

Delivering financial inclusion through a unified country wide platform

Governments across the world are interested in ways in which they can uplift their citizens from poverty and deliver financial inclusion. Many countries have special departments and budgetary allocations for achieving this. Various global organizations, funds and NGOs are working on helping governments and citizens achieve this.

Key aspects of financial inclusion

Financial inclusion refers to the efforts to make financial products and services accessible and affordable to all, regardless of their personal net worth, location or social strata. Financial inclusion strives to remove the barriers that exclude people from participating in the financial sector and using these services to improve their lives. The key elements of financial inclusion are based on the varied needs and life stage of a person.

1. **Cash account and payments:** The basic element of financial inclusion is the ability to store and spend money from a safe and secure account. The ability to open and operate the account in a simple and easy manner with no barriers is critical. Operating the account will involve depositing or withdrawing money. Withdrawals may be in the form of cash or by ways of paying for products and services.
2. **Savings and investments:** Excess money left in the cash account does not grow. On the contrary the real value of the money held decreases due to inflation. An account holder must be able to invest the excess money in a safe and secure product that will help them tide over inflation and at the same time be safe and secure. The investment account must be easy to open, add or withdraw investments and mustn't be very complicated for a common man to understand.
3. **Medical insurance:** The key challenge for a majority of the people is to save and pay for unexpected events in life like a medical emergency. Economic progress will not be possible if an unexpected illness takes away all one's life savings. A health insurance policy is crucial for a person to improve their economic condition. It must be easy to subscribe to the scheme and also raise and receive a claim in case of an illness.
4. **Life insurance:** Many families have a single earning member and the unfortunate demise of this person will leave the family with no financial support. Life insurance addresses this challenge by providing some level of financial security to the family in the unforeseen situation of the breadwinner not being around. It is important that people are able to insure their lives through a simple product. The payment of premium must be easy and the process of raising a claim must be straight forward and without any red tape.
5. **Pensions:** While savings help to address the expenses for specific life events, they may not be able to generate a regular income when the person retires and is unable to earn due to old age. Individuals must be able to contribute a portion of their income, on a regular basis towards future pensions. This is important for people working in the unorganized sector. The payment to a pension scheme must be easy and the process of receiving their retirement benefits must be simple and automatic.
6. **Benefit transfers:** Governments offer subsidies and various cash benefits to their citizens. It is important that this reaches the real beneficiaries without any leakage or pilferage. The payments can be unemployment benefits, relief measures in case of natural calamities, targeted subsidies etc.

Each of these products or services when offered to the citizens of a country over a period of time, will elevate the financial wellbeing and bring about a positive transformation in their lives.

Challenges in achieving financial inclusion

While governments have worked on each of these financial inclusion products and are at different levels of implementation, there are some challenges in scaling up these products and helping them reach the entire population

1. **Distribution of products:** The distribution of these products and services is a key challenge. In the development world as there is no physical infrastructure to support it. Creating a physical infrastructure to address this comes at a very steep cost and takes considerable amount of time.

2. **Identifying and authenticating a person:** It is imperative that these products and services must reach the correct beneficiary. Authenticating a person in a fool proof way is very important for the success of any financial inclusion program. A physical infrastructure to do this is prone to errors and comes with a significant cost.
3. **Risk management:** In today's world it is critical that the entire system is monitored for any fraudulent transactions and the participation of antisocial and unscrupulous elements. The importance of regular KYC and AML checks is necessary. It is also important to keep track of the change of location or demise of a person.
4. **Duplication of effort across service providers:** When each service provider, say a bank, a pension fund or an insurance firm is trying to build their own infrastructure and deliver the service to the beneficiary, it is like each airline building its own airport. As it is apparent, to deliver products and services that have the common goal of financial inclusion, it is important that the efforts are unified and that there is no duplication of effort. Piece meal and disjointed efforts result in making the process very confusing for the beneficiary and builds a barrier of access and understanding. This becomes counterproductive to the objective of achieving financial inclusion.

Growth of mobile penetration and advancements in FinTech – stage set for innovation in financial inclusion

Over the past few years there has been considerable number of innovations and developments in the following areas

1. **Mobile penetration:** The ubiquitous nature of our mobile phones coupled with the innovation around mobile wallets has laid a foundation for many new products to be provided on this architecture.
2. **Real-time payment systems:** Central banks across the world have adopted or are in the process of adopting real time payment systems that enable instantaneous transfer of money between two accounts. This also creates interoperability between earlier silos. For example there is inertia in transferring money between two wallets or from a bank to a wallet. The advancement in payment systems has enabled both interoperability and fast payments.
3. **Central electronic identity databases:** Countries have implemented or are in the process of implementing electronic identity management platforms. This central database comes with open APIs that allows third parties to use them to authenticate and identify a resident on an online real time basis.
4. **Service providers are automated:** Today, service providers like pension funds, insurance companies, central depositories and banks are fully automated. They have cutting edge systems which allow third parties to integrate with them in real-time. This creates a straight through environment for interacting with these service providers and providing innovative solutions.

Today, the confluence of these elements creates a unique environment for governments and central banks to deliver financial inclusion to its citizens in an integrated, reliable, speedy manner. This can be done at extremely low transaction costs. The entire financial inclusion stack comprising of cash accounts, savings, investments, insurance, pensions and benefit transfer, can be offered through a mobile first approach at a fraction of the cost it would have taken to deliver them a decade ago.

A single window digital platform for financial inclusion

With the advancements in banking, payments and technology, highlighted in the above section, it is possible to deliver full financial inclusion through a single window. This single window will be the ubiquitous mobile phone and a unified app / user interface. The solution will comprise of the following key features

1. The **mobile number in combination with the national ID will act as an authentication** mechanism for a beneficiary. The system ensures that the person continues to be authenticated whenever a new transaction is initiated. It will allow for portability of the account, which means that the beneficiary can switch from one mobile number to another and still continue with the same account and products.

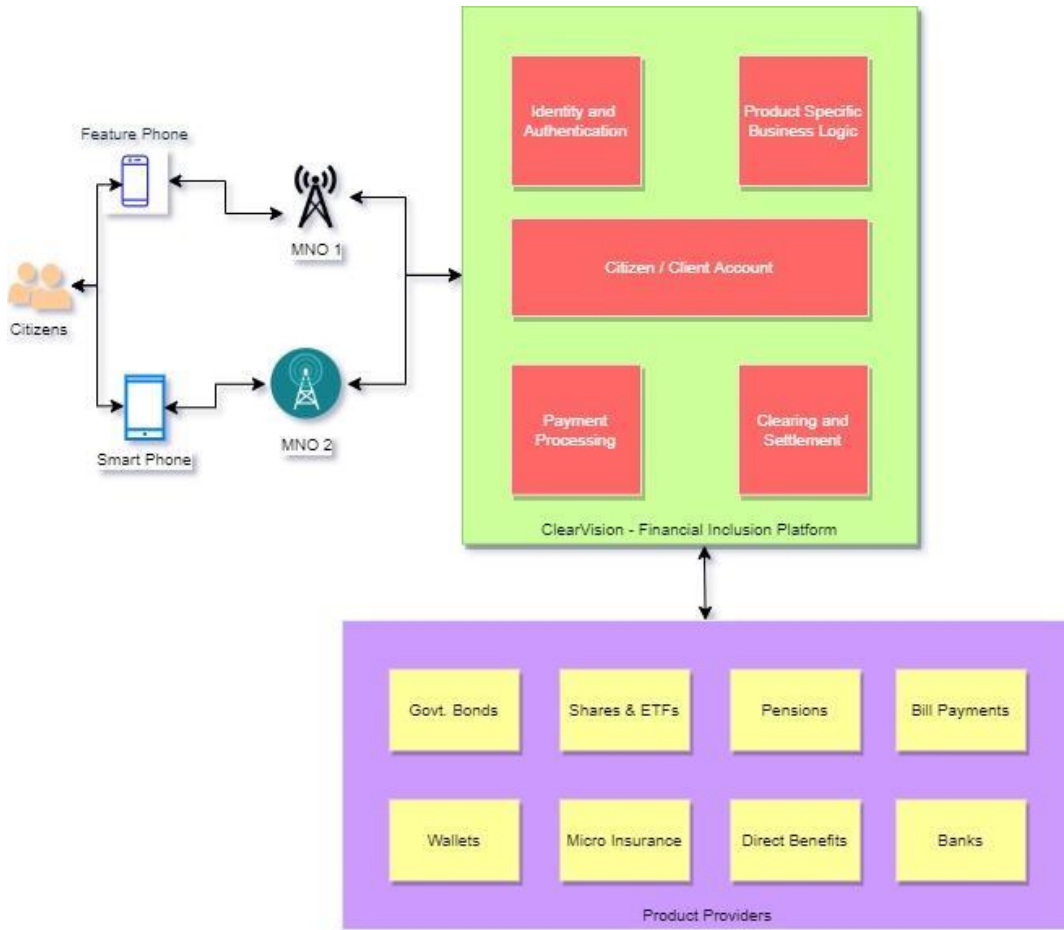
2. A **simple and clutter free user interface** is essential to help the product reach every person. **USSD** based apps which support the local vernacular language have proven to achieve this. Another development in this space is the use of **chatbots** to deliver a simpler, faster and economic user experience.
3. **An unified cash account to process payments** and receive proceeds is important. The application must allow the person to transfer funds from the linked payment account for the various products and services. Any fund receipts or claims (where applicable) will be received in the same cash account.
4. **Central monitoring** of transactions needs to be enabled to ensure that the laws related to KYC and AML are adhered to.
5. The solution must have an **open architecture** for service providers to integrate with it without much difficulty. The changes must be done only to the user touch points and user experience to onboard a new service provider.
6. The solution must be designed with complete **automation and straight through processing** at the heart of its delivery requirement. All transactions must be straight through. It should at the same time, provide for monitoring of exceptions and allow for manual intervention to handle them.

ClearVision™ - an open architecture based financial inclusion tech platform

Chella Software, a FinTech specialist with decades of experience working in various geographies with government institutions and central banks, provides a state of the art financial inclusion platform that will enable governments and central banks to take an integrated approach to financial inclusion.

The offering

The functional architecture of the financial inclusion platform is shown in the block diagram below.



Key features of ClearVision

The key features offered by the platform are

Identification and authentication (eKYC)

ClearVision uses the mobile number and a PIN for two factor authentication. Every user is authenticated against the national identification database. The authentication is an ongoing process to ensure that any change in the mobile number or any other details of the user is addressed.

The on boarding process is fully electronic. The KYC details are validated against the national database along with the phone number. Some countries may not have the mobile number associated with the national ID. In such scenarios, the KYC authentication is done using the national ID and the Mobile Network Operator's KYC details.

Single KYC for multiple service providers

The platform allows the user to subscribe to any service provider who is associated with the platform electronically using the KYC of the platform. If the user is already registered with the service provider, a simple verification process links the user's account to the platform. Users of the platform can create a new relationship with the service provider by using the KYC done through the platform and manage the account. For example, a daily wage labourer can be auto-subscribed to a health insurance program (or universal health insurance program) using the KYC details.

Deploy once, use it for many services

ClearVision has been designed to enable multiple use cases using the same architecture. It is deployed as a national infrastructure that is used by both government agencies and private entities to roll out their services through it. The user interfaces of ClearVision have been designed in a unique way in which it can integrate with various types of service providers. By simplifying the user experience to an interactive flow and offering it through, both USSD and mobile app, the platform is able to handle a variety of use cases. The cost of launching a new product or a service is limited to the specific tweaks done for the product or service.

Straight through processing with automated reconciliations

The platform can integrate with multiple payment channels and cash accounts. The payments are segregated by the service provider and within a service provider by the customer account. Full electronic reconciliation with provision for overrides to handle exceptions is provided. All fund transfers from the service provider to the client is handled in a straight through manner.

Powerful reports, dashboards and notifications allow for managing the operations in an efficient manner.

Benefits deploying ClearVision

1. ClearVision provides a highly scalable platform that unifies a variety of services under a single window. Governments can launch a variety of services in a phased manner.
2. By providing a single USSD short code / unified app for all the services, duplication of costs for building multiple systems and multiple applications is avoided. A unified interface declutters the users mobile phone, creates high recall and provides a consistent user experience across various services.
3. Each service provider can granularly control the offerings that they wish to provide to their customers through the platform. For example, a particular insurance firm can decide to deploy only payment of premium while another firm may also provide loans and claim services through the platform.
4. The solution levels the consumer end of the 'technology playing field' for all service providers. Their differentiation will now be solely based on their product and service delivery. This will allow more completion and more innovation in product development, which eventually benefits the citizens.
5. ClearVision is a mobile first platform and is built ground up to leverage the advancements in mobile and payment technologies.
6. The platform architecture allows for multiple MNOs, service providers and payment providers. This allows for adding a variety of use cases to the platform.

It can be seen that the benefits that accrue to a country by deploying ClearVision™ can be immense. The platform is backed by the technical depth, deep domain understanding and fanatical support from Chella Software. By partnering with central banks, government agencies and financial market infrastructure providers in multiple countries, Chella Software has created high impact platforms and solutions that have transformed the respective markets and spaces.

Case study: National Bank of Rwanda

Financial inclusion platform for enabling citizens to invest in government bonds

The National Bank of Rwanda was exploring the possibility of allowing all Rwandan nationals to invest in the sovereign bonds issued by the government through the central bank. The money held by the citizens in their wallets and banks were not earning substantial returns. Allowing them to invest in government securities will provide them higher returns with no risks, as the bonds are issued by the state. However for this to be successful, the following will need to be enabled:

1. It should be possible to open and operate the account without any paperwork. Creating a paper based system will make it very expensive and the central bank does not have the capacity to run and manage such a program.
2. The investment amount will be reduced to allow for every citizen to access the product.
3. The bond will be offered to investors directly without any intermediaries. This is to keep the transaction costs to the minimum.
4. Allow both primary market and secondary market transactions. The secondary market transactions will need to be done without, to the extent possible, an intermediary getting involved.
5. A platform that can be extended to support other financial services like pensions, insurance and unit trusts.
6. The mobile wallet will be used as the primary cash account for the investors. This is due to the fact that only 26% of the citizens hold a bank account. While, the mobile penetration level is about 78%.

Chella Software worked closely with NBR in conceptualizing the appropriate working model for a mobile based, retail bond platform. The following approach was taken

1. The account opening process was simplified by using the National Identification Authority's NIDA database. A customer's mobile number, name and national ID are validated against this central database. If the validation is successful, a depository account is opened for the customer.
2. The mobile wallets held by the client is used as the cash account for payment and receipt of funds.
3. The minimum investment amount in government securities was reduced, as a special case for the mobile investors. This is to ensure that all citizens can participate.
4. The system was integrated with the central depository of NBR to ensure all operations, including account opening, primary market subscription, secondary market trading, coupon payments / redemptions and transfer of securities to another depository account, are fully automated.
5. A citizen can buy bonds using the funds in the mobile wallet. Any sale proceeds, coupon payments or redemptions are credited to the wallet.
6. The system is fully automated. It has controlled manual overrides to handle exceptions.
7. The entire service delivery will be through the digital platform, with no additional staff or resources required to manage the same.

Benefits to the Rwandan economy

The platform will deliver the following benefits

1. Citizens will be able to create an investment account with the depository electronically, which has never been done before.
2. Every Rwandan who has access to a mobile phone will now be able to invest in sovereign bonds, which are the safest instruments and provide better returns than bank and wallet accounts.
3. The platform is extensible to support more service providers like the stock exchange, unit trusts, health insurance, life insurance, pensions and access to credit.
4. The solution will be the first nationwide, mobile based, fully digital investment / saving platform from a government agency.