

Driving a Social Agenda

Key Drivers for Specialized Financial Institutions

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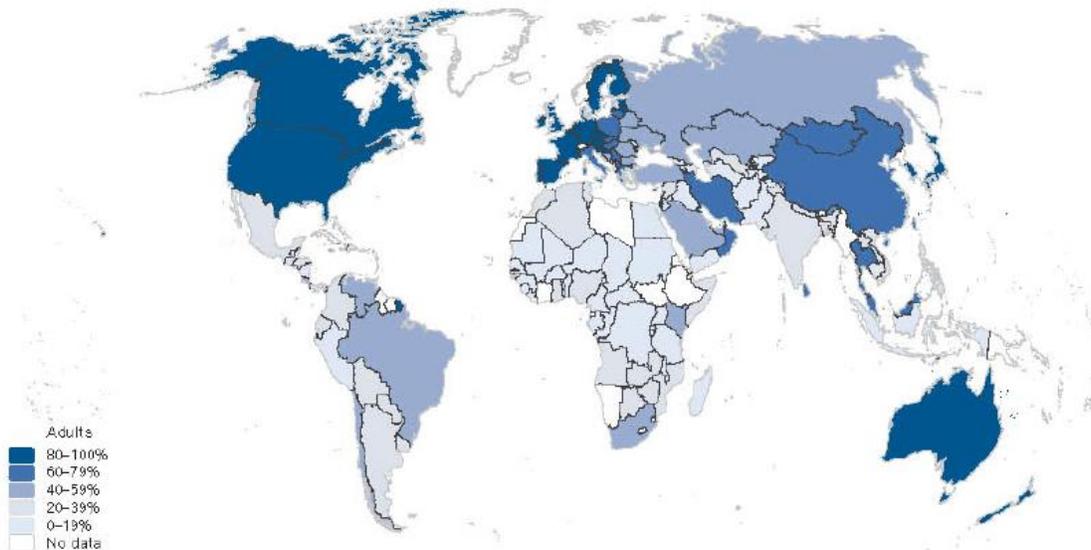
Introduction

Specialized Financial Institutions (SFI) are mandated by government regulations to pursue the agenda of economic development through Inclusion, efficiency and scalability through innovation. These manifests into three basic growth drivers, in the areas of Social Agenda driven economic vehicles, Monetary Policy oriented initiatives and unique DeNovo Business models, which are focused primarily on channels and cross industry leveraged businesses.

While Monetary Policy oriented initiatives are driven primarily by macroeconomic decisions, economic vehicles like social agenda and DeNovo business models thrive on the wings of technological innovation. This whitepaper attempts to elaborate how the technology adoption sweeping across the financial services landscape can alter the very paradigm of economic growth, fuelled by motives of financial inclusion.

It is a foregone conclusion that financial inclusion is one of the necessary tools, having the efficacy to accelerate economic development and boost shared prosperity. Alarmingly, half of world's adult population – more than 2.5 billion people – do not have a bank account ^[1]. Ironically, Bulgaria had 84 commercial bank branches per 100,000 adults in 2004-11, substantially above the global average of 19 branches (with standard deviation of 19), yet according to Global Findex, only 53 percent of adult Bulgarians had an account with the formal financial system ^[1]. This highlights the contrarian perspectives of the service provider indicators and the end user value measurement.

MAP 1.1 Adults with an Account at a Formal Financial Institution

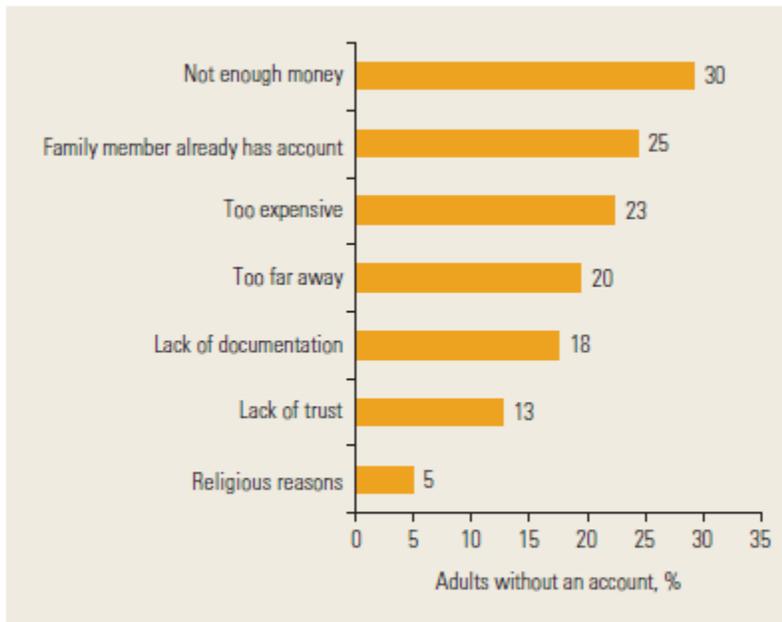


Source: Global Financial Inclusion (Global Findex) Database, World Bank, Washington, DC, <http://www.worldbank.org/globalfindex>.

Indeed, financial inclusion initiatives have either faltered or have witnessed less than impressive effect on the economy, as it struggles to achieve a fragile balance between the marginal costs of providing the service vis-à-vis the marginal benefit of accessing a financial service. While the exclusions, may well be non-price barriers like discrimination inadvertently driven by financial product design or red tape, this paper restricts itself to exploring the cost perspective of the exclusions and how Digital strides in the financial sector, can be leveraged to diminish the price barrier and contribute towards financial inclusion.

Transaction cost and geographical distance are evidently major impediments to financial inclusion, as shown below. For example, annual fees on a checking account in Sierra Leone are equivalent to 27 percentage of GDP per capita. Not surprisingly, 44 percent of adults without accounts in the country, site high cost as a reason for not having an account^[1].

FIGURE 1.14 Reported Reasons for Not Having a Bank Account



Source: Global Financial Inclusion (Global Findex) Database, World Bank, Washington, DC, <http://www.worldbank.org/globalfindex>.
Note: Respondents could choose more than one reason.

The contextual inhibitors which are often relegated to the background under the glare of the cost paradigm are financial illiteracy, lack of valid identification documents, and lack of usefulness of the “run-of-the-mill” service portfolios which are alien to the targeted end users of financial inclusion initiatives. These together with the accessibility cost act as an overwhelming deterrent to the social and economic goal of financial inclusion. This paper restricts itself to discussing the cost paradigms, which is the preliminary barrier that needs to be persisted to confront the contextual inhibitors.

Technology innovations can play an important role in lowering transactional cost and to also mitigate the impediments of physical distance in accessing financial services and thereby, facilitate overcoming these traditional barriers to financial inclusion.

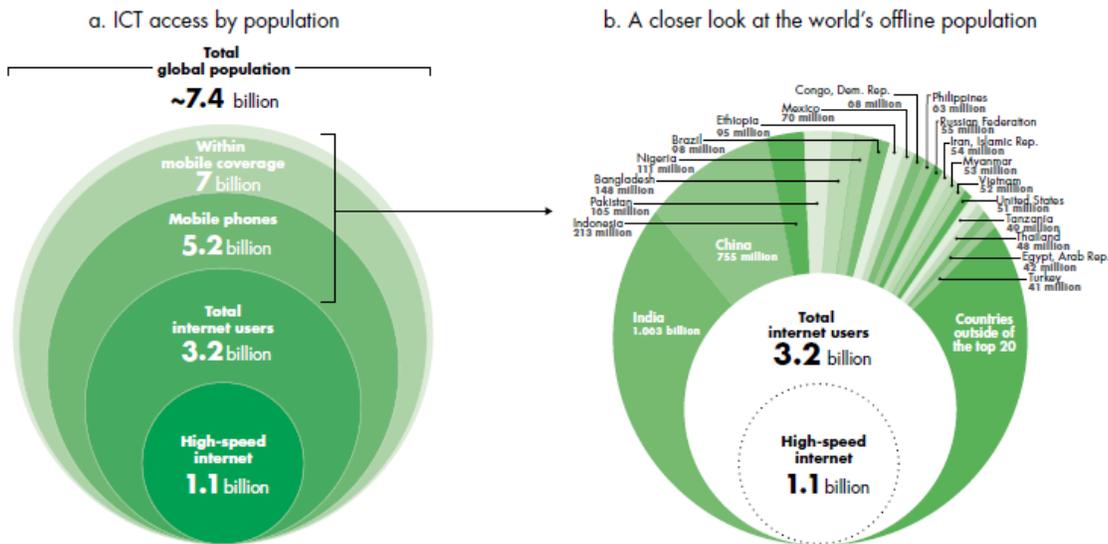
Challenges

Internet Connectivity

Despite digital technologies being around for quite some time and precedents established in terms of accelerated growth and efficient service delivery, the cumulative impact has fallen short, burdened with biased distribution of benefits among the weaker sections of the population on the other side of the Digital divide.

For each individual success stories in the financial sector, like M-Pesa, harnessing scale economics from automation, there are nearly 60 percent of the world's population, who cannot participate in the digital economy for lack of access to the internet. For every one person connected to high speed broadband, five are not. Worldwide, some 4 billion people do not have access to the internet; nearly 2 billion do not use mobile phone and almost half a billion live outside the mobile signal coverage [3].

Figure O.5 The internet remains unavailable, inaccessible, and unaffordable to a majority of the world's population

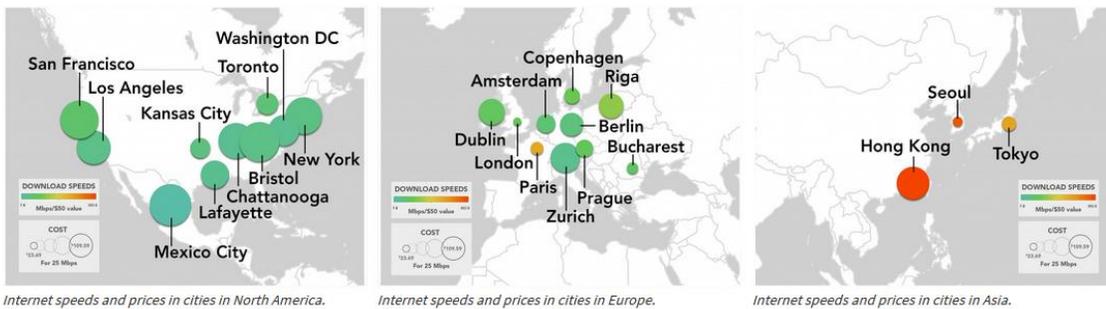


Sources: World Bank 2015; Meeker 2015; ITU 2015; GSMA, <https://gsmaintelligence.com/>; UN Population Division 2014. Data at http://bit.do/WDR2016-FigO_5.
 Note: High-speed internet (broadband) includes the total number of fixed-line broadband subscriptions (such as DSL, cable modems, fiber optics), and the total number of 4G/LTE mobile subscriptions, minus a correcting factor to allow for those who have both types of access. 4G = fourth generation; DSL = digital subscriber line; ICT = information and communication technology; LTE = Long Term Evolution.

Evidently, Internet connectivity remains the most prohibitive challenge, the lack of which contributes to the cost of acquiring information and disseminating information transparently.

Affordability

Even as the world perseveres and attempts to bring under the digital fold, the unconnected millions, the affordability of the connections are prohibitive. More so, in the developing countries in comparison to developed countries. The comparative display is shown below [4]



INCLUSION

First and foremost, as discussed before, “connecting-the-unconnected” initiatives have to be adopted on broader platforms of long term economic development initiatives.

“Market competition, public-private partnerships, and effective regulation of internet and mobile operators encourage private investment that can make access universal and affordable. Public investment will sometimes be necessary and justified by large social returns. A harder task will be to ensure that the internet remains open and safe as users face cybercrime, privacy violations, and online censorship.” [1]

An example of such initiatives, Facebook is collaborating with the Center for International Earth Science Information Network at Columbia University to produce detailed maps showing the population distribution of 20 countries. These maps were created using new machine learning techniques and show the most accurate estimates of population distribution and settlements available to date [5]



Figure 1A: Existing Population Distribution (Gridded Population of the World Dataset (GPW) of a coastal region in Kenya.



Figure 1B: New Facebook estimates of population distribution based on processing of third party satellite images, of the same region shown in figure 1A.

While structural and policy reforms push for internet accessibility, it is the mobile phone penetration in the developing nations, when complemented with the new found accessibility to the internet, can overcome the main barriers of physical distance and affordable cost.

Specialized Financial Institutions need to identify, promote and support innovative ideas germinating from businesses motives balanced with social benefit. A good case in point, could be, Bangladesh Telco Grameenphone, (part of Scandinavian Telenor group) came up with a compelling case, where the user can receive 20MB of unrestricted data per day after watching a short advertorial in the phone’s marketplace. The idea is to make the advertisers pay the user in free data in exchange for viewing their advertisements.

Specialized Financial Institutions could extrapolate the Grameenphone concept, and instead of marketing advertorials, could replace them with short snippets of banking services self help audio or video, using local language content, which the user has to view, in exchange for daily quota of free data. This single initiative could overcome the concerns of internet illiteracy, provide low cost internet access and value proposition “stickiness” for the user to be online.

This access will allow the “seeker” of services and the “provider” of services to enter into a beneficial transaction at an affordable cost. The affordable cost of acquiring information and transparent access will form the foundation for “newer” transactions.

INNOVATION

Innovation would be the key driver in bringing down the cost of transactions. Cost of banking service transaction is fed by the cost of advanced technology applications and account maintenance cost. A prudent approach in mitigating cost would be to do transform the banking delivery **Platform** from on-premise to cloud, realign the **Pricing** structure into a “pay-as-you-use” subscription model and redesign the **Product** services, more aligned to the business needs of the “unbanked”

The dwindling residual remnants of the cost of servicing, can be funded by the SFI's, in pursuant to their existential motives of financial inclusion.

The Platform

The affordability of banking services stems from the ideology of “cloud” computing. It is a foregone conclusion that banking services over the cloud can be rendered much cheaper and on a wider scale than an on-premise core banking solution. The pursuit of cloud are the forces of Agility (Self service provisioning), Elasticity (Scalable on demand) and lower cost (reduction in management and total cost)

The cost advantage itself, is a significant driver to adoption, when the end goal is Economic development of the unbanked. The figure below ^[6] demonstrates the financial advantage of cloud adoption, which can be leveraged in providing banking services over the cloud. It compares enterprise TCO savings for financial services, technology, manufacturing and communications companies.

In general, we see average TCO saving of around 40% regardless of Industry

Industry	Average TCO Savings
Financial Services	42%
Technology	40%
Manufacturing	42%
Communications	37%
Average Cloud Savings	40%

TCO Savings by Industry Calculated by Cloud Technology Partners

Core banking applications needs to be deployed on cloud to exploit the cost benefits and thereby provide retail banking and mobile banking services at a reduced transaction cost.

European cloud banking got a boost last summer when De Nederlandsche Bank (DNB), the Netherlands' national banking regulator, cleared Amazon Web Services for a range of banking services including websites, mobile applications, retail banking platforms, high performance computing and credit risk analysis [7]

The Pricing

The subscription based pricing for each “unbanked” account could be driven by Analytics, to arrive at the optimum range of price sensitivity, gleaned from the individual account transaction history and profitability index. The rich customer data in a structured form is already available in the banking system, having had the privilege of introducing back office system, in one way or the other.

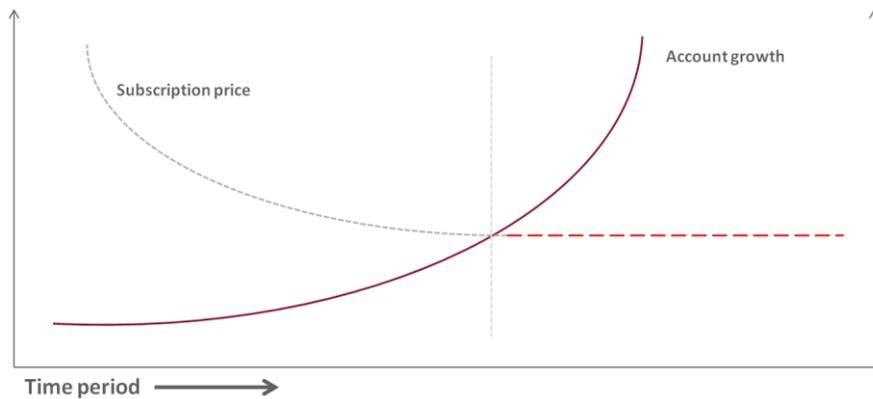
Volume based pricing slabs to attain a mutual beneficial value outcome, would be the true “Pay-as-you-go” prospect, where sheer volume will drive down the price of services.

An indicative, per account subscription pricing slab has been represented below. Identification of the subscription slabs and subsequent implementation as a tier or a slab is a matter of business negotiation. The value of “x” is a matter of economic and social jurisprudence.

The point being, the volume of business would drive the subscription prices down. This should further narrow down the cost gap that may need to be funded by the SFIs



Given these parameters, the equilibrium of subscription pricing at the threshold of stability, would be a matter of exploratory analysis over time, as depicted in the graph below,



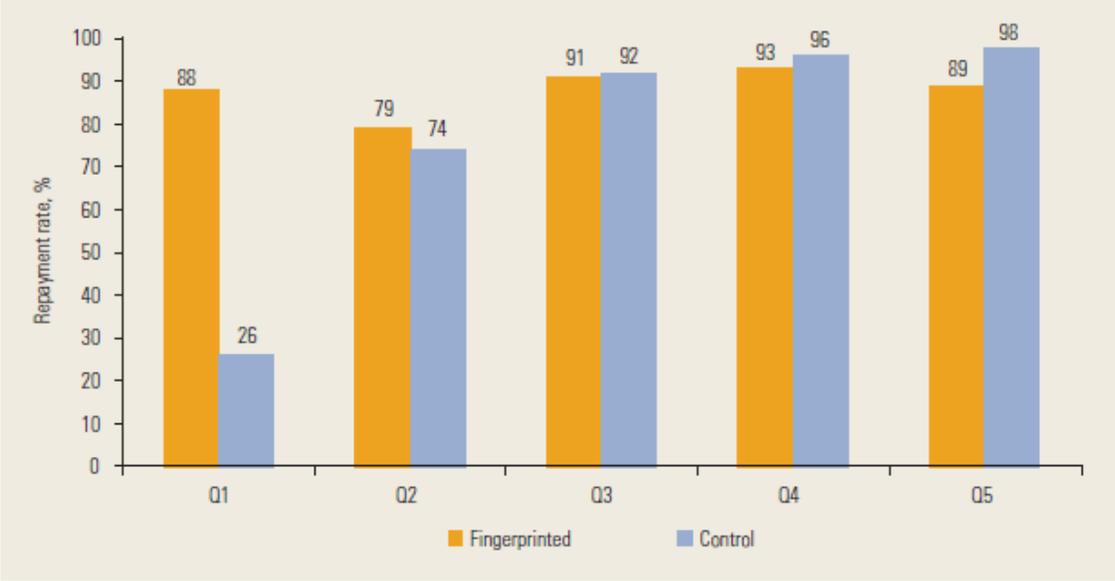
The Product

Biometric Identification

This will continue to be the necessary proverbial Gate to adoption and rendering of banking services, following internet accessibility. Fingerprint capturing technology is now easily available as a gadget in many low cost mobile phones. The banking platform needs to be able to accommodate such authentication avenues to establish identity.

Research indicate, Identity establishment has a favorable effect on loan repayment, as evidenced in Malawi, as shown below [1]

FIGURE 0.4 Fingerprinting and Repayment Rates, Malawi



Source: Calculations based on Giné, Goldberg, and Yang 2012.
Note: The repayment rates among fingerprinted and control groups by quintiles of the ex ante probability of default. Individuals in the "worst" quintile (Q1) are those with the highest probability of default and those on whom fingerprinting had the largest effect.

Credit Profiling

Alternate avenues to establish credit worthiness must be explored, which are different than the established methods, to be able to deliver credit to previously underserved population.



Shivani Siroya, on “A smart Loan for people with no Credit history” at TED 2016, talks about a mobile application that builds credit scores using mobile data, for the unbanked, who do not have credit history, as they have no bank account

Such innovative approaches must be explored, on a controlled scale, to initiate building credit history data for the unbanked. Such accumulation of data across the years could have a far impactful assessment in understanding the larger, yet lesser prominent, marginalized section of the population, and funnel national investment more effectively.

Seamless payments

While the previous two product innovation pertains to establishment of “proof-of-life”, online seamless transfer of money will be the most sought after service used by the unbanked, as part of mobile banking.

Core banking applications must be able to leverage OpenAPI technology innovation to be able to interface with retail payment applications to enable these remittance services to the unbanked.

Under the present context, “seamless” transfer of money has a totally different connotation when it comes to financial inclusions – it is the ease of use to complete transaction by the initiator and the prompt validation of result manifested as a credit to the receiver. The technical sophistication of local clearing mechanisms and streamlined business frameworks would be futile sophistry to lure away consumers of financial inclusion from the allurements of over-the-counter/ hand-exchange of physical money.

Enabling the transfer of value at a low cost and using streamlined payment and integrated billing will make for early and prompt adoption of banking services among the unbanked. These transactions, of course, have to be biometrically validated prior to completion.

EFFICIENCY

AutoSIM (Automated Simplicity)

The strategic adoption of technology, connectivity combined with banking on the cloud, while it renders low cost of transaction, also infuses efficiency by automating repeatable processes, thereby negating human interference and promoting productivity.

Automated workflows, addressing the target population of the unbanked, must be customized to combine simplicity of process with value creation, thereby creating “lean” processes.

The ubiquity of camera enabled low cost mobile phones, will democratize easy upload of snapshots of documentary requirements among the unbanked, and hence compelling the lean workflow to be digital in its entirety, thereby negating traversing long physical distance, one of the barriers to financial inclusion

The unintended collateral outcome is the social benefit of liberation from discrimination, lack of transparency, and corruption, each of which are proponents of economic growth.

Encountering “*Simplicity*” of the transactional workflow would be the moment of epiphany, when the end-user decides on its continued usage or relegating it as a “rich-man’s toy” never to be touched again. Should it be unfavorable, there is no coming back from it – at least not until another paradigm shift happens in technology or business

Credit Product Design

» **Initial tester loans**

Small initial tester loans can provide information that is useful in future assessment of larger loans, from loan default perspective

» **Selection of fellow borrowers**

Fellow borrowers, who are jointly liable for loans, will enable the potential service providers to exploit information known to the community, but hidden from the banks, to screen out bad borrowers.

Alternately, it also upholds community goodwill and may promote the social onus to dissuade potential defaulters, as rural traceability of individuals is far more incisive and widespread.

» **Daily micro repayments**

Allowing provisions for daily repayments, as a micro amount lowers the risk of defaults as it promotes spreading out the liability across days, rather than a lump sum once a month

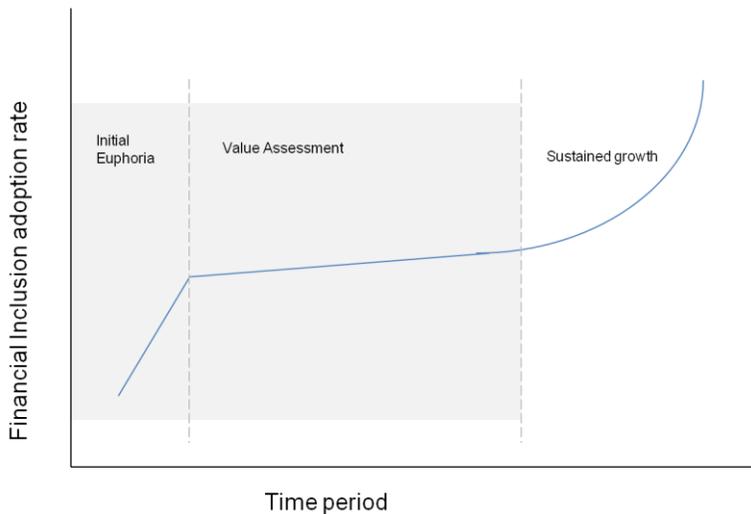
Savings Product Design

» **Labeling**

The practice of designating a specific savings account with a particular goal may be used to encourage savings with a daily/monthly countdown to goal accomplishments

Subsequent to the Inclusiveness of Connectivity, reduction of transaction cost through Cloud banking and subscription pricing, and the redesigning of the product services portfolio, the SFI funded financial inclusion would assume a growth trajectory similar to the one depicted below.

The shaded region is representative of the investment opportunity for the SFIs



After the initial euphoria following the novelty of internet connectivity, the subsequent extended period could see a stagnation, as the new users assess the value proposition of the services to their needs and the tangible difference it brings to their lives, for example, being able to transfer money without having to traverse long distances or the ability to click and upload documents without standing in queue.

However, the value assessment period could also witness a slow growth fuelled by “word-of-mouth” promotion of service value, which could see, friends and family and the immediate social circle being baptized into mobile banking services.



It is imperative, that the value assessment phase is augmented by local language content in educating and promoting the benefits of the services available. At this stage, it is imperative the value creation is promoted over business gains.

The envisaged increase in productivity following access to online financial services will propel the growth phase and the volume of online financial transactions will justify the lower fee income per account.

Conclusion

Specialized Financial Institutions (SFI) today are persevering the odds of financial inclusion, to bring 2.5 billion people across the globe, to be part of the digital world of banking services, in pursuant to their mandated goal of economic development.

The main challenges remain internet accessibility, high cost of data and transactions, which compels the service providers to balk. The offered banking services, more often suited to the digital online urban world seems alien, when it comes to addressing the immediate needs of the unbanked.

SFIs could promote Inclusiveness by identifying and investing in, business initiatives aligned with social benefits, to bring affordable internet and mobile data plans to the unbanked population, harnessing the wide and penetrative reach of the mobile handsets.

Technological innovation in Platform (adopting cloud banking), Pricing (Negating capital expenditure and promoting subscription volume based pricing) and Product realignment to address the unique needs of the “unbanked” complementing with local audio and video content, would provide enough feasibility to pave the way for financial inclusion

SFI can play a vital role by investing in ICT (Information and Communication technology) projects; provide financial support to overcome the transaction cost remnants and achieve its social and economic goal

Sources

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