# *Banking* on Mobile: Financial Inclusion Through FinTech — The Hidroelétrica de Cahora Bassa IPO Case Study

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Dissertation submitted in partial fulfilment of requirements for the MSc in International Management: Major in Corporate Finance, at the Universidade Católica Portuguesa, 01/06/2022.

## Abstract

**English**

*Title*: Banking on Mobile—Financial Inclusion: The Case of the Cahora Bassa Hidroeléctrica IPO

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Africa ranks as the lowest region in terms of financial inclusion (Beck & Cull, 2015). There is a wave of African countries implementing mobile money schemes (via USSD technology) as a way of tackling financial exclusion, given that financial inclusion is strongly linked to poverty (Demirguc-Kunt, et al., 2014; Robert, Tilman, Nina, 2014; Anarfo & Abor, 2020). This study looks at one such innovative example in Mozambique, where the use of similar technology allowed the unbanked to participate in a first-of-its-kind equity market transaction in the form of the HCB IPO. This thesis uses the case study format to discuss the extent to which using a USSD platform helped reach and include the unbanked and whether such as initiative was effective in stimulating participation in the local stock exchange. The case study allows students to explore and discuss the intersection of fintech and financial inclusion through the lens of the latest trends in developing countries. Overall, the case study suggests that the use of mobile money schemes had a positive impact on the reach and inclusion of the transaction. And, while it did help increase the number of investors in the Mozambique Stock Exchange, it was not as effective at increasing trading volume.



*Keywords*: Financial Inclusion; Fintech; Mobile Money; Mobile Financial Schemes; Mozambique; Financial Services Industry; Financial Literacy; KYC

# Abstrato


**Português**

*Title*: Banking on Mobile—Financial Inclusion: The Case of the Cahora Bassa Hidroeléctrica IPO

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A África é a região mais baixa em termos de inclusão financeira (Beck & Cull, 2015). Há uma vaga de países africanos a implementar esquemas de dinheiro móvel (através da tecnologia USSD) como forma de combater a exclusão financeira, dado que a inclusão financeira está fortemente ligada à pobreza (Demirguc-Kunt, et al., 2014; Robert, Tilman, Nina, 2014; Anarfo & Abor, 2020). Este estudo analisa um desses exemplos inovadores em Moçambique, onde a utilização de tecnologia semelhante permitiu aos não-bancários participar numa transação de mercado de ações de primeira ordem, sob a forma de IPO da HCB. Esta tese utiliza o formato de estudo de caso para discutir até que ponto a utilização de uma plataforma USSD ajudou a alcançar e incluir os não-bancários e se tal iniciativa foi eficaz para estimular a participação na bolsa de valores local. O estudo de caso permite aos estudantes explorar e discutir a intersecção da fintech e da inclusão financeira através da lente das últimas tendências nos países em desenvolvimento. Resumindo, o estudo de caso sugere que a utilização de esquemas de dinheiro móvel teve um impacto positivo no alcance e inclusão da operação. E, embora tenha ajudado a aumentar o número de investidores na Bolsa de Valores de Moçambique, não foi tão eficaz no aumento do volume de transações.



*Palavras-chave*: Inclusão Financeira; Fintech; Dinheiro Móvel; Esquemas Financeiros Móveis; Moçambique; Indústria de Serviços Financeiros; Literacia Financeira; KYC

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**List of Abbreviations**

| | |
|---|---|
| **AML** | Anti-Money Laundering |
| **ATM** | Automatic Teller Machine |
| **BCI** | Banco Comercial e de Investimentos |
| **BVM** | Bolsa de Valores de Moçambique |
| **CFT** | Counter the Financing of Terrorism |
| **EDM** | Electricidade de Moçambique |
| **ESKOM** | Electricity Supply Commission |
| **GDP** | Gross Domestic Product |
| **HCB** | Hidroeléctrica de Cahora Bassa |
| **HVDC** | High-voltage Dir |
| **IPO** | Initial Public offering |
| **KYC** | Know Your Customer |
| **MNO** | Mobile Network Operators |
| **MZN** | Mozambican Metical |
| **NUIT** | Taxpayer's Single Identification Number |
| **SDG** | Sustainable Development Goals |
| **SIM** | Subscriber Identity Module |
| **SSA** | Sub-Saharan Africa |
| **UN** | United Nations |
| **USD** | United States Dollar |
| **USSD** | Unstructured Supplementary Service Data |
| **ZESA** | Zimbabwe Electricity Supply Authority |
| **ZAMCO** | Zambezi Consortium |
| **MFS** | Mobile Financial Schemes |

## 1 Introduction

Ever since the turn of the millennium, there has been the narrative of an Africa on the rise. Given the continent's rapid economic growth in the early 2000s, the narrative carried that the growth was inevitable and was only beginning. Major global news outlets labelled the phenomenon resurgence with the term *Africa Rising*. With a young population, a rising middle class, and the growth of local entrepreneurship the prospects were very promising. However, despite the early optimism, Africa still lags the developed world in many measures. One aspect is that of financial inclusion. This is significant because the UN recognizes the role financial inclusion can play as an enabler of development, having it featured as an outcome in at least 8 of its 17 Sustainable Development goals.

However, inroads have been made to the continent's strides toward achieving financial inclusion. An example of that is the award-winning mobile banking service M-Pesa. M-Pesa uses USSD SIM card technology that allows its users to make instantaneous payments and transfers via SMS. Individuals can top up their virtual accounts by depositing money at one of the numerous M-Pesa outlets. Mobile money Initiatives like M-Pesa have helped pave the way for more inclusive banking by reducing the friction which usually accompanies formal financial services as requirements are minimal since a bank account is not required to use their services.

Further innovations have been made on the back of similar technology. A perfect example is that of Hidroeléctrica de Cahora Bassa (HCB), S.A., in which Mozambican nationals, both banked and unbanked, were able to participate in the IPO using a USSD trading platform. As a result, nearly 17,000 Mozambican investors purchased the shares, more than doubling the number of investors in Mozambique's stock exchange. An unprecedented case of involvement in the stock market by the unbanked, especially for a developing country.

The structure of the case study was mainly based on the case writing method presented by Yemen (2021). This case study will focus on financial inclusion in Africa. It will explore the drivers of financial inclusion or exclusion and how fintech—mobile banking—is being used to help increase adult participation in financial services. It will examine whether some of the efforts employed were successful and touch on the implications and legacy of the HCB project. The thesis will address the following research questions:

1. What impact did the use of mobile banking using USSD technology for the HCB IPO have on the reach and inclusion?
2. To what extent did the HCB IPO catalyse the participation of the unbanked in the financial markets? Was it able to jump-start the stock exchange?
3. To what extent did the mobile banking remote channels for registration, ordering, and purchasing shares mitigate the KYC challenges?
4. What was the nature of collaboration between private and public stakeholders? What are the implications of the outcome of this Fintech project?

This dissertation is organised as follows: Section 2, the Literature Review, will cover the implications, the state, barriers, and determinants of financial inclusion in the African continent (particularly sub-Saharan Africa) and Mozambique. It will also explore the financial behaviours and preferences of the population as well as the importance of financial literacy. Capping off with the impact of mobile money schemes on financial inclusion in the continent. Section 3 is a case study of the Hidroelectrica de Cahora Bassa (HCB) IPO and its use of low-tech feature phones that included the unbanked. Section 4, the teaching notes, contains a lecture plan with teaching instructions and suggestions on how the case can be taught in class. Lastly, section 5, addresses the main conclusions of the dissertation, its limitations, and some recommendations on the direction future research can take.

# 2 Literature Review

## 2.1 Financial Inclusion and Its Implications

Defining financial inclusion is a difficult task, yet one of extreme importance. Assuming that the way the issue is defined affects the way institutions and policymakers think about the problem which, invariably, determines how they design solutions and which reforms to prioritise. Although there are various definitions, the literature generally agrees that financial inclusion means making formal financial services available, accessible, and affordable to all segments of the population, with an emphasis on deposit or transaction accounts that facilitate making and receiving payments (Mahendra, 2006; Triki & Faye, 2013; Demirgüç-Kunt & Klapper, 2013; Allen et al., 2016; Demirgüç-Kunt et al., 2017). Measuring financial inclusion, however, presents its own set of problems. Typically, financial inclusion is measured by the percentage of adult account ownership (Beck et al., 2007; Honohan, 2008; Rojas-Suarez,2010; Demirgüç-Kunt & Klapper, 2013; Allen et al.2016; Owen & Pereira, 2018). This is a narrow and incomplete indicator by many standards as access represents a necessary but not sufficient condition for using formal financial services (Cámara & Tuesta, 2015).

There have been suggestions to adopt a more multidimensional measurement that includes understanding how frequently clients use products, whether products effectively meet their needs, and if they are better off as a result (Triki & Faye, 2013). A few frameworks have been proposed. AFI (2011), for example, developed a 3-dimensional framework that includes: access, usage, and quality. Access refers to the availability of formal, regulated financial services by taking into consideration their physical proximity and affordability. Usage measures indicators of actual usage such as regularity, frequency, and duration of time used. Quality helps gauge whether products are well-tailored to client needs and that there are appropriate products for all income levels. Cámara & Tuesta (2015) and Allen et al. (2016) propose a similar framework, although instead of quality they focus on barriers. The commonality in the frameworks suggested is that they allow for the use of supply-side and demand-side data which can be used to create more holistic financial inclusion indices (Triki & Faye, 2013).

Tackling financial exclusion is important as high levels of financial exclusion could prove detrimental to Africa's hopes of living up to its development potential, seeing that financial exclusion is strongly linked to poverty (Demirguc-Kunt, et al., 2015; Cull et al., 2014; Anarfo & Abor, 2020). A few papers indicate a positive correlation between access to finance and poverty alleviation at the country level, especially at a low-income level (Honoha, 2004; Beck et al., 2004; Honohan, 2008; Bruhn & Love, 2014). Furthermore, the consequences of financial exclusion are not contained within the realm of limited access to the formal financial system; it often exacerbates other forms of exclusion, namely, economic and social (Dasgupta, 2009). This is reinforced by Allen et al. (2016) as they find that "greater financial inclusion is associated with lower account costs, greater proximity to financial intermediaries, stronger legal rights, and more politically stable environments".

**2.2 The State, Determinants, and Barriers of Financial Inclusion in Africa and Mozambique**

With the ramifications of financial inclusion established, the next step is to understand the status of financial inclusion in Africa and then more specifically in the Mozambican context. When it comes to reaching its financial inclusion goals, Africa still has some way to go as banking systems in the region are the least inclusive (Beck & Cull, 2015). This is backed by Sha'ban et al. (2020), who, using the IMF's Financial Access Survey data, note that the Sub-Saharan Africa (SSA) region ranks the lowest in terms of general financial inclusivity. To put it into perspective, World Bank data show that in 2014 only 38% of adults in Sub-Saharan Africa (SSA) had access to a bank account (Demirguc-Kunt et al. 2018). The numbers are even lower in rural areas where only 19% of adults are banked (Triki & Faye, 2013). Interestingly, although a laggard in terms of account ownership, Africa is a world leader in mobile money accounts with Demirgüç-Kunt et al. (2017) and Demirgüç-Kunt et al. (2020) observing that it is the only region where the share of adults with a mobile money account — 21%— exceeds 10 percent, with Kenya and Sudan reporting usage of over 50% (Triki & Faye, 2013). This makes mobile money accounts a strong alternative to formal accounts.

Regarding Mozambique, FSDMoc (2017) and the Bank of Mozambique (2020), according to their analysis of unbanked individuals, reveal that approximately 80% (11.6m) of the adult population is unbanked and 67% are completely financially excluded. Of the unbanked, 71% live in rural areas while 51% depend on agriculture and fishing as their main source of income. FSDMoc (2016) observed that around 80% (9.6m) of the adult population in rural areas is financially excluded. To put it in context, they reveal that banks have a penetration of 11% in rural areas. This begins to explain why 63-64% of rural adults live 1 hour and 38 minutes away from the nearest bank branch, ATM, and financial institution office by public transport while their urban counterparts can access these in less than 40 minutes walking. Nonetheless, growth in mobile banking (51%) has offset the low accessibility (Bank of Mozambique, 2020)

Naturally, it is important to investigate the barriers and determinants behind the reasons why people remain unbanked. For starters, Anderloni and Carluccio (2007) acknowledge that difficulties in access and difficulties in using these services are closely linked to the behaviour of both the supply side and the demand side. This means that the successful implementation of financial inclusion initiatives will depend on finding the balance between the interests of the services providers as well as that of the population, especially populations in rural areas (Dev, 2006). Banks, by default, migrate towards the bankable rather than the excluded since rural branches present more costs than benefits as interest rate ceilings enforced by regulators reduce banker's desire to serve the truly excluded (given that higher fixed costs and risk profiles translate to higher rates) (Dasgupta, 2009).

Using the Global Findex database, Demirguc-Kunt, et al. (2018) report that, globally, the most cited barriers by respondents in a questionnaire were the lack of money, perceived lack of need of a bank account, accounts are too expensive, family member already has an account, financial institutions are too far away, lack of necessary documentation, lack of trust, and religious reasons. Anderloni and Carluccio (2007) cite the following reasons in addition to those already cited: access exclusion (restriction due to risk assessment processes by banks), marketing exclusion (excluded by the way marketing and sales are targeted), and self-exclusion (refusing to use banking services for fear of being denied access to products).

Before proceeding it is important to make a brief mention that the barriers fall under two categories of exclusion. Namely, as Allen et al. (2016) explain, voluntary self-exclusion and involuntary exclusion. Self-exclusion refers to the choice of individuals not to participate in the formal financial system, under which “lack of money”, “family member has an account”, and “religions reasons” fall. While involuntary exclusion is “driven by market failures”, under which distance, high-cost documentation requirements and lack of trust are a part of (Zins & Weill, 2016).

For Africa, in particular, according to Triki & Faye (2013), over 80% of unbanked adults in Africa report a lack of money as a reason for not having a formal account, while over 25% cite distance, cost, and lack of documentation as barriers to inclusion. Specifically, in Mozambique, low levels of income (65%), low levels of education and financial literacy (10% do not understand how banks work and 8% do not understand the benefits of having an account), limited compliance with KYC requirements (6%), long-distance to a financial institution (20%), lack of required assets(7%), and poor coping mechanisms are the main contributors to the low levels of financial inclusion in the country, this holds for both rural and urban populations (FSDMoc, 2016; FSDMoc, 2017). These findings are also consistent with the findings on self-reported reasons for not owning a bank account by Demirguc-Kunt et al. (2018).

Despite the reasons given for why individuals remain unbanked, Zins & Weill (2016) conclude, empirically, that education and income are the most important individual characteristics explaining formal inclusion. Allen et al. (2014) add that population density in Africa is a key factor in financial development and financial inclusion. Intriguingly, in their probit estimation on data from World Bank’s Global Findex database on 37 African countries, Zins & Weill (2016) found that mobile account ownership is driven by the same drivers as traditional banking in Africa.

### 2.3 Financial Behaviours and Financial Literacy

Looking into the financial behaviours of individuals in Africa, we find that few people participate in the financial sector and even fewer do so formally. For example, only 36% of adults reported having saved in the last 12 months and of those who saved even fewer (35%) did so with a formal financial institution (Triki & Faye, 2013). There appears to be a preference for semiformal alternatives by way of savings clubs or by entrusting savings to an individual outside of the family, and some engage in more rudimentary forms of savings such as “under the mattress saving” or saving in assets like livestock or land (Demirguc-Kunt et al., 2020). Borrowing, both formal and informal, is comparatively high. According to Triki & Faye’s (2013) analysis of Findex data, 44%

of African adults borrow compared to 34% worldwide. With 39% reporting to have borrowed from friends and family.

The study done by FSDMoc (2017) shows that, in Mozambique, 73% of the unbanked do not save in any form, while 52% of the banked use a formal saving product (36%) or informal saving products (16%). When it comes to borrowing and credit 91% of the unbanked do not have or use any credit products while that number is 69% for the banked. The risk managing habits do not seem any better as almost 100% of the unbanked and 83 percent of the banked have no form of insurance. The main reason being that they have not heard about it — 60% for the unbanked and 33% for the banked.

One thing to keep in mind is that financial inclusion is just the first step towards financial stability and economic agency. A distinct characteristic of emerging economies is that of low- and volatile-income levels and inflationary environments (Triki & Faye, 2013). Saving in conditions of high inflation and low interest rates may lead to the erosion of savings. As the literature points out that a high level of inflation is harmful to savings and capital accumulation (Mishkin, 2000; Hussain & Malik, 2011; Barro, 2013). A conclusion that can be made from this is that while improved access to these services is essential it is also necessary to think carefully about the risks and benefits of certain financial products within the context of the unbanked.

Hence it is important to create products and services that are accessible and relevant to their needs. Current empirical evidence on the benefits and risks of using the four major types of formal financial products (payments, savings, credit, and insurance) suggests that inexpensive savings accounts that meet relevant needs have the biggest impact on reducing poverty and income inequality Demirguc-Kunt et al. (2017). Although one must acknowledge that the literature on measuring the impact of financial inclusion is still in its infancy (Karlan et al., 2014; Demirguc-Kunt et al., 2015)

Besides thinking about how to craft products and services it is also important to consider the role of financial literacy education in changing demand-side behaviours. Especially given that financial literacy rates among unbanked adults are very low both in Africa and Mozambique (Triki & Faye, 2013; FSDMoc, 2016; FSDMoc, 2017). The literature seems split on the results of financial literacy programs, with some suggesting that it helps improve the ability of consumers to make informed financial decisions (Klapper et al., 2013) others such as Karlan et al. (2014), suggest rethinking the role of financial literacy, questioning its effectiveness at improving savings decisions. In their meta-analysis of the relationship between financial literacy and financial behaviours Fernandes et al. (2014) find that "interventions to improve financial literacy only explain 0.1% of the variance; even large interventions with many hours of instruction have negligible effects on behaviour 20 months or more from the time of instruction". This presents a possible need for financial products that provide just-in-time financial advice to those with low education and financial literacy. In short, it can be assumed that understanding the risks and benefits and understanding the role of financial literacy education will better inform the creation of inclusive financial services and products.

### 2.4 Mobile Money and Financial Inclusion

One instrument that shows promise of overcoming most of the constraints is mobile money. As FinTech becomes more prominent, more developing countries are turning to it as a solution (Kanobe et al., 2017). On that front, research has found a positive correlation between FinTech and financial inclusion in African countries (Mbiti & Weil, 2016; Gosavi, 2018) and globally (Demir et al., 2020). Moreover, Demir et al. (2020) find a negative relation between FinTech and income inequality. With evidence that "a one-point increase in FinTech adoption in a country results in an 18-23% reduction in income inequality." Albeit, they indicate the effect on income inequality might be an indirect result of the increase in financial inclusion.

Despite its well documented infrastructural inadequacies (Triki & Faye, 2013), there is ample space for FinTech as a solution to financial exclusion. For example, Buckley & Webster (2018) argue that even less advanced phone technology like mobile banking technology can leverage existing infrastructure to match the simplicity and accessibility required of FinTech solutions in developing countries; going where regular banking services have not yet penetrated. Furthermore, mobile banking's business model is especially suitable for developing countries as they match the LASIC (Low margin, Asset light, Scalable, Innovative, and Compliance Easy) principle designed by Lee & Teo (2015) which identifies factors that enable sustainable businesses with the social objective of improving income and wealth inequality. This is consistent with the literature showing the rapid advancement of mobile banking in Africa (Allen et al., 2014; Demirguc-Kunt et al., 2018).

An example of the successful implementation of Fintech in Africa is M-Pesa. M-Pesa is a mobile-based service that utilizes the transformative mobile banking and payments model (provide the unbanked access to financial products without existing bank accounts) as opposed to the additive model (which provides bank users access to financial products through already existing bank accounts) (Porteous, 2006; Weber & Darbellay, 2010). With M-Pesa, the user may deposit cash and make or receive payments (Mbiti & Neil, 2014). Research shows that overall M-Pesa has made a positive socio-economic impact. While exploring the long-run impacts of mobile money, Jack & Suri (2016) argue that mobile money contributed to a meaningful reduction of poverty in Kenya. They estimate that M-Pesa "increased per capita consumption levels and lifted 194,000 households, or 2% of Kenyan households, out of poverty." Other positive outcomes are that M-Pesa increased the flow of money to rural areas by reducing "spatial and temporal" barriers inherent with money transfers and that the large adoption rate allows users to tap into other forms of financial services such as remittance and credit (Morawczynski & Pickens, 2009).

Allen et al. (2014) advise that "substantial gains in African financial inclusion and development are likely to require an array of new services, delivery channels, and providers." This is where governments in the region need to lay the foundation that will enable the successful implementation of any financial inclusion and development initiative. There are signs that governments and policymakers are aware of that. In regards to that, the Bank of Mozambique (2020) has highlighted the following five preconditions deemed necessary for the success of their National Financial Inclusion Strategy:

> *"1. interinstitutional coordination (effective coordination in both public and private sectors at the national level), 2. adequate legal environment (modernization of the legal and regulatory framework), 3. basic Infrastructure (physical infrastructures needed to support the establishment of financial institutions), 4. conducive macroeconomic environment (maintenance of a stable conducive macroeconomic environment), and 5. financial sector commitment (financial sector needs to be engaged to broaden the market for formal financial services)."*

For mobile financial schemes to succeed, there needs to be an enabling environment. Once again, Kenya is a prime example. In their assessment of what led to the success of the M-Pesa, Kimenyi and Ndungu'u (2009) noticed that the nature of collaboration between the private sector and the relevant government authorities was such that, whenever possible, the appropriate legislation lagged the technological innovations in the provision of financial services to not stifle said innovation. They add that the Kenyan government authorities engaged in frequent consultations with mobile financial services providers to give the necessary support and evaluate the repercussions of new products on the integrity of the financial system.

The state of regulation in most African countries is still in its infancy (Ahmad et al., 2020), which shows that caution should be implemented when creating legislation. Sanz & De Lima (2013) and Evans & Pirchio (2014) argue that there are too many restrictions on mobile financial services and Maurer et al. (2013) cite overregulation in the financial industry as one of the main reasons behind the failures of mobile financial services. Kipkemboi et al. (2019) indicate that countries with more proportional identification, verification and KYC requirements, tend to have higher levels of digital financial inclusion. An Evans & Pirchio (2014) study of developing countries found that mobile money grew more rapidly where there were relatively light KYC requirements. Though most of the literature leans towards looser regulation, some others caution against expanding access at the cost of financial stability and are in favour of stricter regulations (Vlcek, 2011; Anong & Kunovskaya, 2013; Cousins & Varshney, 2014).

# 3 Case Study

## 3.1 Case Set-Up

On November 17, 2017, during a General Assembly, the shareholders of the Hidroeletrica de Cahora Bassa deliberated on the sale of the enterprise's shares. Not long after, on November 27, 2017, on the occasion of the celebration of the 10th anniversary of HCB's reversion, Filipe Jacinto Nyusi, President of the Republic of Mozambique, announced that the company would be issuing the sale of 7.5% of its share capital through the Mozambican Stock Exchange, as a way to promote greater financial inclusion of Mozambicans and add value to the expression "Cahora Bassa É Nossa" which roughly translates to "Cahora Bassa Is Ours". The goal was to be as inclusive as possible by targeting the offer to all Mozambicans, irrespective of social status, financial literacy, banking readiness or geographical location. Just how they were going to achieve that was the real question. Would this initiative be able to deliver an operation that promoted greater financial inclusion among the unbanked? And, how did they plan to overcome the challenges in doing so in a country where the development and reach of financial services were limited, as suggested by the prevailing low levels of financial inclusion?

According to HCB, the IPO had two main motivations. Firstly, it was to offer an opportunity for Mozambican citizens to participate in one of the most iconic companies in the country, allowing them to share in the fruits of the Government investment in the Cahora Bassa enterprise. Secondly, this was a chance to familiarise Mozambican investors with the concept of the capital market to help the development of an incipient and illiquid capital market.

This was a challenging task for many reasons. For one, Mozambique is still mainly a rural and low-income country, with limited infrastructure, particularly in rural areas [Figure 1]. As a result, there is low penetration of bank branches and agents outside of urban areas. Seeing that only 58 percent of the population has a national ID and even fewer have the national tax ID (NUIT) that financial services require,[1] KYC and compliance presented a significant challenge for banks. The

[1] Bank of Mozambique, National Financial Inclusion Strategy 2016-2022 Review, https://documents1.worldbank.org/curated/en/732551572441523589/pdf/Mozambique-National-Financial-Inclusion-Strategy-for-2016-2022-Mid-Term-Review.pdf. Accessed January 26, 2022.

country's capital market—embryonic and highly illiquid—had never been tested by such a large scale public offering.[2] And lastly, it remained to be seen how the public would be persuaded to invest given their low level of financial literacy.

Figure 1: Geographic and Demographic Features Mozambique (2015)

| | 2015 |
|---|---|
| **Total Area (Km2)** | **799,380** |
| **Administrative Division** | |
| Provinces | 11 |
| Districts | 158 |
| **Adult Population (15+)** | **14,178,462** |
| **Urban** | **4,978,406** |
| Men | 2,406,826 |
| Women | 2,571,580 |
| **Rural** | **9,200,056** |
| Men | 4,253,627 |
| Women | 4,946,429 |

Adapted from: Banco de Moçambique, 2016, p.3

Overcoming these conditions would require the development of a unique marketing and distribution strategy, in a country where only a third of adults held a bank account and the total number of investors totalled 8,000. For this reason, a multidisciplinary team—the IPO Organisation Committee— was deployed to assist HCB in a wide and comprehensive scope of services,[3] which included working with multiple stakeholders, both private and public. Two local banks, BiG and BCI, served as the Global Coordinators and middle-man with public participants like the Central Bank, the Stock Exchange, Ministry of Energy, Telecom Regulator and Operators [Figure 2]. A placement syndicate of 15 banks was also arranged, ensuring a market share coverage of more than 98% of the country's customer deposits.[4]

[2] DealMakers Africa, Vol. 12: No 4, https://www.dealmakersafrica.com/_files/ugd/cf215e_4c0c23e56a2d437f85e34aa814f974c1.pdf. Accessed May 20, 2022.
[3] IPO team organisation pdf
[4] BCI and BiG, BiG Website article, https://www.big.pt/pdf/mz/deal_of_the_year_2020.pdf. Accessed May 12, 2022.

Figure 2: IPO Team Organization Structure


Adapted from: Hidroelétrica de Cahora Bassa IPO - Case Study.pdf

## 3.2 Hidroelectrica de Cahora Bassa Background

### A Company Portrait

The public reaction to the initial announcement was mixed. Some saw it as a great opportunity for inclusion, most of the public did not know what shares were, and many critics voiced their concerns about the project's feasibility. However, the IPO organisation Committee was sure of this next step. Despite the challenges, they were convinced that they had found the perfect balance between corporate goals and economic empowerment through financial inclusion. They were hoping that they could lean on HCB's history to foster a sense of community and ownership around the initiative.

The HCB is a concessionaire company dedicated to the production, transportation, and commercialization of energy, including its import and export. It stands out as one of the largest private Mozambican companies in terms of business volume and dimension of assets, being also the largest independent energy producer in the Southern African region. The construction of the Dam was initiated in 1969 by the ZAMCO consortium, which was composed of international companies. Initially, because of the accords that resulted in the construction of the dam, the HCB was owned 82% by the Portuguese state and 18% by the Mozambican State. However, from its completion in 1975 up until 2017, the enterprise underwent multiple shareholder structures. Indicating a less than linear path to its current ownership structure.

The period between 1977-1980 saw the dam become operational and begin its commercial activities by supplying electricity to ESKOM,[5] South Africa's electricity public utility. However, that was short-lived as supply had to be suspended due to the destruction of the HDVC Line because of the war in Mozambique. Years later, in 1983, HCB was back in business as it struck an agreement to become a supplier for EDM[6]—Mozambique's electricity public utility. Though it would enter into a three-way partnership with ESKOM and EDM in 1984, it would take until 1998 for HCB to re-establish its status as an electricity supplier for ESKOM which it had lost during the war. Due to the same reason, in 1988, years before the end of the war, joint efforts by the Mozambican, South-African, and Portuguese states led to the agreement for the restoration of the HCB. Although, despite the end of the civil war in 1992, rehabilitation efforts only started in earnest in 1995 culminating in 1998.[7]

Since then, the HCB and its electricity network have undergone further refurbishment efforts, namely the Apollo HDVC Converter Station in 2006.[8] The power plant now has a capacity of approximately 1,950 MW with which it supplies clients like ESKOM (1,100 MW), EDM (300 MW), and ZESA[9] (50 MW). It boasts 2 HVDC lines (1,400 km) that connect it with South Africa and 2 HVAC lines that connect it to other substations within Mozambique.

**Economic and Financial Development in Mozambique**

Much like HCB, Mozambique was also undergoing a reconstruction of sorts. It was around the same time as the post-war reconstruction period that Mozambique began to experience sustained economic growth. As a result, the percentage of households below the poverty line fell from 69 percent in 1996/97 to 54 percent in 2003 [Table 1], this decline was even more distinct in rural areas which saw a decline from 71 per cent to 55 per cent.[10] It was also a period where financial

[5] Electricity Supply Commission (ESCOM)
[6] Electricidade de Moçambique
[7] Ross, Ms Doris C., et al. (2014). Mozambique rising: building a new tomorrow. *International Monetary Fund*.
[8] Goosen, P. et al. (2009). Upgrade of the Apollo HVDC converter station. In Proc. *CIGRÉ 6th Southern Africa Regional Conf.*
[9] Zimbabwe Electricity Supply Authority
[10] Ross, Ms Doris C., et al. (2014). Mozambique rising: building a new tomorrow. *International Monetary Fund*.

deepening—described as the increase in the ratio of a country's financial assets to its GDP and the increased provision of financial services—had risen during the period between 2005 to 2012.[11]

Table 1: Millennium Development Goals

| | Mozambique | | | Sub-Saharan Africa |
|---|---|---|---|---|
| | 1995 | 2005 | 2011 | 2011 |
| Population (millions) | 16 | 21 | 24 | 875 |
| National household survey poverty incidence (percent) | 69 | 54.11 | 54.7 | ... |
| GDP Per Capita (2000 US. dollars) | 233 | 308 | 402 | 648 |
| Primary School enrollment ratio (percent of net) | 56 | 76 | 90 | 76 |
| Ratio: girls to boy in primary/secondary education (percent) | 75 | 84 | 90 | 90 |
| Under 5 mortality rate (per 1000) | 183 | 162 | 103 | 108 |
| Prevalance of HIV, total (percent of population aged 15-49) | 10 | 12 | 11 | 5 |
| Access to improved water sources (percent of population) | 42 | 45 | 47 | 61 |

Adapted from: Ross, et al., 2014, p. 12

However, later household survey data showed that despite being one of the fastest-growing economies in sub-Saharan Africa in the twenty years prior to 2014 (average annual real GDP growth of 7.4 percent[12]), the poverty rate decline waned in 2003 and remained stagnant onwards. Furthermore, indicators pointed out that the economic growth had not been inclusive.[13] In fact, from the years 2002 to 2009, the data shows a pattern of exclusion. Households in the bottom three deciles of the distribution of per capita expenditure experienced absolute declines, while the other seven deciles experienced growth.[14] Numbers from, the 2010 National Report even hinted toward a slight increase in rural poverty.[15]

### Company Growth and Restructuring

Though economic conditions remained the same for those below the poverty line, HCB was undergoing positive changes. In 2007, control of the HCB was transferred to the Mozambican State in a reversion process. The acquisition was financed through a 10-year loan from a syndicate of international banks for USD 800m. The next ten years would see the organisation reach

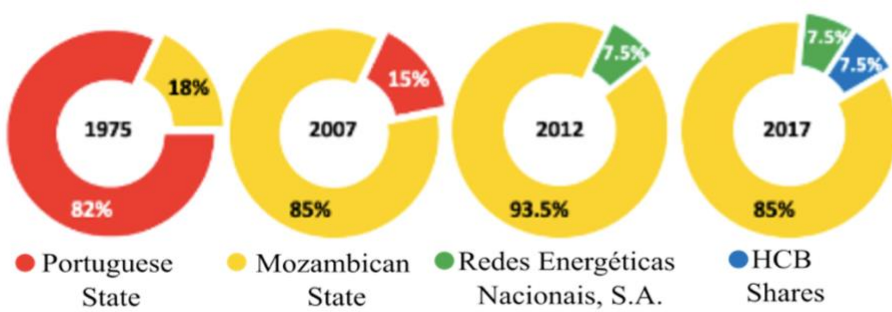
[11] Banco de Moçambique, (2013). Desafios da Inclusão Financeira em Moçambique: Uma Abordagem do Lado da Oferta. XXXVII Conselho Consultivo. http://www. bancomoc. mz/Files/GPI/Desafios_Mocambique. pdf. Accessed March 04, 2022.
[12] Ross, Ms Doris C., et al. (2014). Mozambique rising: building a new tomorrow. *International Monetary Fund*.
[13] IMF. (2013). Regional economic outlook: Sub-Saharan Africa–Keeping the pace.
[14] Ross, Ms Doris C., et al. (2014). Mozambique rising: building a new tomorrow. *International Monetary Fund*.
[15] Governo de Moçambique, Pobreza e Bem-estar em Moçambique: Terceira Avaliação Nacional da Pobreza. http://www.ine.gov.mz/estatisticas/publicacoes/pobreza-e-bem-estar-em-mocambique_-terceira-avaliacao-nacional.pdf/at_download/file. Accessed May 15, 2022.

significant milestones. 2011 was the first time shareholders received dividends. This was followed by another ownership restructuring a year later, in which the Portuguese state sold the remainder of its shares to the Mozambican State (7.5%) and REN[16] (7.5%)— a Portuguese energy sector company. Meaning that the State of Mozambique now had 92.5% ownership of the HCB. Under the current structure, HCB operates the Cahora Bassa Hydroelectric Complex under a Concession Contract entered with the State, valid until 2047 and extendable for 10 more years, and is obligated to pay a concession fee corresponding to 10% of monthly gross revenues.

**Continued Contrasting Fortunes**

More of the same growth observed in the early 2010s awaited. From 2014 to 2016, net income grew at an average rate of 65.52%. This growth allowed for the full repayment of the debt commitments 18 months ahead of schedule by mid-2016. It also meant that, for the first time, the HCB held its own shares after acquiring a 7.5% block of shares from the State the following year [Figure 4].

Figure 3: Evolution of Ownership Structure—HCB




Adapted from: HCB IPO Launch Event (2019)

Meanwhile, Mozambique's banking system and microfinance institutions experienced rapid expansion (with a high concentration of those institutions in Maputo), but this, however, was contrasted by the fact that access to either formal or informal financial products or services was still very limited[17]. Though there was a 14 per cent increase in the share of adults holding at least one deposit account from 2005 to 2012, the share of adults without one was still staggeringly high

[16] Redes Energéticas Nacionais, S.A.
[17] Ross, Ms Doris C., et al. (2014). Mozambique rising: building a new tomorrow. *International Monetary Fund*.

at 70 per cent of the adult population.[18] This figure was much lower for credit accounts, increasing from 0.3 per cent to 3.9 per cent in the same period.[19] Only 22 percent of households used financial products or services to conduct their personal finance.[20]

This was in stark contrast with the fortunes of the company. The company had recorded significant results in the past years [Table 2]. So much so that, since 2011, it has developed a strong track record of delivering shareholder returns. Part of the profits has been distributed in the form of dividends, totalling USD 92.22m. And, unless the company fell on hard times, it committed to distributing dividends equivalent to at least 25% of the distributable profit every year. Furthermore, the financial ratios reflected a high degree of financial health and a resilient business model. Evidenced by the considerable financial autonomy and high financing capacity the company maintained during the period, financing around 90% [Table 3] of its assets with recourse to equity.

Table 2: HCB Key Financial Indicators

| | 2014 | 2015 | 2016 | 2017 | 2018 |
|---|---|---|---|---|---|
| | MZN (millions) | | | | |
| **Sales of Goods and Services** | **9,747** | **12,856** | **15,044** | **15,575** | **22,340** |
| Gross Margin | 8,677 | 11,432 | 13,392 | 13,838 | 19,931 |
| **EBITDA** | **5,478** | **8,062** | **9,328** | **9,261** | **11,772** |
| Operating Profit | 3,737 | 5,183 | 7,441 | 7,196 | 9,594 |
| Income Tax | (1,110) | (829) | (1,401) | (2,734) | (3,971) |
| **Profit** | **2,396** | **4,155** | **6,555** | **4,214** | **4,645** |

Adapted from: HCB IPO Launch Event (2019)

Table 3: HCB Financial Ratios

| Ratios | 2014 | 2015 | 2016 | 2017 | 2018 |
|---|---|---|---|---|---|
| Liquidity | 2.1 | 1.9 | 4.6 | 5.1 | 2.9 |
| Solvency | 3.9 | 4.7 | 5.5 | 6.2 | 9.5 |
| Finacial Autonomy | 80% | 82% | 85% | 86% | 90% |
| Debt Ratio | 64% | 41% | 67% | 74% | 26% |

Adapted from: HCB IPO Launch Event (2019)

[18] Banco de Moçambique, B. (2013). Desafios da Inclusão Financeira em Moçambique: Uma Abordagem do Lado da Oferta. XXXVII Conselho Consultivo. http://www. bancomoc. mz/Files/GPI/Desafios_Mocambique. pdf. Accessed March 04, 2022.
[19] Banco de Moçambique, B. (2013). Desafios da Inclusão Financeira em Moçambique: Uma Abordagem do Lado da Oferta. XXXVII Conselho Consultivo. http://www. bancomoc. mz/Files/GPI/Desafios_Mocambique. pdf. Accessed March 04, 2022.
[20] FinMark Trust, FinScope MSME Survey Mozambique 2012, Preliminary Research Report, https://finmark.org.za/system/documents/files/000/000/155/original/Mozambique_Survey-2020-07-311.pdf?1597303567. Accessed February 3, 2022.

The government saw this contrast in fortunes as a microcosm of the inequality problem in Mozambique. And with elections around the corner, there was an incentive to fix it. It was a combination of the success of HCB as a well-governed company and the government's increased interest in reducing financial exclusion that gave rise to the idea of the IPO. The current state of low access to banking was a challenging problem. Furthermore, the government had started taking concrete steps in tackling this issue through the National Financial Inclusion Strategy. So, as a majority state-owned company, there was some pressure to do more for the country.

All involved believed that the IPO was the perfect opportunity and HCB the perfect company for the endeavour. Beyond the corporate profit-driven metrics, the HCB also makes significant contributions to the economy and society in general. Since control of the company reverted to the Mozambican State, the HCB has contributed a total of USD 522,969m to the National Treasury. In 2018 alone, the company handed over approximately USD 66.2m in the form of taxes, fees, and dividends with its exports representing about 7.5% of Mozambique's exports[21]. The company is also a big direct and indirect employer when. Within the framework of the policy of outsourcing some non-core business activities, the company generates thousands of indirect jobs in the surrounding towns. With such a strong brand and history, the IPO Organisation Committee was confident that investors would view the HCB as a company worth investing in. Now was the opportunity to make their social impact directly more tangible for regular citizens. To include the citizens in reaping the benefits of this growth.

The IPO also aligned with the National Financial Inclusion Strategy set out by the Mozambican Government in collaboration with the Central Bank. It is consistent with their various actions aimed at efforts that are likely to improve financial inclusion. One of those efforts was the Stock Exchange (BVM[22]) literacy Program launched in 2013 which set forward the following objectives:

> *“(i) promote the capital market; (ii) enhance BVM’s visibility; (iii) stimulate companies to get listed on the stock exchange; and (iv) offer the population in general greater opportunities to invest their savings and a better selection of investment options.”*

[21] HCB IPO Launch Event Presentation, 20 May 2019, p. 21.
[22] Bolsa de Valores de Moçambique

With 37 listed securities and a composition of 49 bond issues, 11 shares issues, and 1 commercial paper issue, the stock exchange was characterised by a low level of security rotations common in the early stages of stock markets there was a hope that this project would stimulate the trading volume and participation in the financial markets.

## 3.3 Choosing Mobile Money

Right after the first announcement came another, detailing how they would ensure maximum reach and inclusion. They announced that besides conventional channels like nationwide multibank distribution channels and a mobile app, investors would also be able to purchase orders through an innovative USSD platform[23]. USSD was the technology used in mobile money systems which have for some time been used for basic financial services like deposits, savings, and remittance. This collaboration between the HCB and the Government was a first of its kind. Mobile banking already had some presence in Mozambique and the organisers wanted to leverage that. What made it different from other similar programs was that for the first time, mobile money services would be used in an equity transaction and include the unbanked. This multi-channel strategy could, hopefully, remove or mitigate some of the common barriers to participation. They hoped that all interested citizens, regardless of access to financial services, and location could participate in this landmark event. With the USSD platform, it was possible to subscribe so long as the individual had any of the three mobile banking options — M-Pesa, e-Mola, or mobile account.

### Mobile Money Examples

There are many examples of why mobile money was an interesting choice. Similar initiatives proved very successful in countries like Kenya (where banking services penetration was low) with the launch of mobile banking services like M-Pesa. M-Pesa was launched in 2007, of out necessity for a better way to move money, a more reliable way to send and receive money using your mobile phone. It involves using mobile phone airtime, which can also be used as a proxy currency. Users can also send this airtime to other users via message. To top up, you would buy airtime at a local airtime reseller and load it to your phone. This service was a success among the unbanked. With the advent of mobile money, the unbanked had a safe store of value in comparison to the more

[23] HCB, Press Release, https://www.hcb.co.mz/wp-content/uploads/2019/05/HCB_Press-Release-IPO-ENGLISH-21-May-2019_final.pdf. Accessed May 24, 2022.

traditional and riskier forms of saving they previously employed, such as “under-the-mattress saving”.[24] In many ways, it catapulted Kenya into a cashless society of sorts.

Within 5 years, M-Pesa was being used by 70% of the population and 50% of Kenya’s GDP now flows through the system. The emergence of M-Pesa was not without its benefits. M-Pesa enabled roughly 194,000 (2%) Kenyan households to rise out of poverty. To put it into perspective, approximately 70% of the Mozambican population did not have access to financial services of any sort around the same time.[25] M-Pesa’s success could be partially attributed to the conveniences it brought individuals. For one, they no longer wasted time travelling across heavy traffic to pay for goods or to different parts of the country to send money home to family in the countryside. Giving people more time to be productive and earn more money.

M-Pesa continues to evolve, encompassing partnerships with banks that make it easy to save money and earn interest on it. It has also gone beyond access; it is no longer just about sending money from one person to another. Farmers work with doctors to provide services, government institutions use it to pay their employees’ salaries and as a channel to distribute social benefits. In many ways, its organic growth was thanks to the adaptability of the technology. Meeting the people where they are at in terms of needs and the technology and infrastructure available.

### Collaboration and Regulation Forming an Enabling Environment

Despite the possibilities mobile money presents, it is still necessary to create an environment that enables it to succeed. Many developing countries have tried to implement mobile financial services as a means of achieving greater financial inclusion but with varying levels of success. Take, for example, Kenya and South Africa. Both countries launched mobile money schemes but had starkly different outcomes. Experts in the matter point primarily to the nature of collaboration between the government and the institutions implementing such innovations, especially as it relates to regulations, as a determining factor in the outcomes of these initiatives. Governments normally lean towards two approaches. That of a micromanagement approach mainly preoccupied with

[24] Standage, T. Mobile Money [Audio podcast episode]. In Gamechangers. *The Economist*. https://podcasts.apple.com/us/podcast/gamechangers-from-the-economist/id1572322263.
[25] Suri, T., & Jack, W. (2016). The long-run poverty and gender impacts of mobile money. Science, 354(6317), 1288-1292.

avoiding financial instability or, a more adapt-as-you-go approach that allows regulations to follow the organic market development.

In Kenya, when M-Pesa, the first mobile money service was launched, the government played the role of an enabling partner. Oftentimes, regulation lagged behind the innovations, but this was always redressed by prudent oversight and review of the system. This oversight did not consist of one-sided laws from the government. There was an open dialogue between the government and the private sector who were in constant consultation with each other. The government was receptive to recommendations so long as they were evidence-based.[26]

On the other hand, the South African government's approach was a lot more one-sided and heavy-handed. It restricted the types of participants that could provide mobile money services. Like in many of the countries whose mobile money schemes floundered, there was an insistence that regulated banks take a leading role in operating the mobile money schemes rather.[27] Whereas, in Kenya not only were Mobile Network Operators (MNOs) allowed to participate without restrictions, but they were the ones to spearhead this innovation. Consequently, companies that were initially willing to provide MFS are usually prohibited or dissuaded from providing MFS by strict financial regulations. Ultimately, banks, who have little incentive to provide services to the unbanked due to their reputation as an economically unviable segment, are the only providers of such services. In the end, Kenya’s mobile money scheme took off while South Africa’s languished.

The relevant Mozambican authorities seemed to draw inspiration from both countries in the way they collaborated with the private sector. With the government a majority owner of the HCB and the primary proponent of the IPO, there was a vested interest in providing an environment that was conducive to the success of the project. The authorities did not restrict participation to only the banks and they collaborated closely with the private sector like in Kenya. However, it was less flexible regarding certain points of regulation in South African authorities, especially when it came to KYC.

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[26] Kimenyi, M., & Ndung’u, N. (2009). Expanding the financial services frontier: Lessons from mobile phone banking in Kenya. Washington, *DC: Brookings Institution*).
[27] Evans, D. S., & Pirchio, A. (2014). An empirical examination of why mobile money schemes ignite in some developing countries but flounder in most. *Review of Network Economics*, 13(4), 397-451.

Identification is an essential part of an individual's political, social, and economic life which allows one access to vital rights and services. Persons without valid identification are often marginalised. This is relevant because a lack of documentation was cited as a major determinant of financial inclusion.[28] In recognition of the importance of identification, the UN has even included access to legal identity as a Sustainable Development Goal (SDG).[29] Typical KYC and Customer Due Diligence processes require that customers present key documents such as IDs, National Tax IDs, proof of residence, and passports, that the unbanked often struggle to provide. For most in Mozambique, where there are 0.5 birth registration centers per 50,000 people and less than half (48%) of the population is registered at birth,[30, 31] complying with these requirements is clearly a challenge.

These barriers are not exclusive to Mozambique. One approach some countries have adopted to simplify due diligence is what is called "tiered KYC" or "progressive KYC" [32]. With this solution, an account will have varying levels of verification requirements depending on the desired level of functionality. To gain higher account functionality the user would have to go through more stringent KYC requirements. For example, Ghana and Liberia have adopted similar layered KYC requirements and account restrictions models for mobile money accounts called 3-tiered KYC.[33] Where account type levels are determined by four progressive criteria: single transaction limit, cumulative daily transaction limit, cumulative monthly transaction limit, and maximum account balance.

The minimum KYC requirement for all account levels consists of re-using the information provided during SIM card registration. This greatly reduces friction since most of the documentation required to register a phone number is similar to the information required to open an account. All that is required from the customer is that they present their SIM-card number. For level 1, the acceptable means of identification is any type of photo ID that can reliably identify the customer and the required information is the name, date of birth, residential address (proof of

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[28] AFI (2019), KYC Innovations, Financial Inclusion and Integrity In Selected AFI Member Countries.
[29] UN CDF website for Financial Inclusion and the SDGs, https://www.uncdf.org/financial-inclusion-and-the-sdgs, Accessed May 15, 2022.
[30] Government website for birth registration and birth certification, http://www.portaldogoverno.gov.mz. Accessed January 28, 2022.
[31] ID4D global dataset 2018, https://datacatalog.worldbank.org/dataset/identification-development- global-database. Accessed February 2, 2022.
[32] AFI, KYC Innovations, Financial Inclusion and Integrity In Selected AFI Member Countries, 2019
[33] AFI, KYC Innovations, Financial Inclusion and Integrity In Selected AFI Member Countries, 2019

address not required); and telephone number. For level 2, the required information is the same but the means of identification must include a government-issued ID such as a National ID, Voter ID; Driver's licence; Passport; etc. The requirements for level 3 as the same as level two, but they must be supplemented with at least one of the following: tenancy agreement; Utility bill; Income tax certificate; Other banks' statements; Reference letter; Employer's; reference letter which must be verified by the mobile network operator.[34]

One fintech that has followed a similar approach is Mukuru. Mukuru, one of the largest money remittance businesses in Southern Africa, started as a remittance solution for low-and middle-income migrants but has since then expanded to a broader range of financial services.[35] It has a 3 tiered progressive KYC system labelled LITE, CORE, and MAX. LITE, the lowest level, allows customers to send up to £600 per month dependent on background checks such as basic identity verification. If a customer wants to upgrade to a CORE account which allows them to send £600-£4,000 per month, they should submit government-issued documents like a passport or local driver's licence. Remittances above £4,000 are only allowed on MAX accounts which require one of the following proof of source of funds: last 3 months' bank statements, last 3 months' payslips, deed of sale, or any other appropriate documentation.

## 3.4 The IPO Putting Fintech into Practice

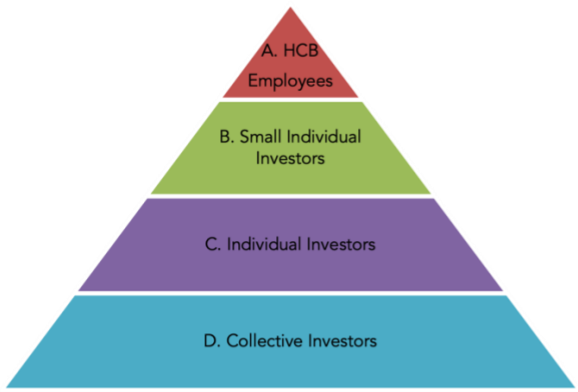
After settling on the distribution channel, there was a need to develop a blueprint for the entire IPO process from beginning to end. The considerations taken during this design stage could make or break the operation. Firstly, there was an intention of providing a proudly Mozambican operation. As a means to protect local investors and ensure that the event remained inclusive, only investors of Mozambican nationality, under the terms established in the Constitution of the Republic and the law, were eligible to participate. These restrictions would remain beyond the IPO, covering shares that would eventually trade in the secondary market.

To address additional investor characteristics and to convey priority levels, investors were subdivided into four segments [Figure 4]. The first three segments, A to C, covered individual

[34] AFI, KYC Innovations, Financial Inclusion and Integrity In Selected AFI Member Countries, 2019
[35] ECP Private Equity Website, https://www.ecpinvestments.com/portfolio-posts/mukuru/. Accessed May 8, 2022.

investors while the remaining one, segment D, covered collective investors. Each segment had a different minimum and maximum number of subscriptions and tax fees. Segments A and B a had a maximum number of shares that could be purchased by investors of 15,000 and 7,500 respectively and the remaining two categories were under a while stocks last policy [Figure 5]. The price of the share in the IPO was set at an inclusive ***MZN 60 (1 USD)*** for all segments.

Figure 4: Investor Segment Priority




Adapted from: HCP IPO Launch Event (2019)

Figure 5: Investor Segment Details

| No. of shares (Value in MZN) | A. HCB Employees | B. Small Investors | C. Individual Investors | D. Collective Investors |
|---|---|---|---|---|
| Minimum subscription batch | 100 (300 MZN) | 20 (60 MZN) | 1,000 (3,000 MZN) | 20,000 (30,000 MZN) |
| Subscription Multiples | 10 (30 MZN) | 10 (30 MZN) | 100 (300 MZN) | 1,000 (3,000) |
| Maximum Subscription Batch | 15,000 (45,000 MZN) per investor | 7,500 (22,500 MZN) per investor | Shares in IPO, by Order | Shares in IPO, by Order |
| Guaranteed Batch Subscription | 15,000 (45,000 MZN) | 7,500 (22,500 MZN) | 2,000,000 (6,000,000 MZN) | 2,000,000 (6,000,000 MZN) |
| Taxes and Commissions | Price List | Exempt | Price List | Price List |

Adapted from: HCB IPO Launch Event (2019)

## Registration and Subscription

In practical terms, the idea was very simple. The USSD platform was message-based and could be accessed by dialling the vertical code reserved for the operation, making it possible to subscribe from any mobile device, anywhere, at any time during the subscription period. Subscribing for the purchase of shares through this channel was a three-step process. Step 1 involved registering as an investor by providing mandatory personal details. Step 2 required placing the subscription order, in the chosen segment, and confirming. Step 3 was finalising the procedure and paying the subscription order through the available options.

Through this channel, an individual investor without a formal bank account looking to subscribe to the HCB shares for the IPO was now able to subscribe, whereas they would not be able to, under typical circumstances. In this case, they would only need the NUIT[36] of the investor (however, if you do not have it, you can proceed with the registration without it). Identification: ID or Passport number, full name, date of birth, gender, and district of residence. Identification of the credit account (to receive future dividends or amounts from stock returns or sales). Setting and confirming a 6-digit PIN. Finally, they should go to a BCI bank branch, within 6 months, to personally confirm the personal details and personal information provided.

Once registration is complete, they continue with the subscription by dialling the vertical service code again. They would need to choose the relevant investor segment (A—employees only—, B or C) that they want to subscribe to, then indicate how many shares or how much money to invest. Once the subscription is simulated, a quote will appear showing all applicable costs and if everything is in order confirmation can be done by entering the PIN. Upon confirmation of the order, the client receives payment instructions (via SMS), which they can complete using a feature phone. The subscription order will be automatically accepted and the process complete.

Those using mobile banking options could participate in the entire process almost entirely from the comfort of their homes and in the remotest corners of Mozambique. It covered the registration, the investor segment selection, and the payment processes. For most, it eliminated one of the biggest barriers to inclusion[37] which was the need to travel long distances to reach the nearest financial institution. This created an adverse effect since it often meant a trade-off in hours spent making a living or travelling.

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[36] National Tax Identification Number

[37] Triki, T., & Faye, I. (2013). Financial inclusion in Africa. *African Development Bank*.

**KYC and Verification**

Also taken into account during the design process, was the process of accreditation of eligibility. The KYC process consisted of the compulsory in-person submission of the physical copies of the necessary documents (Identity Card or Passport and NUIT) at any BCI bank branch, to validate the personal information registered on the USSD remote channels. Namely, name, nationality, date of birth, province and district of residence, number and validity of the identification document and NUIT). Although investors could register without some of these, they would later need to verify the details they provided during registration. This had to be done within 6 months of the subscription order date or the investor would not receive the shares or any of the consequent dividends.

The KYC process was a point of contention. The general understanding is that measures that prohibit money laundering and financial terrorism are part of the underpinnings of a stable financial system. While the regulations surrounding it work, for the most part, there are two sides of the coin that need to be considered. For many, these regulations bring stability and trust in the financial system but for others, they represent barriers that prevent their participation in the said financial system. Hence, AML [38] /CFT [39] must consider financial inclusion so that its implementation is not an aggravating factor of exclusion. Some believed that the regulation was sufficiently strict seeing that they were dealing with the financial markets. Others found the rules around KYC strict despite the gap afforded between the subscription date and verification.

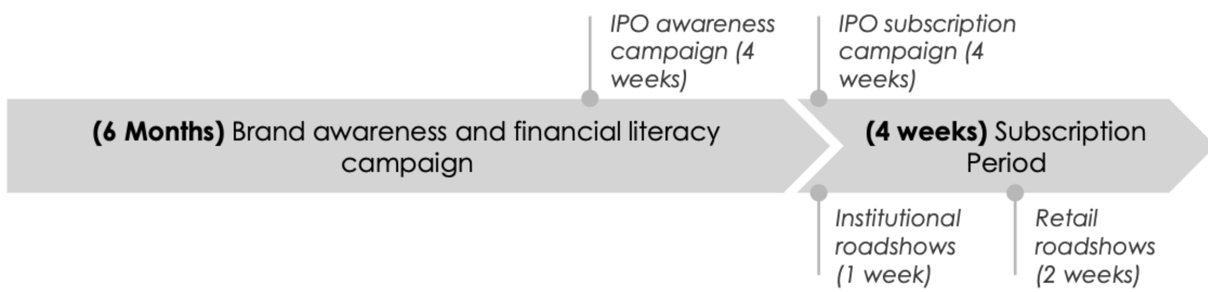
Regardless of opinion, some things remained true. Firstly, as was already mentioned, there is a lack of a strong national ID system. As a consequence, KYC requirements seem inflexible given that customer identification requirements consisted of documents the unbanked would struggle to provide. Secondly, the lack of automation and digitisation did little to erase the challenges of manual authentication of physical documents. It is common to see slow regulatory reforms during innovative developments like mobile money. This slow reaction can inhibit any form of progress.

[38] Anti-Money Laundering
[39] Combating the Financing of Terrorism

## Marketing and Financial Literacy

However, the consequences of these decisions could only be adequately evaluated after the IPO. With the blueprint of the operation settled, all that was left to do was go on the offensive and promote the event. Regardless of the “company brand” and the “innovative distribution channels”, there was still some groundwork necessary to convince and prepare citizens to participate in the IPO. This is where the marketing and financial literacy campaigns came in [Figure 6].

Figure 6: Marketing and Distribution Timeline




Adapted from: Hidroelétrica de Cahora Bassa IPO - Case Study (n.d.), p. 4

For the campaigns to work, they would need to cater for different levels of educational attainment and socioeconomic status. A lot of money was spent in an unparalleled effort in the hopes that the campaign would be successful. The stock exchange, together with the HCB, held a very aggressive campaign, advertising on multiple mediums spanning TV, print, radio, leaflets and social media in local languages. There was also a micro-website for the IPO and a dedicated and free call centre.[40] A lot of marketing was also accompanied by an education campaign to improve the current levels of financial literacy and to inform potential investors about the risk of investing in the stock market. To cap it off, nationwide roadshows were held to promote subscriptions. The overall effort required a monumental effort from the banks, government authorities, advertisers, communication and companies. Soon enough, there was widespread public awareness of the IPO, with critics and advocates both weighing in on the pros and cons of the project.

[40] DealMakers Africa, Vol. 12: No 4, https://www.dealmakersafrica.com/_files/ugd/cf215e_4c0c23e56a2d437f85e34aa814f974c1.pdf. Accessed May 20, 2022.

## 3.5 Outcomes

Fast forward to Wednesday, July 17, 2019, at 8:30 am, at the Hotel Polana's Noble Room in Maputo, the day of the announcement of the results of the HCB IPO. The culmination of a year's work and collaboration between the HCB, the government authorities, the banks and mobile schemes providers would be broadcast for examination. As the results came in, there were a couple of highlights.

For one, the demand for the IPO was higher than anticipated at 2.2 times the Offer size. In light of the high demand, HCB increased the Offer to 4.0%, reducing non-satisfied demand to 37%.[41] This meant that from the initial 688m ordinary shares originally offered, investors were able to purchase 1.1 billion ordinary sales. For a country with very limited financial inclusion, this was a blockbuster number. Especially when you consider that most people knew little about the concept of shares and the financial market before the campaign began and most had no previous experience with even basic banking services. This seemed like the direct result of an intensive marketing strategy which included significant financial literacy and advertising effort.

The objectives of reach and inclusion were successfully achieved. This suggested two things. One is that the approach of implementing a broad range of subscription channels, including innovative channels like mobile banking via USSD technology for remote and non-banked investors was a successful one. Two, although the KYC process was not as flexible as seen in other examples of mobile money schemes in sub-Saharan Africa, the delayed submission of identity documentation was a compromise that was not perfect but was at least not as prohibitive as was feared. That data corroborates such an assumption as orders were received from all provinces in Mozambique, and over 92% of districts (142 districts out of 154). In addition, the number of orders placed through remote channels accounted for over a third (36%) of the total number of orders.[42]

Furthermore, the IPO created a level of participation in the stock market never before seen in the nearly 20 years of the Mozambique Stock Exchange's existence. A total of 19,210 orders were received from 16,787 investors. Priority was given to individual investors as the placement ratio

[41] HCB Webstite, https://www.hcb.co.mz/uncategorized/the-banker-premeia-a-opv-da-hcb/. Accessed May 11, 2022.
[42] HCB Website, https://www.hcb.co.mz/uncategorized/ipo-of-hidroelectrica-de-cahora-bassa-awarded-an-international-prize/. Accessed May 11, 2022.

between institutional and individual investors was 65:35. Orders from individuals, in segments A, B and C represented 99.2% of the total. The number of investors registered at the stock exchange almost tripled, from less than 8,000 initially, to circa 23,000 as a result of this transaction.

Not everything was positive. It was yet to be seen if these levels of participation and trading would remain. But as later data showed that the initial enthusiasm in the financial market did not last. The intent was that this project would stimulate participation in the financial sector, however, following the IPO, there was minimal movement in the secondary shares market as investors were reluctant to sell their shares. Also, the general market remained stagnant, and no other IPO of its kind has happened since, thus, suggesting that the aftermath was not properly capitalised.

Currently, the price of HCB shares is below the IPO level. With the prevailing share price, there is little incentive to sell. And there is still the remaining 3.5% tranche of shares, which given the unfavourable market condition, is yet to be released to the public. There are several reasons why the HBO price is below the IPO price. The most interesting one is that HCB's dividend yield compares unfavourably to market alternatives. It is relevant as it opens the discussion regarding product suitability for the unbanked and whether the alternatives like the bond market would have been a better introduction to the financial markets.

With that said, on the day of the announcement, there was a general sense of accomplishment as the CEO of the Mozambique stock exchange remarked, "17 July 2019 will go on record as an important day for BVM… in which citizens, Mozambican companies and institutions now hold shares in HCB, through this initiative of economic and financial inclusion." There was a reason for such optimism, but there was also a reason for reflection. To evaluate the impact and the legacy of the IPO.

# 4. Teaching Note

## 4.1 Case Synopsis

Hidroeléctrica de Cahora Bassa, S.A. (HCB) is a concessionaire company dedicated to the production, transportation, and commercialization of energy, including its import and export in Mozambique. It is one of the country's largest companies and an object of pride for Mozambicans as a beacon of good governance. On November 27, 2017, as part of the celebration of the 10th anniversary of its reversion to the Mozambican state, the President announced that the company will be selling 7.5% of its shares in an Initial Public Offering (IPO).

The main objective of this IPO was to promote economic and financial inclusion. It was hoped that all Mozambicans, irrespective of social status, financial literacy, banking readiness or geographical location would be able to share in the capital of HCB. However, the company and its stakeholders would have to find a way to overcome the poor infrastructure, low level of financial literacy, and an extremely high level of financial exclusion which is characteristic of a developing country like Mozambique.

They were hoping to achieve that by implementing a strategy that involved a broad range of subscription channels that would allow for remote and non-banked investors to participate. Primarily, a USSD powered mobile banking solution. A technology that has enabled mobile banking for the unbanked and that has made the simple feature phone the cornerstone of the financial inclusion movement in many developing countries.

## 4.2 Teaching Objectives

This case study serves as an introduction to discussions of the application of fintech as a tool for financial inclusion in developing countries. It seeks to present the student with a successful world-life example of the creative implementation of financial technology in markets with low financial inclusion.

Financial inclusion has been a term of discussion for a long time. Fintech is a powerful tool that is revolutionising the financial services landscape. It is broadening the number of services and changing how such services are delivered and accessed. Many developing countries, aware of the possibilities that financial technologies bring, have begun to develop mobile money systems to combat the low levels of financial inclusion within their borders.

This case study is targeted toward undergraduate and graduate-level students in business management, Finance, Economics, and its relevant fields in introductory-level courses that deal with the concepts of fintech and financial inclusion are discussed. After discussing the case study, students will be able to:

- Understand the status of the Fintech landscape in emerging markets and the innovations there present through fintech and financial inclusion;
- Analyse the creation of the financial sector for the financially excluded;
- Acknowledge the barriers to financial inclusion are and how they are being dealt with;
- Understand the role of regulation as either an enabler or inhibitor of fintech initiatives;
- Understand the role of collaboration in determining the success or failure of financial inclusion projects or schemes

## 4.4 Supporting Material

To facilitate student participation and enhance the analysis of the case study, the following materials are recommended:

- Suri, T., & Jack, W. (2016). The long-run poverty and gender impacts of mobile money. *Science*, *354*(6317). https://doi.org/10.1126/science.aah5309
- Osafo-Kwaako, P., Singer, M., White, O., & Zouaoui, Y. (2018). Mobile money in emerging markets: The business case for financial inclusion. In McKinsey & Company.
- Ngugi, B., Pelowski, M., & Ogembo, J. G. (2010). M-Pesa: A case study of the critical early adopters' role in the rapid adoption of mobile money banking in Kenya. The Electronic Journal of Information Systems in Developing Countries, 43(1), 1-16.

- Standage, T. (Host). (2021, November 2). Mobile Money (No. 6) [Audio podcast episode]. In *Gamechangers*. The Economist. https://podcasts.apple.com/us/podcast/gamechangers-from-the-economist/id1572322263

Though these materials will be useful in introducing the students to concepts of financial inclusion and the use of mobile money in efforts to improve financial inclusion, particularly in developing countries, they are only recommendations. Other resources can be used to meet the needs of the syllabus. The end goal of these materials is to equip students with the appropriate vocabulary and frameworks to explain and discuss topics related to:

- Financial Inclusion and its importance;
- Financial technology and its role in enabling financial inclusion;
- Consideration of the regulatory implications of mobile money;
- Financial products and their suitability for the unbanked;
- The role of collaboration between government and companies;

## 4.5 Teaching Plan: Case Analysis, Discussion, and Questions

The case study analysis and discussion section are estimated to run the duration of [number of questions/an hour]. It is advised to divide the class into groups of 4 to 5 students to encourage the participation of all individuals. To facilitate quality discussions, it is also highly recommended that students read the case ahead of time and that the topics addressed in this case have already been covered in the preceding lectures of the relevant course.

The discussion can be divided into two sections:
***Section 1*** is meant to encourage participation and serve as a gauge of the class's understanding of the case. The professor can begin the discussion by asking prompting questions about the main points of the case. This section has a suggested duration of approximately 10 minutes.

***Section 2*** will dive deeper into the case and the questions are based on specific topics related to financial inclusion. The lecturer will serve as the moderator, helping guide the discussion and answering the questions once all groups have given their opinion. The answers should draw from course content from previous lectures as well as information presented in the case. The suggested duration is 50 minutes.

Question 1 | 10 minutes

*What is your assessment of Mozambique's level of financial inclusion and what were some of the contributors? And what are the benefits of increasing financial inclusion?*

Key answer points:

- Although the late 90s to early 00s was a period of economic growth, where the number of households below the poverty line dropped significantly (especially in rural areas), that economic growth was not sustained. Data showed that in the later 2000s the economic growth stagnated. With the stagnation came the reversal of some of the strides taken towards improving the economic status of the population, seeing there was a slight increase in rural and financial inclusion.
- Mozambique has very low levels of citizen registration. To combat money laundering and other financial types of financial crimes, regulators require financial services providers to conduct customer due diligence before granting access to banking and financial services in general. Often, these requirements are of identification and documentation that the unbanked have difficulty providing. Leading to many being unable to open bank accounts.

Question 2 | 10 minutes

*Do you believe that using mobile money was the right way to go about trying to achieve reach and inclusion?*

Key answer points:

- Mobile banking was not a new innovation. What was new was its application. Never had mobile banking been used to sell shares to the unbanked, especially in an emerging market. Having said that, the mobile banking technology (USSD) used, which enables mobile users without a smartphone or internet service to make transfers, was something that was already being used by Mozambicans in their quotidian. All the HCB and IPO Organisation

Committee did was leverage the already established habits of the population to provide access to a new financial product. Therefore, since most people would have been exposed to relatives or friends using such services, promoting this channel would not require much intense effort.

- Moreover, a benefit to mobile banking is the ability to make transfers remotely. Therefore, there was no need for individuals to relocate to make an order or purchase the shares. This is significant since most of the unbanked are located in remote rural areas. Given the low population, there is little bank physical banking presence in most areas, meaning that without the mobile alternative most individuals would need to travel long distances. Which, in many cases, would impact their livelihood since travelling means sacrificing working hours.

Question 3 | 10 minutes

*What is your evaluation of the KYC/customer due diligence strategy employed in the IPO? Do you think they were too strict or were they not strict enough? Would a different strategy have led to more participation?*

Key answer points:

- In terms of due diligence/KYC regulation, Mozambique was less flexible. Some countries, for example, Ghana and Liberia have a tiered KYC or progressive KYC system. This allows for the level of the strictness of KYC to be directly proportional to the level of functionality or account size. They facilitated account opening by simplifying the requirements to open a basic account by re-using the identification data presented during sim registration.
- Regulators in Mozambique could have employed a similar strategy for the IPO by setting different KYC tiers depending on whether the investor was an individual or group and by order size—the larger the order the more checks investors would have to undergo.
- The compromise arrived at by the regulators was to delay verification by 6 months. It can be argued that this gave individuals with a lack of documentation ample time to register or collect the necessary documents in order to become verified. Or it can be argued that the

barriers that were preventing people from not having the appropriate identification were still present and unaddressed. Therefore, regardless of time, many people would still not be able to participate.

- However, all the available shares were purchased so it seemed like the demand was not dampened by the KYC requirements. Although there is no information or data on what portion of those purchases actually come from individuals we would consider unbanked and also at risk of not being able to provide identification.

Question 4 | 10 minutes

*Do you believe that shares were an appropriate financial product for the population of Mozambique?*

Key answer points:

- Firstly, one has to consider the level of financial literacy amongst the population. It is well documented that the level of financial literacy in Mozambique was low. With a population where approximately 70% of adults did not have access to any sort of financial service or product, let alone basic knowledge of more complex financial instruments like shares, it is hard to imagine a situation where individuals could reliably make the best financial decision for themselves. However, one can argue that, maybe, the intense marketing and financial literacy campaign run by the organisers was enough to supplement previous ignorance. Who is to say that those financial literacy efforts were enough?
- Secondly, later evidence shows that the HCB share price is currently below IPO levels. One of the reasons is that there was competition from other products that offer better returns than the dividend yield. Also, the secondary market never took off. This can be used as an argument that the lack of knowledge of the investors and insufficient financial literacy education.

Question 5 | 10 minutes

*What is your evaluation of the results of the HCB IPO initiative, and to what extent do you think it was successful?*

Key answer points:

- The objective of the IPO can be summarised in two parts. Firstly, the goal was to be as inclusive as possible by targeting the offer to all Mozambicans, irrespective of social status, financial literacy, banking readiness or geographical location. Secondly, this was a chance to familiarise Mozambican investors with the concept of the capital market to help the development of an incipient capital market
- In terms of reach and inclusion, the numbers show that demand for shares was 2.2 times higher than anticipated and the initial tranche schedule was anticipated by an increase in the offer to 4% of the shares. Resulting in the sales of 1.1 billion ordinary shares. Orders came from almost all parts of the with a coverage of 92% (142 out of 154) percent of the districts, symbolising great reach and participation. In addition, close to a third of all the orders came from the remote mobile banking channels.
- The goal of helping to boost participation in the capital market seemed to not be as successful. The secondary market has seen little movement in the following years since. And when you consider the total trading volume of the stock exchange post-IPO, you see that the IPO did not have the desired catalytic effect on the rest of the stocks. Especially, when there is a greater number of investors in the stock market than there were previously. It could be argued that this poor performance has discouraged other companies from holding similar offerings for fear of the same fate.
- It has to be noted that despite the rapid expansion of Mozambique's banking system and microfinance institutions, which saw the number of adults holding at least one deposit account increase by 14%, most of the expansion was limited to the capital city and its surrounding areas. Meaning that the positive impact of such an expansion was geographically restricted and unevenly distributed. Ultimately, access to either formal or informal financial products or services was still very limited.

# 5. Conclusion

## 5.1 Overview

The purpose of this thesis was to contribute to the discussion of fintech in emerging markets through the case study method. Particularly, how fintech is enabling the participation of unserved populations in the financial sector. This study contributes to the literature by discussing a relatively new phenomenon which is the use of USSD technology-powered mobile money channels to access the capital markets. The case study is a qualitative analysis of the award-winning, first-of-its-kind equity market transaction, the HCB IPO in Mozambique, which leveraged USSD mobile technology to enable the participation of the unbanked in the transaction. This chapter will conclude the study by summarising the key research findings concerning the research aims and questions, as well as the value and contribution thereof. It will also review the limitations of the study and propose recommendations for further research.

## 5.2 Summary

Overall, the results suggest that mobile money had a positive impact on the reach and inclusion of the transaction which is consistent with the literature (Mbiti & Weil, 2016; Gosavi, 2018; Demir et al. 2020). Orders were placed from over 92% of districts, and remote channels, which were deliberately set up to increase inclusion, accounted for 36% of the total number of orders. This is significant given the distribution of the population, seeing that most physical branches are located in urban areas while the majority of the population is rural. This legitimises mobile banking as a tool to enable access and drive usage of financial products and services in areas with low banking penetration and is consistent with Allen et al.'s (2014) suggestion that gain in financial inclusion will require novel services, delivery channels, and providers.

The extent to which the IPO served as a catalyst for the participation of the unbanked in the stock exchange and how well it was able to stimulate its growth is two-sided. While demand for the shares was 2.2 times higher than anticipated and the number of investors in the stock market almost tripled as a result, the effects were rather contained to the IPO period. In contrast, the stock failed to take off in the secondary market and the overall transaction volume of the entire equity market remains stagnant. This raises questions on whether equity was an appropriate financial product to introduce to the unserved given its complexity and the level of financial literacy interventions. Which says more about the greater comfort the underbanked have with semiformal alternatives (Demirguc-Kunt et al., 2020), and the negligible effects of financial literacy interventions on behaviour months down the line (Fernandes et al., 2014).

The results also suggest that mobile banking remote channels helped mitigate the KYC challenges despite the identification requirements being rather inflexible. Which, according to Morawczynski & Pickens (2009), points to the reduction of "spatial and temporal" barriers mobile money provides. The remote channels removed friction by enabling remote registration, although not completely, as investors still had to verify their identity in person within 6 months before gaining access to the shares. Still, despite the KYC solution not being as refined as for example countries like Ghana, Liberia, and Nigeria (AFI, 2019), it is a promising account of how mobile banking can ease the initial hurdles particularly related to due diligence.

In line with Dev (2006), who notes the importance of aligned interests, the nature of the collaboration in this case study presents a strong rationale for private and public stakeholders to team up—so long as interests align—as different types of expertise combined with regulatory and enforcement power help solve challenges none of them could solve on their own. It also provides support for the participation of non-traditional players in the financial markets.

## 5.2 Limitations and Future Research Recommendations

A limitation of this study is the limited access to data regarding the results of the IPO. A good portion of the data surrounding it is confidential, which makes it hard to run any quantitative analysis based on the publicly available data. Also, although the remote channels were primarily developed and leveraged for the unbanked, we are not entirely certain about the distribution of banked and unbanked within the cohort that participated through those channels. Furthermore, this case study might not be generalisable given that most literature focuses on mobile money for basic banking needs and not for more niche services like equity transactions that are not typical to unbanked individuals in developing countries. One recommendation would be to do a follow-up survey study on the participants to have a better understanding of the financial inclusion and socio-economic outcomes of the IPO.

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# Appendices

**Appendix 1** Interview Participant Details

Table 4: Interview Participant Details

| NUMBER | EXPERT NAME | COMPANY | POSITION | INTERVIEW TYPE | DATE | LENGTH |
|---|---|---|---|---|---|---|
| 1 | Meul Gulabsinh | Banco de Investimentos Global (BiG) | CFO, BiG Mozambique | Zoom Call + written email correspondence | 06.05.2022 | 31:19 min |
| 2 | Rogério Lam | Banco Commercial e de Investimentos (BCI) | General Manager: Marketing and Electronic Distribution Chanel Divisions | Zoom Call | 10.05.2022 | 37:35 min |

**Appendix 2** Note on Interview

A set of interview questions were prepared and sent out through email ahead of the time to the interviewees. These questions served as a flexible guide for the interview but was not indicative of all the questions and their order. This was to allow for a more natural conversation flow when clarification questions were asked. Also, some follow up questions were asked after the interview to which there are no records given the nature the information shared.

**Appendix 3** Sample Interview Questions

Table 5: Sample Interview Questions

| | |
|---|---|
| 1 | Briefly, how would you describe your role in this project? |
| 2 | How was this idea—to do an IPO that also included the unbanked—conceived? |
| 3 | Do you recall the public’s reaction/response? Was it easy to get people onboard? |
| 4 | Of the goals you set out to achieve, were you able to achieve any? Which ones do you think you were most successful at achieving? |
| 5 | Why do you think this was or was not successful? What contributed to the outcome? |
| 6 | Do you have any data on the success/lack of success of the campaign? |
| 7 | What do you think this initiative means for the future of financial inclusion in Mozambique? |
| 8 | I sometimes hear that mobile banking might help leapfrog legacy banking, do you think that is the case and if so, how did this IPO contribute to it? |

| | |
|---|---|
| 9 | How many different organisations and firms participated in the whole project? What would you say about that participation? Was it successful? Who was more involved and what was the level of involvement? |
| 10 | Given this experience how would you say is the best way to leverage tech to build more stakeholder collaborations? And what are the things to consider in terms of partnerships? |
| 11 | What were your biggest challenges? Before, during, and after? Anything, in hindsight, that you didn't foresee but ended up happening? |
| 12 | What were the biggest lessons you learned? |
| 13 | Do you think that this sort of initiative can be applicable to other sectors? Maybe in companies that related to telecommunications and other infrastructures |
| 14 | What was the exact role the played? How did that support determine the outcome? |
| 15 | What do you think will compel more companies to do something similar? |
| 16 | Where there any surveys conducted on the participants? |
| 17 | What model of partnership would you say you/HCB had with the government? How would you say that differed from other initiatives in other countries? |
| 18 | Do you think this was an adequate product for the unbanked? |
| 19 | Given the low level of documentation in Mozambique, do you think the due diligence/KYC process was appropriate for enabling financial inclusion? Was it strict, lenient, or just right? |

**Appendix 3** Interview Transcripts

**Meul Gulabsinh**

Me: How was this idea—to do an IPO that included the unbanked—conceived?

Meul: So I think it all starts with the president of Mozambique saying on the occasion of the 10th anniversary of the Mozambique state getting the majority stake in the company from the Portuguese government in 2017, I think. And in that speech, the President says that the company will do an IPO and that every Mozambican will be able to be a shareholder of the company. So, immediately the goal becomes allowing or enabling each and every Mozambican to be able to buy shares in the company. Given the very specific characteristics of the country, it becomes a very challenging task because you need to be able to sell shares of a company in a country with very low literacy, very low Financial inclusion, of very low-income people living in many rural areas where there are no banks. You can understand the task at hand. The objective was always: first of all you want to place the entire amount of the issue, but then it was also about reach and inclusion. You want to reach almost everyone, anyone includes almost everyone, so you want to give the opportunity to any Mozambican, be it a company or an individual to participate in this IPO if they wanted to.

Me: Do you recall the initial reactions when it was first announced?

Meul: The first reactions were very good, I think. Albeit, some I would say comments from someone with who has low financial literacy that obviously you had stuff in the news that two people questioning or making some comments that the government is selling public asses and this and that and that does make sense. I mean I think you had people trying to politicize the transaction thing that's that the majority party that wants to cash in money. I mean obviously you have this kind of stuff [comments] happening but other than that the reaction was very good. And, I think it matters that it is one of the very few public state-owned companies that are well-managed and profitable. So it has that recognition and everyone was very hopeful of buying shares in a good company and a well managed because there are not many opportunities like that in Mozambique. It is a country or an economy which is very much closed in terms of financial flows. So, people who want to invest or save have very limited options. It's not like sitting in Portugal where you can open your trading account and buy shares in the NASDAQ or the S&P. I mean you can't do that here it's very hard. People here have very limited options to invest and save. Something like this is very much rule-breaking and innovative. So that was very good.

Me: I would actually think that there would be some reluctance especially from the people that aren't used to it. Did people have questions about what ware shares and what is the financial market?

Meul: In the beginning, some people didn't even know we had a stock market or what shares are. So, obviously, we had to do a big campaign on financial literacy and I think the stock exchange used the IPO of the HCB to do a very aggressive marketing campaign on financial literacy. And even HCB had lots of leaflets and communication materials targeted to I mean everyone. Even someone who didn't know what a share was would read that and understand what a share is. They would literally give examples like it's like you're building a house and you have a brick and the brick is a share and the house is a company. This kind of very basic way of telling and explaining to the people how it [shares and the financial markets] work.

Me: For the objectives that you set out, were you able to achieve them? Which ones do you think were the most successful?

Meul: There were two very big ones. The first was to replace all the amount of the issuance. So we went to Market to place a 2.5% of the capital of the company and we had the man that exceeded the offer. So the company decided to lift the amounts to be placed from the initial of 2.5 to 4%. So I think that did accomplish the first goal. The second goal was reach and inclusion. We had orders from all the provinces in Mozambique and from I think more than 90% of the districts in Mozambique. So even the most rural districts and people living in the most rural places bought shares in HCB. Most of the orders came from remote channels either through USSD or through the app. So I think having those in place enabled us to reach further than if we were just to place through the Bank branches.

Me: So you said the offer was increased to 4% of the shares. I remember that there was some documentation sent to me that said it was 7.5%. Did you manage to reach that 7.5% or was it planned for a later stage?

Meul: The amount they wanted to place in the beginning with 7.5&, however, during the structuring phase, the management decided that 7.5% to be placed in one go would be too much. So they decided that the first phase will only place 2.5%. This first phase is the one that it happened and concluded in 2019 and due to demand being higher than the 2.5%, we decided to increase it to 4%. But, yes, the overall amount they wanted to place and still do, pending on the second phase which they haven’t done, is 7.5%. So 3.5% of shares are still owned by the company. They're owned by HCB itself and there hasn't been a secondary offering in the market.

Me: Is there any tentative date for when the rest of the shares will be offered?

Meul: It's challenging because the performance of the stock in the secondary market hasn't been very *interesting* as it's below IPO price. So, I don't think the conditions are there yet to do a secondary offering. I think it would be perceived as a failure to do it now.

Me: In terms of the success of the operation what do you think were the driving forces behind the turnout? Or what do you think contributed to the number of remote participants?

Meul: I think the first thing is the strength of the HCB brand. It carries a lot of strength. Even the slogan of the company is “the pride of Mozambique” so everyone looks at HCB with a lot of pride. The company is, I think, a statement of a well-managed company so the power of the brand played a very big part. But also I think the marketing campaign was I think and parallels it was something you'd never seen before a lot of money was spent for that. l I think it was well structured the stakeholders and the companies that did work and advisers that work at it did a good job as well. Not just the banks but the marketing companies and communication companies. The fact that everyone was aligned to do this project and I in this also so mean the government. Government support in such a transaction is very important because things are decided very quickly and then obstacles are put in your place when we want to do such as such transaction. The remote channels obviously worked and allowed us to reach those goals that we discussed before.

Me: It is also interesting that you mentioned government support. I’m trying to understand the model of collaboration between the government and the companies that were implementing mobile money/finance schemes. What was the collaboration with the government like? How many different organisations participated and What was the nature of their participation? What about it was positive or what about it was negative.

Meul: In terms of government participation I would say you had the Central Bank as the regulator of the stock exchange in Mozambique. So, any public issuance needs central bank approval. Obviously having the Central Bank on board this transaction was very helpful. Then you have the ministry of energy is a because the HCB is, on the sectoral basis, under the ministry of energy but then on the finance under the Ministry of Finance and both Ministries were also aligned in this project. Actually, the Cahora Bassa is a concession. It needs the concession to do what it does. It pays a fee to the government. The concession agreement initially expired in 2027 or 2029 so we had to approach the ministry of energy so they would extend the term of the contract. This was to give more security to investors that their investment can produce cash flows for a longer period. So we also had Ministry support on that front. And, the stock exchange, which ultimately reports to the Ministry of Finance, was also very supportive because it was something that was being done I think the first time. I don't think that's such a scale of a transaction was done before. Different things had to change and adapt at the Stock Exchange. For it to work well and they also had to adapt systems, to hire people. Just to give you an idea, before the transaction only 8000 investors were registered in the stock exchange and after the transaction that number went to 23000 so that meant a lot of data input into computers and registering new investors. You also had to have the support of the Telecom regulator because a lot of this thing involves the airtime SMS and USSD. So even though the Telecom regulator was was onboard. So I think to do such a complex transaction you wouldn't be able to do it without different state agencies and public entities' support.

Me: In terms of customer due diligence/KYC, how did that work? Do you think it was successful? And what hurdles did you face during the KYC process?

Meul: What happens in Mozambique is that the law requires you to have a bank account with a bank if you want to own shares or any sort of instrument listed on the stock exchange. You need to have a securities account where you can deposit those securities. Obviously that was a huge challenge because less than 30% of the population in Mozambique actually has a bank account and there is no simplified KYC process whatsoever in Mozambique to open a bank account. Everyone has to follow the same rules and some of these rules mean you need to have a copy or a proof of residence and proof of employment. A lot of these people don't even have any employment or they are street sellers. If they have to state their source of income, they can’t prove their source of income because people sell stuff in the street. So we went to the central bank obviously to expose this issue and what you said was the compromise that we got so by subscribing to remote channels. The Central Bank allowed for the KYC to be delayed. People wouldn't be able to buy shares through remote channels. What would happen is when they are buying shares directly through their phones typing in their details. Their ID numbers, their name, their date of birth etc. and the bank, BCI, would open an account with those details which would be obviously incomplete. There would not be all the details but they would sort of open an account and they would allocate shares to that account and then they would be able to buy shares. However, they would have to come to a branch in the next six months to be able to show proof that they are the person who bought the shares by showing a copy of the ID documents at the center. Until that happened that their accounts would be frozen so they would buy the shares but they would not be able to sell them. If they complied and showed the documentation then they would be able to use their account and buy more shares and sell the shares they have and receive dividends. If not, that transaction would be reversed. That was the compromise that was reached.

Me: But most people of the unbanked would still struggle to provide those documents. What solution would they provide for such barriers?

Meul: Well, it depends on how Banks deal with this. Usually, what banks in Mozambique do is if you write a consent letter saying that you are an employee or that you don't have formal employment you just have to sign it and attest it yourself and usually the bank will accept it. Obviously you still need the tax ID and ID cards. Those things will still be required. I have to note this diligence is bank diligence so that doesn't mean the account is not open then and as long as the bank is trying to get this information it's the bank's problem, not a customer's problem. It probably depends on how lenient the bank is. Some banks will allow you to open an account and if you say you have a document missing they'll still open the account and they say you can bring it at a later date. It just depends on the bank but obviously, that has other repercussions and how the Central Bank looks at it.

Me: What do you think this operation means for the future of financial inclusion in Mozambique? What do you think was its impact and legacy?

Meul: I think it's a steppingstone. It proves that it's possible to do something with scale and with technology. And companies or governments can provide services through digital channels including financial services. I think it's a concept that is well understood by everyone that at least in southern Africa, banks will not reach everywhere, and branches will not reach everywhere because even electricity won't reach everywhere. So, you need to find different ways of doing the business and for services and products to reach people. So it's obvious, I think, it's a proven concept that it's possible and I think other companies will start and are already starting to use similar services. I think a lot of companies in Mozambique already use USSD to provide their services today. M-Pesa runs on USSD. You can have a solar power system and pay for that energy using USSD and that's not connected to the grid. You have a solar panel and that will work if you pay for your energy with your phone. I think it's the future and I think it's the only way to reach some of these remote areas.

Me: What were the biggest unexpected challenges?

Meul: I think it comes down to a lot of people doing something for the first time in their lives which was the IPO. I don't think anyone in Mozambique had done an IPO at this level or at least had experience in also doing such a complex transaction. You had people making decisions or having to make decisions or things they didn't actually have enough knowledge of. So it's not just trying to place shares with someone that does not know what a share is but it's also structuring a transaction for someone who doesn't understand how financial markets work. And you had this at every level. You had this at the Stock Exchange, you had this at the board of the company. It was also a struggle because as an advisor and as a bank you're trying to influence people to make decisions that benefit the transaction but then on the other side, you had people that are scared to make decisions because they don't fully understand what they're talking about. They are scared because even though it's good international or best international practices, it might upset someone in government. So I think it's a lack of financial literacy, a lack of experience and knowledge that became a hurdle in decision-making. And some of the decisions that were made were not the most correct ones because people were not fully aware or didn't have enough experience to decide on the things they were deciding.

Me: In terms of adequate financial products, would you say that this was an adequate financial product for the majority of the people, especially when a lot of them were unbanked and had no experience with any sort of financial product?

Meul: This is a personal answer. But I think people who have an income of $100 a month should not be buying shares. They should use their money for something else. I guess, in my honest opinion, I don't think you should be targeting shares to the low-income population. I think it's a complex financial product and it should be targeted to a very specific kind of people and not to everyone. And maybe some of the negative publicity that came afterwards, which was expected, in my opinion, was from making this an almost universal transaction in a country that is one of the poorest in the world. Probably, it was not the best product to bring to the masses.

**Rogério Lam**

Me: Can you briefly describe your project role on the project?

Rogério: When the project started I was leading two divisions at BCI. The marketing division but also what we call the electronic channel which is a distribution division. I was the general manager of both divisions. And in the bank organization, the project was owned by our investment banking division. But because the nature of the transaction required a lot of intervention from the marketing and also electronic channel I was involved in the project.

Me: Then in terms of the idea to do an IPO that also included the unbanked, how was this idea conceived?

Rogerio: The HCB is one of the largest dams in Africa and it was constructed during the colonial period. And later on, around 2006 or 2005 reached an agreement to buy and take over the dam. This was a very proud moment for Mozambique where you could take the shares to the public domain. The challenge that the HCB had for the winning Bank was that the transaction needed to reach all Mozambicans regardless of their location and regardless of their social status and regardless of financial condition. This was the key objective. One of the key performance indicators for the success of the. So as a bank we immediately understood that it's not possible to do this, to reach all of Mozambique because of the bank penetration. When designing the operation, the formal banking population was less than 20%. That's how we decided to set up a solution so that we could reach the unbanked. What supported us was that the mobile wallet penetration was growing quite significantly. And BCI as a bank also had a wallet with big penetration, so we decided to extend the transaction to our wallet subscribers and other mobile money wallet subscribers. With that, we had the potential to reach around 60 to 65% of the adult population, which was significant.

Me: Do you recall what the initial public reaction response was? And you said that approximately 60% of the population was able to participate, how easy was it to get people on board?

Rogerio: It was a very challenging transaction. Remember that there is a large unbanked population and the capital Market in Mozambique has a very small market capitalization. A very small number of companies are in the Capital Market in Mozambique. The main transactions in the capital market are related to bonds. Very few companies in the local Exchange. So, these were just the challenges but the reaction at the end of the day was very positive. But it was not a lucky one we worked very hard to be able to make it successful. The reaction was positive but that was only possible because, looking back, we had designed a very good strategy for the transaction and communication was key. You ask how easy it was to get people on board. Again, because the reaction was positive and we had a very good communication campaign, it was easy to get people on board. We piggy-backed on the existing type of transactions that our consumers already had. So we didn't create anything fancy or anything new. The only thing new was that people were able to buy shares. Buying and subscribing were made very similar to different existing transactions. We didn't want to create more complexity than explaining what is a share and what is the benefit.

Me: In terms of the goals that you originally stated that you wanted to achieve, how did you go about it? Do you think you managed to achieve them and which ones do you think you could have done better on? What do you make of the end result?

Rogério: We achieved all of our goals. We surpassed all of our goals. The first goal was to achieve the clients' goals. They wanted to sell a certain number of shares with a certain amount. We sold more than we expected. We wanted to reach all of the population, and although they didn't set up an exact number for that, we reached almost more than 92% of the districts in Mozambique. So, we reached a lot of people spread out geographically. Visibility for the transaction was very significant. Even if people didn't buy shares they were aware that they had the possibility to buy shares. What could we achieve more? I don't think we could achieve more because the client decided not to go to the secondary market. We tried to convince the client to go to the secondary market but it was the client's decision not to get to the secondary market. But overall the transaction, I think that it was important for the market and for Mozambique to go to the secondary market. But it was ultimately the client's decision.

Me: I think that would be one of the unforeseen challenges, the fact that people didn't transition to the secondary market. And then I think in terms of volume sure it would be better for the local exchange. But what do you think are other challenges that you did not foresee?

Rogério: I don't want to be arrogant, but we weren't caught by surprise. Most of the things were very well thought out. We tried to anticipate all the scenarios. We projected some technology-related scenarios with system failures where people would lose trust in the technology, in the process itself. We created backup plans for those types of scenarios that fortunately didn't happen. In terms of the transaction itself, we believe we were very successful. We even received a prize for the best transaction in Africa due to the nature of that transaction.

Me: I sometimes hear that Mobile Banking might help leapfrog legacy banking, do you think that is really the case and, if so, do you think that this IPO or this project contributed to it?

Rogério: I think this IPO was successful because it leveraged the existing bank and the mobile network operators. I don't think that the other way around would work. Like I said initially we leverage the existing habits of the consumers using a mobile phone and their mobile wallet. If there was no mobile wallet and we want to set up an IPO and also enable and push for the wallet I don't think that would work. We leveraged our existing consumer habits which was the key success of this transaction. If you wanted to buy shares it was just a normal Mobile Wallet transfer as you already know. The only difference is that you would see the name of the transaction on that purchase. A lot of people know but the way we designed this transaction was similar to what Facebook did for their IPO. And why is that? Because I remember that Facebook was creating the awareness of the importance of Facebook it was creating hype. I believe that a lot of people bought Facebook shares without knowing why. It was because everybody was talking about it. So we tried to create the same hype. But we divided into two groups. In the first group, we created a campaign for the stock exchange, not for the transaction. So we put our Stock Exchange talking about buying shares as an investment alternative. We spent four months talking about it, going to school, to universities, and being in the newspaper. Talking about shares so everybody was aware that shares are an alternative investment option. And then at the end of their campaign, we launched another campaign about HCB as a proud company of Mozambique. HCB is an important company for the development of Mozambique. When both campaigns were dying out we launched the IPO. So we were able to join the concept of shares and HCB. Now you can buy shares. We did it that way because for regulation purposes financial education was the role of the stock exchange in terms of creating the concept of shares. In terms of the campaign of the HCB, it was just an ad campaign for the brands of HCB. When we decide to launch the IPO in terms of Regulation it was very specific and very demanding. But at least the public was already aware of two basic concepts. One was about shares and how they can be used as an alternative investment. The other one was the brand campaign for the HCB. Creating an emotional linkage with the company.

Me: I like that you mentioned shares and the financial literacy aspect. I was curious to know, especially since the financial literacy rate is low among the population and that very few people had access to financial services. Do you think that shares were the appropriate product to provide to them or could it be that there were more appropriate financial products to start with or even include down the line?

Rogério: If we had more time for the transaction we would invest even more in terms of financial literacy. We didn't have much time. This transaction period was only 3 weeks long. In 3 weeks, we had to educate people about HCB, you need to educate people on how they would benefit, and the information related to HCB that is mandatory according to regulations. For example, explaining to the investor about the company, its results, how they make money, what is the dividend and the yield that they should expect. All the information had to be totally transparent so that they could make a decision to buy HCB shares. We had three weeks to do all that. And it was the first major IPO in Mozambique. This was the legally required, and we had to do it in 3 weeks. So that's why we started [introducing] the concept of scares prior to the transaction.

Me: And, in terms of collaboration, how many different firms and organisations participated in the entire project? And what was their relationship? Specifically with the government, what was your model of collaboration?

Rogério: I don't think this will happen ever again, because all the planets were aligned. The central bank was totally collaborative on this transaction. They never took off their regulator hat, they were very very demanding but they were very collaborative. The company, HCB, is a unique company in Mozambique so we had the opportunity to have the best company to do this. Because there's a lot of emotional attachment to this company, a lot of nationalism related to the company. It was a transparent transaction. Even today, you can see that the value of the shares is lower than what people expected, but there's no significant complaint about it because it was a transparent transaction. This [lower share price compared to IPO] could happen and people are aware. The stock exchange was very keen to have that transaction and during this period, I believe they multiplied the number of investors subscribed in the stock exchange by 4 or 5. We'd done 4 or 5 times more in 3 weeks, than what they'd done in 20 years. So, this is how successful and important to the market this was. The banks and all the other entities were very participative, but they didn't do a lot. As a coordinating bank, what gave all the banks pamphlets for the transaction so that they could sell it at their branches. But because the transaction was similar to what anyone would do in their bank channel, the bank didn't do anything with them system-wise. It was just a matter of the consumer doing the transaction on their platform. This is something that I think benefited the action. We only used existing transaction channels of existing payments. This was key. The collaboration of the government means that the company itself, the ministry that owns that Company, the stock exchange, the regulator the mobile wallets—everything—was perfectly aligned.

Me: Do you think that this could also apply to similar utility companies like HCB in Mozambique?

Rogério: I think it is possible, but I don't think it will be as successful. The planets need to be aligned. Again, currently, interest rates at getting higher so traditional forms of investment are more attractive. Term deposits are becoming even more attractive than riskier types of investment like capital. There are very few companies with the same emotional attachment in Mozambique. It is possible but not at the same size.

Me: I know that Mozambique has this National Financial inclusion strategy, and the stock exchange was one of those areas where they wanted to improve. And you mentioned that the transaction increased the number of participants in the Stock Exchange. Was the stock exchange able to maintain that level of participation? And was the IPO a catalyst?

I don't think so because there's not a lot of movement in the secondary market. The aftermath of the transaction has not been very well capitalised. There are no more transactions at this time. It mostly died out. The market is very little. I believe that maybe that's the reason why the value of the shares is still low. Because there's no demand. What continues to be a positive trend is that the company pays dividends to its shareholders. The company has fulfilled what it has promised in terms of investment and dividends. It is not that far from what was projected. But what we as a bank, and as local citizens would expect is for more companies in Mozambique is for more companies to come on board the stock exchange and for more transactions. Even for Mozambican companies, this was an example of how it’s possible to bring more capital in a way that is cheaper than banks. To the local companies that are lacking capital, this is a very good alternative. Unfortunately, no other transaction of this type or even of local government companies have come onboard the stock exchange since then.

Me: Also I know that there was a specific due diligence/KYC process applied to this project, do you think it was too strict, too lax, or just the right level?

Rogério: For capital markets, it is strict enough. Because money laundering is an important aspect of our industry, the size of this transaction could be an opportunity for that. So, I think it was just the right amount. But for financial inclusion which is not directly related to this operation, it's too strict. Especially for the nature of our population. Layered KYC is something that is being discussed with industry regulators for many years but still there is no layered KYC in Mozambique. This is not helping to bring more people to open bank accounts. What this transaction helped to do was to create awareness of the role of the banks, the role of the stock exchange, and how this ecosystem can work together for financial inclusion and the benefit of the economy of Mozambique.

Me: So then, ultimately would you say that the project was primarily a financial literacy drive?

Rogério: Yes.

Me: What is what were the biggest lessons you learned?

Rogério: To be successful, you need to have a very good connection between different stakeholders. It's easier said than done but it's very hard to implement it. And this is the confirmation of the challenge that we have. For that to happen, it required a shared vision between all parties. And it was key that we all had the same vision for the transaction. Having a shared vision doesn't imply that you have competing roles. You have complementary roles. You need to understand the boundaries of each entity. What the boundary between the regulator, the Stock Exchange, the banks, the bank organizers, and the mobile wallet providers. In our discussions, we always discussed where you start and where you stop. This was very clear. This is one of the lessons that we learned and we identified with this very well. One of the other lessons that we learned is that it was very important to plan ahead. This is easier said than done, especially in a country and market like Mozambique. We were lucky that the strategy to launch the IPO was exactly the way it was. It was highly inspired by the Facebook IPO. And it was an important factor in how things played out.

Me: What do you think this initiative means for the future of financial inclusion in Mozambique? What is its legacy?

Rogério: Well, you have a successful case. That is the legacy. This means that it is possible and whoever comes to think of any IPO or operations through the capital using digital channels, digital payments, banks, and mobile operators has a successful case to say that it is possible. When we designed this transaction not everybody was convinced that it was the right one. It was referred to as extremely ambitious for the conditions. But we could prove that it was just the right one.