. (2016, December 26). The State of FinTech in India. Retrieved from <https://yostartups.com/the-state-of-fintech-in-india/>



Case Study



Goods on Credit

Second only to cash transactions, as many as 20% of micro-merchants use extension of credit as their primary transaction method with suppliers as well as customers. 80% of merchants report over 10% of monthly transactions with suppliers is taken on credit and 65% report the same for customer interactions. The typical credit period is more than one week for over 75% of supplier and customer interactions. The formality of credit extension differs between suppliers and customers; largely, merchants rely on signing of a promissory note whilst taking goods on credit from suppliers, whereas, whilst extending goods on credit to customers, a simple note in their inventory books is deemed sufficient.

With the recent advent of digital financial services, merchants face a challenge in incorporating this credit extension mechanism in the digital modes they experiment with, such as mobile wallets and QR codes. To make service delivery more holistic, innovations in product design could incorporate this feature; we collected insights from merchants

to understand their preferences and concerns over such a service.

- On the supplier side, merchants were not in favour of direct debits at a later date. However, a majority noted the importance of a reminder service in the form of SMSs or push notifications. Provisions to record inventory and payments digitally as well as record signatures were the next most important features. 17% of merchants also indicated preference for a platform wherein they can interact solely with their suppliers through personalized account numbers.
- On the consumer side, as buyer relationships are more temporary, merchants are concerned with customers not paying back and having no way to trace them. Majority of merchants again stressed the need for a reminder service and personalized accounts but much fewer merchants reported the need to record goods sold and payments collected.

- Merchants stressed for this to be a low-cost option with low transaction costs and imposition of a credit limit that can be extended in supplier and customer interactions.
- Merchants reported a lack of trust in such services and advocated for awareness camps between merchants, customers and suppliers for increased usage of smart-phones, Internet and Internet security, and training of such digital services.

Serving the Underserved: India's Digital Infrastructure

The financial services community (including banks, NBFCs and other institutions) is witnessing a paradigm shift with the burgeoning growth of the FinTech sector; these technology service providers being looked upon as enablers, to facilitate their close collaboration with the traditional financial service providers. To drive these collaborations, financial service providers commonly use partnership agreements, start-up incubator programs toward developing Fintech firms, buying & selling services and financing/acquiring these firms.⁶⁵ A few examples of the aforementioned collaborations are:

1. Following its Chota ATM⁶⁶ (micro-ATM) partnership with mobile based payments company Ezetap, SBI is aiming to greatly increase its POS inventory, providing an opportunity for similar players like Mswipe and Pine Labs.⁶⁷
2. Paynimo the virtual POS product developed by Techprocess powers the Bank of India (BOI) person-to-person payments product, Easypay.⁶⁸

3. Yes Bank is collaborating with T-Hub to set up a center of excellence and app store for the FinTech start-ups.⁶⁹
4. Axis Bank will commercially deploy at its business units, tech solutions of three FinTech startups Pally, FintechLabs and Gieom. Pally is an artificial intelligence stack-based chatbot for investment advisory, FintechLabs offers lending management solutions, and Gieom provides a cloud-based tech for operations management.⁷⁰

Challenges faced by the technology solution providers

While there is no denying the innovation in products and services that has been inspired by technology service providers in the financial services sector, there are still several issues and challenges which need to be addressed as the sector moves forward. Firstly, the low penetration of smartphones and low level of digital literacy are demand side constraints to the use of digital financial products.⁷¹ Secondly,

startups, being new to the sector, although have the technical know-how, still need to understand the customer segment for creating solutions unique to India, that are usable, affordable and profitable at the same time. For instance, solutions such as credit schemes focused on woman entrepreneurs, social financing and crowd financing are areas that are yet to see any large-scale disruptions.⁷² Finally, a major challenge for a FinTech firm is business-development.

Due to their small-scale operations and the need to invest significant resources in the design and development of the solutions that they offer, these firms have limited resources left to divert in developing new businesses and hence a great number of potential clients, especially financial service providers, are unaware of the existence and potential of such solutions.

⁶⁵ ICAR. (2016, July 7). Traditional banks and Fintech firms: new collaboration models. Retrieved from <https://www.icarvision.com/en/traditional-banks-and-fintech-firms--new-collaboration-models>

⁶⁶ Mehta, J. (2014, October 3). SBI ties up with Ezetap to launch 'Chota ATM' for INR 499. Retrieved from <https://yourstory.com/2014/10/sbi-ties-up-with-ezetap-chota-atm/>

⁶⁷ Global Market Insights Inc. (2017, July 19). India POS Terminals Market to hit USD 3 billion by 2024. Retrieved from <https://globenewswire.com/news-release/2017/07/19/1054081/0/en/India-POS-Terminals-Market-to-hit-3bn-by-2024-Global-Market-Insights-Inc.html>

⁶⁸ John, J (2015, June 1). Revolutionizing electronic payments, the mobile way. Retrieved from <http://www.>

[thehindubusinessline.com/news/variety/revolutionising-electronic-payments-the-mobile-way/article7271733.ece](http://www.thehindubusinessline.com/news/variety/revolutionising-electronic-payments-the-mobile-way/article7271733.ece)

⁶⁹ IANS. (2016, April 4). YES Bank to set centre of excellence at T-Hub. Retrieved from <http://timesofindia.indiatimes.com/business/india-business/YES-Bank-to-set-centre-of-excellence-at-T-Hub/articleshow/51687550.cms>

⁷⁰ Paul, B. (2017, July 21). Axis Bank to deploy tech solutions of three startups from the Thought Factory accelerator. Retrieved from <https://www.vccircle.com/axis-bank-to-deploy-tech-solutions-of-three-startups-from-thought-factory-accelerator/>

⁷¹ 2016 Annual Report: Financial Inclusion in India

⁷² FinTech in India (2016). Retrieved from <http://www.swissnexindia.org/wp-content/uploads/sites/5/2016/10/Fintech-Report-2016.pdf>

Enabling the Ideal Consumer

Enabling the Ideal Consumer

The ideal consumer of digital financial services – one who is financially included, is informed about both physical and digital platforms to access financial services, and is able and willing to adopt her/his choice of service – sits on a tripod. This tripod is made up of: the infrastructure and policy ecosystem, access to financial and digital infrastructure, and ability and willingness of consumers. In order to empower and enable this 'ideal customer' it is important that all the three legs of the tripod co-operate, complement and support each other.

The infrastructure and policy ecosystem encompasses foundational enablers such as the JAM trinity, provisions for e-KYC, telecom and banking linkage, customer data and cyber security, financial security, interoperability of platforms and so on. Government and regulators as primary drivers of development of this ecosystem have managed to institutionalize the elementary requirements and are working actively towards improving it.

The other two legs of the tripod are mainly dependent on industry players and service providers. Access to financial and digital infrastructure can be measured by mobile phone penetration, bank account / financial services outreach, strength of telecom networks, and efficiency of acceptance infrastructure (such as ATM machines, POS at retail outlets, bank branches, last mile agent centers, online payment gateways, etc.). Additionally, ability and willingness of consumers relies on levels of literacy and numeracy, digital literacy levels, awareness, preference for cash and propensity to pay for such services.

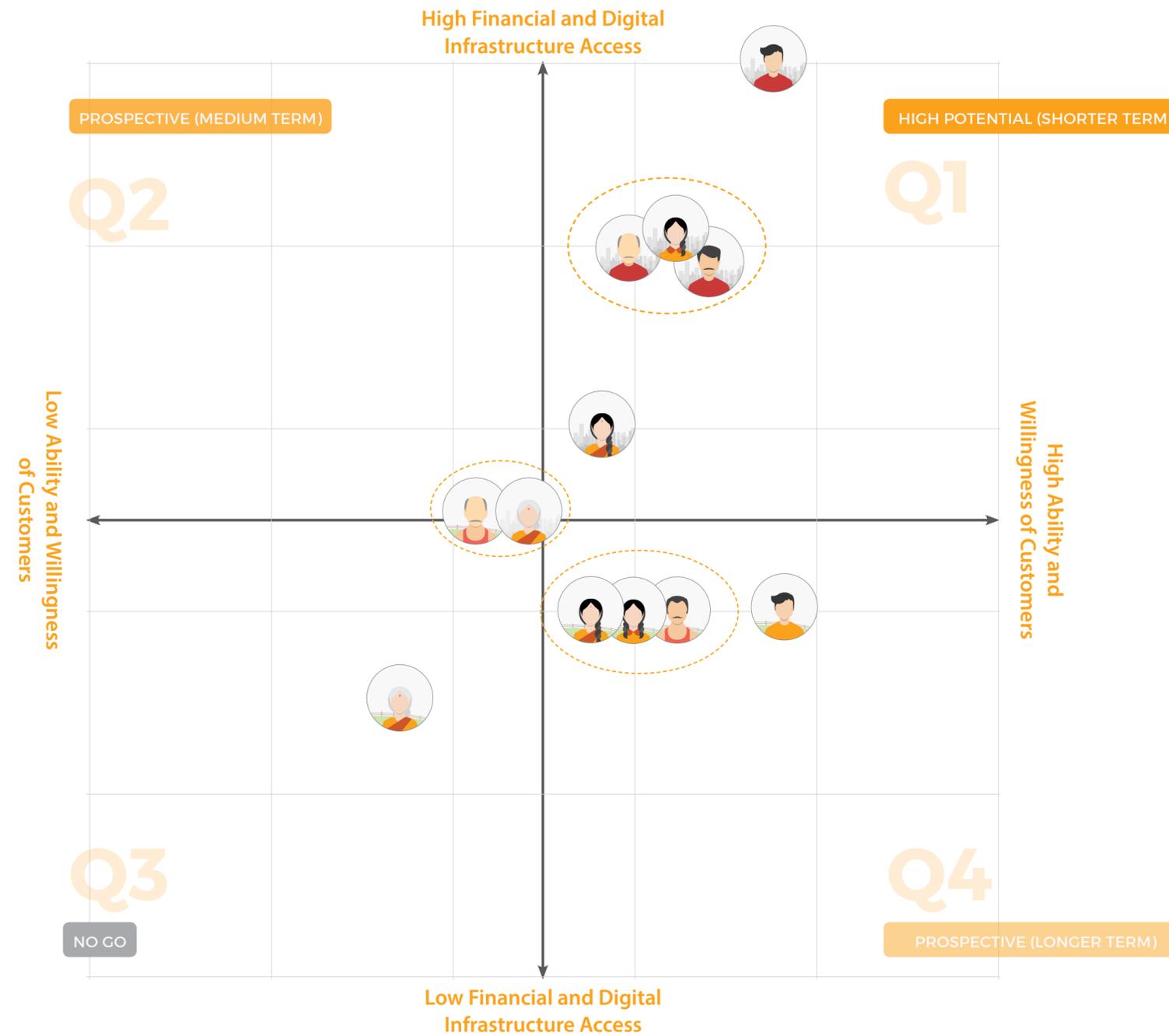
This study has shown that different type of consumers stand at varied levels of these latter two elements. However, only by looking at the nexus of these two levers for the different consumer segments, would service providers be able to strategize the digitalization of their processes and consumer interface. The figure below illustrates

where these consumer segments stand against the backdrop of these elements.

The region (Quadrant 1), that has high access to financial and digital infrastructure as well as high ability and willingness among customers, showcases high potential for shorter-term interventions that can help on-board respective consumer segments on digital financial services. Those in Quadrant 2 require greater interventions to enhance consumer capabilities, while those in Quadrant 4 need infrastructural interventions, and are therefore longer-term targets. Consumers in the third Quadrant are slow movers that lack both infrastructure and capabilities, and therefore those in the extreme of the region are a 'no-go' segment.



Enabling the Ideal Consumer



Enabling the Ideal Consumer

Exploring areas of intervention:

Quadrant 1 – High Financial and Digital Infrastructure Access / High Ability and Willingness of Consumers (High Potential)

Young urban men are the most mature part of this segment; with them, the main challenge lies in their inclination to use cash for day-to-day transactions and repayment of credit.

Women in this age group and older men (>40 years old) in urban areas, exhibit the same barrier in addition to lower awareness about digital platforms for financial transactions.

Both women and men in the older age group (>40 years) in urban areas also deal with lower levels of digital literacy. However, the women also have lower access to physical infrastructure.

This section largely captures the urban population under 40 years of age. They are more aware and disposed toward using technology and their need for financial instruments is also pronounced. For the youth (18-25), who are predominantly entering the workforce, this need is mainly concentrated around savings, payments and remittance. Digital literacy and the established need of financial instruments of this segment can be capitalized to onboard them on digital platforms.⁷³ One possible way is to engage with skill-training institutions to promote use of digital financial services and channelize on-boarding. For the training institutes, such engagement would help in continued association with trainees after placements and capture data to study the impact they are creating. For youth, this will create a good financial transaction record for themselves that would help in the evolving landscape of financial services where big data has a major role to play.

Those in the age group of 26 to 40 years, look for investment and wealth management products to do financial planning as a household. While making wage payments digitally, innovative products can be offered and savings habit can be inculcated.⁷⁴

⁷³ Agarwal, P. (2015, January 15). Financial Literacy: When, what and how. Retrieved from <http://www.ideasforindia.in/article.aspx?article=Financial-literacy-When,-what-and-how>

⁷⁴ IPA. The Real Effects of Electronic Wage Payments in Bangladesh. Retrieved from <http://www.poverty-action.org/study/real-effects-electronic-wage-payments-bangladesh>



Enabling the Ideal Consumer

Quadrant 2 – High Financial and Digital Infrastructure Access / Low Ability and Willingness of Consumers (Prospective: Medium term)

At the edge of this section are urban women and rural men above 40 years of age. They have limited awareness and ability to use digital platforms but have considerable propensity to pay. They are also mainly recipients of income, in the form of either remittances or government transfers. While this income can be received electronically into bank accounts, given limited mobility and low comfort level with the complex banking procedures, the service providers must empower this segment to use and manage this money digitally. Awareness and training can be given in community gatherings, experimenting with – for instance – small peer-to-peer transactions over very simple and basic digital platforms. Additionally, they can be motivated to learn and train with other members of the household that are more comfortable with technology.

Quadrant 3 – Low Financial and Digital Infrastructure Access / Low Ability and Willingness of Consumers (No-Go)

With limited access to infrastructure and low ability, consumers falling in this section could be a ‘no-go’ for service providers. Even though they have savings accounts in banks, low access to physical infrastructure, low propensity to pay and very low digital literacy and awareness makes them a slow-response segment for digital financial solutions.

Quadrant 4 – Low Financial and Digital Infrastructure Access / High Ability and Willingness of Consumers (Prospective: Longer term)

The digital potential of consumers lying in this section, composed entirely of rural customers, can be captured in the longer run. Rural male youth, however, is an easier segment to move into the High Potential segment using similar strategies as for their urban counterparts in Quadrant 1.

Onboarding rural women is a longer-term intervention and requires simple techniques, relevant to their daily lives, that can be reinforced at regular intervals. BRAC has done this successfully with some populations in Bangladesh.⁷⁵

Working women in this quadrant have maximum financial interactions with the micro-finance institutions (MFIs) and Self Help Groups. To leverage this opportunity, MFIs need to strategize their digitalization process, which begins with having a strong back-end information system. This must follow creation of a digital customer interface that links to their back-end systems and enables better service delivery. Using digitalized consumer systems would also help them in inculcating a more disciplined repayment behavior. This, however, requires high cost and time investments, including cost for technology, for staff capacity building and onboarding onto new platforms, as well as training of

⁷⁵ May, M. A. & Johora, F.T. (2015, October 29). How hard is it to use mobile money as a rural Bangladeshi woman? Retrieved from <http://blog.brac.net/2015/10/mobilise-money-rural-bangladeshi-woman/>
Uddin, R. (2017, March 7). Empowering women through digital sanitation services. Retrieved from <https://www.gsma.com/mobilefordevelopment/programme/m4dutilities/empowering-women-through-digital-sanitation-services>



Enabling the Ideal Consumer

customers. Nevertheless, some pilots have illustrated that the outcome is worth the investment.⁷⁶

It is noteworthy that in rural areas, women and individuals with high income volatility are ironically the crucial target markets for digital financial inclusion. Technology and digital solutions have the capacity to enhance outreach of financial services to rural and inaccessible regions in a cost-effective way. Women, who have, empirically and sociologically, proven to be better financial managers, should have access to more efficient ways of conducting financial transactions. Whereas, financial technology should enable this for a segment that is already excluded from the formal financial mainstream, it might be excluding them further.⁷⁷ Finally, the volatile nature

of income of people in certain occupations (like construction work, etc.) make them the most difficult, yet critical, target for financial inclusion, where the ability of digitalization to ease basic financial transactions should be leveraged to include them in to the financial mainstream.

As far as improving infrastructural access is concerned, it is important to create an operational and reliable acceptance infrastructure – elements that enable the users of digital platforms complete their transactions uninterrupted. The telecom networks should be unfailing, the ATMs and POS machines should be operational and the training and on-boarding capacities of last mile agents in the area should be enhanced.

The Way Forward

As evidenced by the varied consumer segments above, productive partnerships between different institutions are key to addressing the diversity of capabilities and needs of the Indian population. In this context, it is imperative that financial service providers and technology solution providers collaborate with each other, as well as with civil society organizations and other community institutions such as self-help groups, skill training centers, resident networks and such, to create an ecosystem wherein the capacity and knowledge of each institution can be leveraged. This will facilitate faster learning, establish informal troubleshooting mechanisms and will be cost effective. These partnerships will help accomplish twofold aim of achieving business goals, and more importantly, the larger objective of access to finance for all.

⁷⁶ Grameen Foundation India (2017, May 26). Oxigen services ties up with Sonata finance to support and increase digital payment capacity in the Microfinance sector. Retrieved from <http://grameenfoundation.in/oxigen-services-ties-up-with-sonata-finance-to-supportand-increase-digital-payment-capacity-in-the-micro-finance-sector/>

⁷⁷ Agarwal, P. & Nair, S. (2016, May 30). Digital finance in Bangladesh: Empowering or excluding women? Retrieved from <http://blog.brac.net/2016/05/digital-finance-in-bangladesh-empowering-or-excluding-women/>





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