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EMPOWERING FINANCIAL INCLUSION THROUGH FINTECH

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Abstract

Financial Technology (FinTech) is used to describe new tech that seeks to improve and automate the delivery and use of financial services. At its core, fintech is utilized to help companies, business owners and consumers better manage their financial operations, processes, and lives by utilizing specialized software and algorithms that are used on computers and, increasingly, smartphones and mobile devices. Fintech, the word, is a combination of "financial technology".

Over the past few years, FinTech has been embedded in the financial services ecosystem to such an extent that the term has now made its way into a few leading dictionaries. While the general perception of FinTech is ‘products and companies that employ newly developed digital and online technologies in the banking and financial services industries’, we believe that FinTech has evolved to perform a much more strategic and focused role. The wider objective of FinTech is to serve the unmet financial needs of those segments of the population which are not the core target segments of traditional financial services

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models. Thus, FinTech aims to contribute to the larger goal of financial inclusion (Lele S.,2019).

This article will analyses several studies which focus on the characteristics of FinTech, intending to offer a synthesis of the ways in which it impacts financial inclusion.

Keywords: FinTech, Financial Inclusion, Financial Exclusion, Blockchain, Digital Identity, Financial Literacy

Introduction

Around 1.6 billion people don't have a bank account and millions more don't use their bank accounts regularly (Ernst & Young, 2019). That's almost half the world's adult population.

Of the 1.6 billion, 30% are young people, nearly 56% are women, 50% live in urban areas and 53% have jobs or are self-employed (World Bank, Global Findex, 2017).

These are the people that surround us; they have families, they are mothers, fathers, students, immigrants, refugees, workers and rural residents.

They are left without the things most of us take for granted and these are: proof of identity, a way to save money for a rainy day, access to financial institutions for loans or the privilege to insure themselves or their crops and assets.

Financial inclusion is the provision of affordable, accessible and relevant financial products to individuals and businesses that had previously not been able to access these products (Ernst & Young, 2019).

Inclusivity is critical in reducing poverty and achieving economic growth. When people can participate in the financial system, they are better able to start and expand businesses, invest in their children's education and absorb financial shocks. Yet prior to 2011, little was known about the extent of financial inclusion and the degree to which such groups as the poor, women, and rural residents were excluded from formal financial systems.

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FinTech is becoming the face of alternative traditional financial possibilities across the globe, especially in economically diverse and developing countries.

Financial Inclusion is trying to ensure access to formal financial services for everybody, so not just for the ones at the top of the nation's economic pyramid, but also those who are most often excluded; those are: low income households and family businesses. In many countries, that's most people and most economic activity, there is also a significant subset of underbanked or unbanked in high-end countries, often in urban environments and immigrant communities.

When we talk specifically about Financial Inclusion it involves a series of Financial Services and the most in demand among low income households and small family businesses are **Payment Services, Transfers, Remittances, Savings** and **Credit Services.**

When we see innovations in pricing, product design, delivery systems and institutional models, these are really the tools that we should try to develop and extend into formal financial services to outreach a much wider market.

This situation is one of the biggest ironies in today's world: the people with the most limited resources are the ones paying the highest fees for financial products and services (Soriano M.A., 2017).

The key point is to try to provide those with the greatest potential to benefit from economic growth with the financial tools they need to realize the benefits.

We're trying to address the paradox we see around the world, where you have rapid economic advancement with rapidly growing inequality. So, nations are getting richer, but the income gap and the wealth gap is growing within the nations and that really starts with inequality of opportunity. If people have access to the necessary tools, they would take advantage of these economic opportunities and rapidly growing economies. Only then we would have created

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an alternative model, politically and socially, for a sustainable development in the future.

Addressing the Unbanked

According to the World Bank, the unbanked population ranged from less than 1% in developed countries to over 98% in developing countries. Mobile phone adoption, on the hand, has reached 62.9% of the world's population by 2016. In countries like Kenya, over 60% people receive money using the mobile phone, compared to the world's average of 2% (World Bank, 2018). Whilst the reasons are many, most cite the cost and time taken to travel to physically open accounts and an absence of trust as the primary reasons for not opening a traditional bank account.

More and more digital platforms around the world have been established to support the unbanked population with basic financial services available through the mobile phones.

Trust and Transparency via Blockchain Technology

Blockchain technology is being viewed by many as one of the most innovative technology that has emerged over the last 10 years; some argue that within 20 years, blockchain will disrupt society more profoundly than the internet disrupted communication and media (Hernandez, 2017).

Blockchain technology, a form of distributed ledger technology, is a vast, global decentralized database that is cryptographically secure and running on millions of devices – open to anyone. The transactions in the distributed ledger are immutable and verifiable, therefore, making it transparent and easy to track. Like the internet, blockchain is effectively a protocol upon which applications can be built. One of the most powerful features of blockchain technology is the fact that it does not require traditional intermediaries when doing a transaction between two parties, thereby significantly lowering or even potentially eliminating transaction costs.

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In 2016, IBM surveyed 200 banks in 16 countries around the world, and roughly 65% of the banks expect to have blockchain solutions in production in the next three years (IBM, 2016).

Where blockchain, distributed ledgers and crypto assets are today is approximately where the internet was in 1992, in terms of technology, in terms of infrastructure deployments, design and adoption patterns. This technology is definitely where the internet was in 1992, but the hype of blockchain and crypto is around the hype of the internet in 1998.

The 'poor' are much richer than they think. What they need is a solution to unlock their economic potential. A blockchain based solution to the problem of 'dead capital' is a global B2B marketplace for financial services accepting the use of livestock as collateral, turning it into a new asset class. Blockchain addresses two main issues to be solved and allows the asset tokenization of livestock:

1. The creation of a process that transforms livestock from 'dead capital' to a fungible asset with a transparent and clearly defined value.
2. The creation of an open and transparent marketplace that connects the unbanked to the liquidity pool of global financial providers.

We believe that the mutual creation of livestock insurance and the registration of livestock provenance on blockchain provide a new opportunity: the real possibility of accepting livestock as 'collateral' for loans. This innovative model will solve the complex process of converting the physical asset to generate economic capital. This solution will revolutionize financial access by unlocking the true economic capital of the unbanked. At the moment, the unbanked lack access to the mechanisms that could unlock the economic potential of their livestock so that they could be used to produce, secure, or guarantee greater value in the formal financial economy. This innovative approach of utilizing blockchain to prove ownership of livestock and allowing it to be used as collateral, reduces the lending risk for micro financing institutions (Lai R.,2018).

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Blockchain based Solutions

The biggest challenge to getting loans for the unbanked is the lack of credit history and the high interest rates in obtaining an unsecured loan. The second challenge is the difficulty in getting a secured loan using livestock as an asset. Currently, there is no accurate way to provide the proof-of-ownership from an unbanked to a livestock asset, or the proof that it has not been pledged to another lender.

Solution: A livestock insurance policy combined with the use of tamper-proof livestock identity tag and borrower's identity information on the blockchain provides the attestation to the claim of ownership as well as the proof of origin of the livestock asset. The blockchain can contain loan agreements via smart contracts, that can be used to verify if the livestock has already been pledged. The use of smart contracts model provides a way to create credit history which can then be verified on the blockchain by future lenders.

Local financing companies need access to loans from larger or offshore financing companies. This can incur high interest rate to offset the high credit risks associated with unsecured loans.

Solution: Through the creation of livestock collateralized loans, local financing companies are in a better position to manage risks, to negotiate for more competitive interest rates and for offshore financing companies to gain access to new and emerging markets.

Financial Exclusion

An absence of financial education, lack of awareness about financial services, unaffordable products, high transaction costs, paper work involved, travel distances, post-2009 distrust in the banking system – all these factors contribute to financial exclusion.

Why are they excluded?

The main factors are: inadequate education, no valid identification, geographic challenges, financial products are too expensive and no credit history.

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Being excluded from the formal financial system means that these individuals and businesses have to rely on informal mechanisms such as pawn brokers, payday lenders and loan sharks that are often extremely expensive and unreliable.

Who are the financially excluded?

1.6 billion people and 200+ million Micro, Small and Medium Enterprises (MSMEs) without access to banking services (Ernst & Young, 2019).

Why is inclusion important?

To smooth income trends, to obtain financing to grow businesses, to protect against natural & man-made disasters and for general savings. Financial Inclusion provides significant benefits to the poor and marginalized, and is also an important engine of economic development.

EY estimates that banks could generate incremental annual revenue of US$200b by better serving financially excluded individuals and MSMEs in emerging countries. Clearly a great opportunity for FinTech Startups that are already leading in providing alternative solutions to banks.

Should FinTechs bank the unbanked or unbank the banked?

These Fintech startups can be viewed as social enterprises due to their dual goal of providing a social impact (through financial inclusion) and driving profitability. They are more likely to develop innovative solutions in a faster manner than established corporations, and also able to quickly identify new consumer needs. Given their entrepreneurial drive, these new ventures are adept at identifying gaps in the market and develop new business opportunities. In addition, these companies are nimble and flexible and quickly adapt to changes in the environment, typically a lot faster than the larger corporations. Although these new technology ventures are more innovative, they generally take significantly higher risks since they are fairly young companies which are just getting established.

As blockchain technology matures; alternative solutions to the traditional banking system that are efficient, transparent and scalable are becoming possible.

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Blockchain technology enables access to financial services with numerous potential solutions, including payment gateway infrastructure, security, scalability and identity requirements (KYC) needed to access financial services.

A reality where individuals own their sovereign identity to manage their finances, savings, and transactions in a decentralized, peer-to-peer network with meaningfully lower fees and barriers to entry is being built.

FinTech and Infrastructure drivers

Mobile Adoption and E-Payments:

As mobile devices become more affordable and network coverage expands, digital connectivity of financially excluded individuals and MSMEs is improving. According to Ericsson, out of the world adult population that are unbanked globally, 1.7 billion have a mobile phone (Mobile Wallets, 2016). GSMA, a global organization that represents the interests of more than 800 mobile worldwide, states in their website that mobile phone penetration rate in most emerging market countries averages around 80% to 85% as of 2016, even though the banked adult population average in these countries may be well below 40%. Therefore, the mobile phone has become a key tool to access financial products for the unbanked and underbanked.

Money via mobile has been successfully demonstrated to serve the financial needs of the poor and achieve significant scale. The most successful example is M-PESA in Kenya, which is part of the mobile network operator (MNO) Safaricom. Founded in 2006, M-PESA currently reaches at least 84% of Kenyans living below $2 per day (Costa & Ehrbeck, 2015), with more than 16.6 million active users and 101,000 agents. The company was able to grow very quickly, achieving 1 million active users in just 8 months (GSMA, 2016).

Things are moving and transforming with a speed that was rarely seen in any other industry till now, and, M-PESA in Kenya is not the only mobile money success story in the world.

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Account-to-account (A2A) interoperability gives users the ability to transfer between customer accounts held with different mobile money providers and other financial system players. Tanzania led the way in 2014, but several countries across the region, including Kenya, Rwanda, Nigeria and Ghana, have now launched interoperability projects and use cases. Mobile money providers' integration with banks is one particular use case that has significantly increased volumes moving between mobile money and banking systems (GSMA, 2019).

A next step in the interoperability journey will be implementation of innovative solutions to integrate mobile money platforms with the broader financial ecosystem. A number of options exist around central switching infrastructure for the industry to enable nascent use cases to scale, including merchant payments and efficient connections to domestic and international financial system players. This is already happening at sub-regional levels. For example, the eight countries (Benin, Burkina Faso, Côte d'Ivoire, Guinea-Bissau, Mali, Niger, Senegal and Togo) of the West African Economic Monetary Union (WAEMU) are building an interoperable system that will connect 110 million people to more than 125 banks, dozens of e-money issuers, and more than 600 microfinance institutions (GSMA, 2019).

Digital Identity Systems:

Financial institutions are familiar with the difficulties of collecting the information they need to verify identity. Compliance, Due Diligence (DD), KYC - none of these processes is known for its efficiency, especially in light of the obligation to protect personal information.

With digital identity, many companies might look beyond their current business model. They could serve as a trusted broker between parties in other industries and provide identity services to the public sector. Think social services and tax filing as use cases. They could also shift the liability for wrong information back to users and eliminate third-party data mining in the evaluation of customer credit history.

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In a Digital Identity system, "identity" is a set of digital records that represents a user. These records are held in a standard format by entities that provide the identity information or assurance needed to complete transactions. A digital identity also accepts and integrates new records to create a rich view of the user. A system like this makes it easier to collect and share supporting documentation. Thanks to cutting-edge authentication and security protocols, a digital identity system also makes it harder to damage, lose, steal or tamper with identification records. Finally, digital identities offer customer-serving institutions, such as financial service institutions and many others, a better way to know and serve their customers (Deloitte, 2019).

FinTech Startups are working closely with Governments for issuing biometric ID programs. Many similar systems are being explored by an increasing number of countries.

Innovative use of new data sources, such as social media profiles, can provide greater behavioral analysis and can enhance the Digital Identity profiles.

Digital Identity refers to providing a proof of identity through electronic means, such as a numeric identification stored electronically, biometrics in the form of fingerprint and iris scans stored digitally, and facial recognition. A digital identity can be more efficient than a traditional identification system since it may be able to process the identification check in a faster and more efficient manner than traditional manual checks, which can enable higher financial inclusion.

Currency Digitization:

Decentralized Digital Currencies – empowered by their underlying blockchain tech – have caused quite a stir in the tech and financial communities all around the world. It's potential for empowering and supporting financial inclusion is being tested globally.

Blockchain could have the potential to facilitate remittances for migrants seeking to transfer small amounts of money overseas. Let's take a step further and think how blockchain could provide a decentralized global bank account,

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relieving financially excluded individuals from having to set one up with formal financial institutions (Deloitte,2018).

Processing payments via national payment systems is often expensive and time-consuming. If fully adopted, blockchain can enable near-real time and accurate payments, thus reducing transaction processing costs. As highlighted before, blockchain can remove the costs and fees associated with clearing houses, credit and debit card providers, and banks, thus removing the need for all of the aforementioned third-party intermediaries.

Digital Currencies or Cryptocurrencies have the potential to improve transaction oversight, which would reduce fraud and counterfeiting. Digital financial services have become a key enabler for financial inclusion as they bring transparency, simplicity and efficiency to every transaction.

Financial Literacy Programs:

Basic education on financial offerings can help individuals and MSMEs understand the value of having access to the financial system, which may improve money management.

Recent experiences in the microfinance arena have shown that poor people take loans that they have no capacity to service. Farmers have also taken loans that they have not been able to repay. Many have been driven to suicide because of debt problems. Unless financial literacy goes hand in hand with financial inclusion, instead of helping the poor, they will be put into more trouble. Another example is the mortgage crisis, in the U.S., which has led to global crisis. Financial Literacy can broadly be defined as the capacity to have familiarity with and understanding of financial market products, especially rewards and risks in order to make informed choices. (Ramakrishnan R., 2012).

Financial education primarily relates to personal finance, which enables individuals to take effective action to improve overall well-being and avoid distress in financial matters. Hence improvement of financial knowledge of households is necessary for them to participate continuously in financial markets.

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Financial literacy plays a vital role in the efficient allocation of household savings and the ability of individuals to meet their financial goals.

Financial literacy thus goes beyond the provision of financial information and advice. It is again a major issue for finance markets as it both drives and distorts investment behavior. It empowers the common person and thus reduces the burden of protecting the common person from the elements of market failure from a regulatory perspective

Conclusion

If we were to build a new financial system from scratch today, we will clearly do it on a digital platform. That way we will lower the cost of a range of transactions by as much as 90%, providing nearly universal access to innovative financial products and services (Gates B.,2013).

While it's true that FinTech organizations are disruptive, there's more to the equation. When they choose to combine forces, banks and FinTechs can create new financial products and channels that better serve existing clients and help expand outreach.

Academics and practitioners agree that advances in mobile phone technology, cloud computing, big data analytics and blockchain are revolutionizing the financial services industry, by allowing any individual to access financial services for the first time wherever they are and whenever they need them in a faster, cheaper, more transparent and more efficient way than traditional banks.

Nonbanks are pioneering in this space, developing new underwriting and credit scoring analytics for individuals and businesses. These are exploring nontraditional data, such as consumers' internet footprint, social media usage, psychometric test results and biometric digital trails, as data sources to assess lending risk. Many MSMEs also have digital footprints related to e-commerce, so reviewing their customers' feedback on product and service credibility can provide data to evaluate business viability and creditworthiness.

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The future of FinTech is a space where payments, remittances, and transfers are free. Financial services will be available to customers where they live and work, and people will expect service providers to create products with clear use cases.

What we need now is to engage as many Visionary Entrepreneurs and Hackers as possible, because these types of people have the mindset optimized for discovery. Entrepreneurs and Hackers will always look at other people's problems and see them as opportunities. They have a mind and perception that's optimized for figuring out what's possible and they are always focused on implementing the best viable solutions.

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