FINTECH & FINANCIAL INCLUSION

How the Drivers of Financial Inclusion and Fintech Innovation Impact Women in Developing Regions

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Abstract

This study aims at identifying and analysing the drivers for **financial inclusion** through **fintech innovation** for women in developing regions. With the lack of financial inclusion remaining a current issue, there is an imminent need to focus more precisely on the specific situation of **women** in the debate around fintech financial inclusion. As women represent the more disadvantaged and vulnerable group in developing regions, addressing their specific challenges and needs is important but remains neglected. This study therefore analyses the four identified **drivers** of technology, legislation, accessibility and female empowerment in the two **developing regions** of **Sub-Saharan Africa** as well as the **Middle East and North Africa** in order to see how these drivers influence the financial inclusion process through fintech innovation. The results show that the **female empowerment** level in a region is most crucial to fintech financial inclusion, but that overall the drivers need to be considered as an ecosystem rather than individually, as they mutually affect each other.

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1 Introduction

The Problem of Financial Inclusion

According to the World Bank's 2017 Global Findex study on financial inclusion, 31% of the world's adults do not have access to a bank account, amounting to 1.7 billion people and 200 million businesses total that are not yet financially included. Remaining outside the financial system without access to basic services such as a savings account or loans comes with its own set of challenges and downsides, especially for poor people who make up the majority of the unbanked population (Demirguc-Kunt et al 2017a). The fact that so many people remain financially excluded is thought to have effects on poverty and the economic development of countries and regions (Ozili 2018). In this context, financial inclusion has received increased attention for quite some time, with major organizations drawing focus to the issue and working towards improving it. The United Nations has declared financial inclusion to be one of the key elements to achieving some of its Sustainable Development Goals (SDG) that have been developed in 2015 and endorsed by all of its members (Klapper et al 2016). The World Bank has put universal financial access on their agenda for completion in 2020, while the G20 committed to "high-level principles for digital inclusion" (World Bank 2018c; GPFI 2016).

This problem specifically concerns women, as they make up a majority of the unbanked people while oftentimes being neglected in the related research. Women make up around 70% of the world's poorest people and they constitute the majority of unbanked people as they face additional hurdles in accessing capital and other services (Kabeer 2012). Globally, only 65 % of women own an account, and the gender gap in developing countries of 9 percentage points has been persisting since 2011 (Demirguc-Kunt et al 2017a), which comes in addition to the daily challenges associated with the cultural and social norms that affect them disadvantageously (Lourenco et al 2014). As such, there still exist a number of gender-related laws around the world, that for instance limit women in terms of holding assets, being economically active or make their own decisions. This also contributes to the gender gap in the workforce, where women are oftentimes under-represented and which thus affects their access to income and assets, which further alienates them (World Economic Forum 2014). In order to address this particular challenge of women's access to financial services and their limited economic participation, the deployment of microfinance has been developed (Yunus 2007).

Microfinance has long been a popular tool to empowering poor people in developing regions by providing them with access to financial services such as micro-loans. Ever since the founding of the Grameen Bank by Muhammad Yunus in 1996 and the first Microcredit Summit being held back in 1997, microfinance has experienced a substantial growth. From the start, the main goal of microfinance was to support women specifically in becoming self-employed and contribute to the economy by getting them access to the necessary capital (Cull / Morduch 2017). In fact, more than 80% of all microfinance customers are women (EY 2014; Daley-Harris 2009). The concept behind Yunus' microfinance was to organize people into groups of five who then collectively apply for a loan and through the process support each other but also vouch for each other and check in amongst the group members in weekly meetings (Yunus 2007). The microcredit concept quickly gained traction and was the recipient of the 2006 Nobel Peace Prize (Demirguc-Kunt et al 2017b) as well as the United Nations declaring 2005 as the "International Year of Microcredit" (Wang / Guan 2017).

While Microfinance and the development of the Grameen Bank have often been praised as a suitable solution for the problem of financial access and economic participation of women, this concept has also faced criticism regarding its sustainability, effectiveness and mission course. For one, researchers have failed so far to be unified on proving the direct relation between microfinance and a reduction in poverty (Cull et al 2017). The criticism further refers most often to the "mission drift" of these institutions, away from helping the very poor toward serving less high-risk and more profitable clients, thus not fulfilling their social mission of financial inclusion anymore (Cull / Morduch 2017; Saab 2015). This leaves especially women still in a vulnerable position and raises the question if the implementation of fintech solutions in this regard can alleviate the negative aspects and thus empower women more effectively by granting them an adequate access to financial services.

<u>Fintech Revolution</u>

With the rapid development of technology and all its components, technological innovations enter and conquer increasingly more sectors, among them also the financial services industry. Ever since the 1990s, financial technology, or fintech, has received an increasing amount of attention and developed rapidly. The deployment and use of financial technology are changing the financial services landscape and enabling the entry of both new players as well as new services aiming at making life more convenient and accessible. Fintech is often considered to be a disrupting force in the financial sector with the potential of changing the way financial services are offered and consumed (Gozman et al 2018).

The implementation of technology into financial services is not a novel concept, but one that has gained increased traction in recent years. So much so that in all of 2016, the total investment into fintech globally reached 13.6 billion USD (KPMG 2017). With this momentum behind it, fintech is developing more and more in the financial industry, and trying to solve a range of different problems. While some fintech solutions aim at making payments more efficient and faster in westernized societies, or automate trading, other focus on solving more deep-rooted and elementary issues, among them the problem of a vast amount of people not having access to financial services across the globe (AFI 2018).

Fintech and Financial Inclusion for Women

In this context of women remaining underserved by the financial sector and the criticism regarding microfinance's success and effectiveness becoming louder, some people turn to fintech innovations in order to find a solution to this problem. Organizations such as the Alliance for Financial Inclusion focus on leveraging digital technologies for driving financial inclusion in the developing countries (AFI 2018). Many Microfinance Institutions also turn to the implementation and usage of technology to address issues of efficiency and sustainability. Already, many people attribute the progress made in financial inclusion over the last years to the development and implementations of mobile money in specifically developing countries, as 2/3 of the people without access to financial services own a mobile phone (Demirguc-Kunt et al 2017a). The increased use of phones and access to the internet has thus been a big factor for fintech for financial inclusion, as the rapid popularity of mobile money in sub-Saharan Africa for instance has proven (Gabor / Brooks 2017).

Despite this promising development, the question for the specificity of women's situation and their specific needs and challenges remains and is further reinforced by the existing gender gap in terms of access to technology (OECD 2015). The potential of digitizing the microfinance sector by implementing fintech solutions seems to be huge, as the success of mobile money solutions has shown. However, the details of this undertaking at large have remained largely unexplored, especially when it comes to the interplay of technology and financial inclusion in the specific context of addressing women. Their unique social, cultural and economic position in particularly developing countries deserves special attention and dedication in order to move towards closing the gender gap in financial access.

Drivers of Financial Inclusion through Fintech for Women

In this context, this paper sets out to investigate the role of fintech in promoting financial inclusion by addressing the following research question:

How do the drivers of financial inclusion through fintech innovation
impact women in developing regions?

To answer this research question, this paper investigates the drivers that work in the context of fintech solutions aiming at financially including unbanked populations. This is done in the context of two developing regions presenting the lowest amount of financially included people and that share some of the general characteristics of developing regions: the sub-Saharan African region and the Middle East and North Africa region (World Bank 2017). These two regions not only present the lowest amount of financial inclusion, but they have also both experienced the highest mobile phone penetration, which makes it two interesting regions to analyse in the context of fintech for financial inclusion (GSMA 2019). Moreover, although both regions show patriarchal traits, the female empowerment especially in terms of women in the work force varies greatly between SSA and MENA, thus providing two distinct contexts for the analysis of women's particular situation (World Bank 2019b).

The paper is structured as followed. The next section unpacks the theoretical background to the overall topics, presenting definitions and research on fintech and financial inclusion; following this, the theoretical framework for the analysis is outlined with the major identified drivers of financial inclusion through fintech for women. The succeeding section addresses the methods used for the collection and analysis of the data. The details regarding the two case regions are presented with information regarding the financial inclusion situation as well as focusing on the situation of women in the respective region. In the analysis section, the identified drivers are analysed in both regions, supported by the information gathered through the expert interviews. The Discussion highlights the implications of the analysis as well as the contributions of the study to the available research. Finally, the Conclusion summarizes the study.

In this paper, I argue that the different drivers such as technology, legislation, accessibility and female empowerment play a significant role in driving financial inclusion through fintech innovation for women in developing regions. The regional case comparison between sub-Saharan Africa on one side and the Middle East and North Africa on the other side show that these drivers and their effects are dependent not only on each other and are mutually influencing each other, but they are also highly dependable on outside forces that derive from the culture and social context that goes further than just women's situation and their status of female empowerment. In this sense, the cultural and social factors of a region or country impact the extent and scope of the different drivers and thus build the overall framework for the financial inclusion through fintech innovation for women in developing regions.

2 Theoretical Background

The theoretical analysis will give an in-depth analysis of the underlying topics that form the basis for the proceeding work of this thesis. For this, the financial inclusion topic will be examined as well as the concepts behind fintech innovation.

2.1 Financial Inclusion

Financial Inclusion has been a much-discussed topic in the last decade, not least because organizations such as the United Nations, the UNDP as well as the World Bank have put a focus on this topic (Wang / Guan 2017). In the following part, the definition and meaning behind financial inclusion will be discussed, as well as the factors that drive this development.

2.1.1 Definition

The first use of the term financial inclusion can be linked back to 1993, where geographers used the term in order to discuss the increased closures of bank branches that risked limiting the physical access of people to banking services (Leyshon / Thrift 1995). This definition of the term was widened and generalized in 1999 to enable the discussion around people that face limitations in the access to mainstream financial services and thus financial inclusion (Kempson / Whyley 1999). Sarma (2008) focuses on 3 elements in the financial inclusion debate which have to be safeguarded: access, availability and usage.

Financial Inclusion is generally seen as describing the access of individuals and some societal groups to financial services and the financial system as a whole without major difficulties (Leyshon et al 2008; Carbó et al 2005). Demirguc-Kunt and Klapper (2012) define it as a broad access with no barriers to use, whether cost-related or other. This includes the accessibility of regulated services like insurance, savings, credits and transactions for low-income households as well as small companies (Wang / Guan 2017).

Financial inclusion is oftentimes considered to be a key element in reducing poverty and stimulating the growth of prosperity. This is connected to the notion that through access to financial services, individuals will increasingly invest in education, build up savings and be encouraged to launch businesses (Ozili 2018; Bruhn / Love 2014). Apart from reducing poverty, research has shown links between financial inclusion and economic stability

(Mehrotra / Yetman 2015), an increase in consumption (Dupas / Robinson 2013) as well as female empowerment (Sanyal 2014).

Furthermore, access to financial services allows people to more easily manage income shocks, such as the loss of a job and prevents them from sliding into poverty (Demirguc-Kunt et al 2017b). It also has effects on income inequality and supports the social development as well as the social stability in most of the countries (Wang / Guan 2017). In addition to this, a healthy financial system that is inclusive has also been shown to potentially have lower transaction as well as information costs, lower interest rates, better long-term growth rates and an increase in technological innovation (Beck et al 2007a). Access to financial services also reduces the numbers of the working poor, which are employed people that live on 1.25$ a day, encourages entrepreneurship and leads to a demand for workers with little qualifications by supporting small businesses (Coulibaly / Yogo 2018). For businesses, access to financial services can improve core business operations as well as increase productive investment and consumption (Demirguc-Kunt et al 2015).

The opposite notion of this is called financial exclusion and contains a situation where certain people face limitations and challenges in using financial services (Wang & Guan 2017). The European Commission defines financial exclusion as the absence of access and / or usage of "financial services and products in the mainstream market that are appropriate to their needs and enable them to lead a normal social life in the society in which they belong" (European Commission 2008). All in all, financial exclusion is mostly acknowledged as affecting poor and disadvantaged groups, and thus amplifying existing differences in income and economic development due to geographical factors and hindering the financial development of certain areas (Wang / Guan 2017).

This disparity between developed and developing countries in terms of financial services access can also be linked to the differences in the presence and quality of the existing infrastructure in countries and the differing economic conditions (Kim et al 2018a). Especially rural communities face difficulties accessing financial services, as their generally lower population density combined with less-developed infrastructure makes it less attractive for banks to open branches there, as transaction costs and operating expenses are higher here (Caudill et al 2009).

The measurement of financial inclusion is a much-debated topic and proves to be challenging. One of the more accepted measurements includes eight indicators that need to be used together to measure financial outreach in a country. The indicators are: number of bank branches, ATMs per capita and square kilometre, the per capita number of loan and deposit accounts, the average loan amount and the size of the deposits in relation to the per capita GDP (Beck et al 2007b). The dimensions that ought to be considered include outreach, the usage, the ease and the cost of transactions (Gupte et al 2012). One of the main tools for measuring global financial inclusion is the World Bank's Global Findex Database (Demirguc-Kunt et al 2017a).

The level of financial inclusion in countries around the world varies greatly in terms of scope and pace of its development as well as the quality (Chaia et al 2009). Especially emerging countries seem to be having difficulties catching up with western countries, despite regulations and policies designed for this purpose. (Kabakova / Plaksenkov 2018). Although there has been progress in the financial inclusion sector, these expansions have mainly taken place in urban areas while rural communities remain underserved (Swamy 2014).

2.1.2 Elements influencing Financial Inclusion

The factors that have an impact on financial inclusion can be classified into 3 different groups: societal factors, supply factors and demand factors (European Commission 2008). While the supply factors refer to financial institutions, demand factors concern the ordinary people looking to access financial services. The societal factors include the social environment in which financial services and financial inclusion take place (Wang / Guan 2017).

The demand side factors refer to elements such as income, level of education and gender of the people trying to access financial services. Generally, it has been established that a higher income leads to a higher probability of inclusion in the financial system (Al-Hussainy et al 2008). Wang and Guan (2017) furthermore determined that ownership of a mobile telephone and the internet also has impacts on financial inclusion, as Information and Communication Technology supports them in accessing financial services. In terms of developing countries, the literacy rate and the linked education also plays a role in achieving financial inclusion. As for the gender factor, it can be noted that in developed financial systems, gender does not play a role. However, in developing countries where women generally have a weak economic position, their access to financial services is also limited (Wang / Guan 2017).

The supply side deals with the financial institutions and in how far they adopt an inclusive strategy. The significant factors here include the financial depth and the banking health of a country. The financial depth describes the size of these institutions and the markets in the economy, which impacts the overall inclusion level. Increased competition in the banking sector can lead to a widening of access to financial services to include previously unserved people (Wang / Guan 2017).

For the societal factors, the most important element is the GDP due to the fact that the overall development of a country also impacts the level of financial inclusion. This means that developed economies tend to have better access to financial services than economies that aren't as well developed. With a more developed economy also comes a reduction in the poverty ratio, a higher degree of economic freedom as well as less inequalities, all of which thus impact the financial inclusion. This also explains why Europe and North America have a stronger financial inclusion than Africa and Asia (Wang / Guan 2017).

Efforts to define and describe the ecosystem for driving financial inclusion rely on the basic premise of Aguilar's (1967) STEP concept. STEP is comprised of Socio-demographic sphere, Technological, Economic and Political. The socio-demographic factors include the social welfare of people, linking financial inclusion to the social development of a country. The technological sphere affects financial inclusion through the development of innovative companies that enter the market and offer financial services in new ways. In this context, there are a lot of new initiatives emerging that aim at promoting financial inclusion with the use of technology, through mobile banking and fintech start-ups (De Koker / Jentzsch 2013). The physical infrastructure such as electronic connectivity as well as road networks also play a role (Sarma / Pais 2011). The economic factors refer to the link to economic growth (Bittencourt 2012) while political factors describe the political context in which financial inclusion initiatives take place as well as the prevailing regulations (Demirguc-Kunt et al 2008). The regulatory environment can enable the development of new providers and delivery channels in order to reach different customers, as well as protect the financial stability and safeguard consumer protection (Chen / Divanbeigi 2019). The four spheres of STEP need to be developed simultaneously, as an underdevelopment in one area affects the potential for overall financial inclusion (Kabakova / Plaksenkov 2018).

2.1.3 Challenges to Financial Inclusion

The reasons for people not having access to financial services and thus the challenges to financial inclusion are manifold and vary across regions. Among the most common reasons that lead to people not having access to financial services and a formal bank account are the absence of necessary documentation and the difficulties especially poor people can face in securing certain papers that are necessary for opening accounts or accessing different formal services, such as formal identification, proof of collateral or a credit history. The physical access to financial institutions constitutes another challenge, as some people may not be able to afford the travel to a bank or they can't afford to take the time off work to make the journey. This especially concerns people in remote areas, where bank branches are few and the travel distance can be significant. The inefficiency of payments system further adds to the difficulties of broadening financial access (AFI 2018). Especially poor people are also excluded from the financial system due to the cost associated with accessing the system at large and financial services, and because they lack information about the system. Another barrier for financial inclusion concerns the product and service design that can be inadequate in serving poor people (Honohan 2005). Products can be too complex for many people, as financial literacy in developing countries is generally low and the terms and conditions of financial products can serve as a deterrent (European Commission 2008).

For businesses, barriers to financial services can be a lack of collateral, the absence or limitations of their credit history as well as the informality of their status (IFC 2011a). Individuals also face difficulties relating to a lack of a good credit history and an unstable employment pattern, which makes them high-risk for banks (European Commission 2008). Thus, financial institutions may be unwilling to reach out to poor people and offer services to them, as these people tend to be less profitable for financial institutions as they often have irregular incomes (Varghese / Viswanathan 2018).

A further challenge for financial inclusion is the lack of education and the absence of trust of consumers in the formal financial system. At the same time, low-income people can face psychological barriers that keep them from accessing financial services because of a general perception that banks are not there to serve poor people. This stems from the fact that especially low-educated people may struggle with understanding the structure of banking and the financial sector, and this lack of understanding leads them to a general rejection of banking and financial services (Kesavan 2015). People may also struggle with the newer technological aspects associated with the access and use of financial services and a fear of losing control over their money, especially in cultures and communities that still rely heavily on cash. In the context of credits, many people do not seek to access this type of service as they have a preconceived notion that they will be turned down (European Commission 2008).

2.1.4 Microfinance for Financial Inclusion

Microfinance has been a preferred tool for the financial inclusion of poor people in rural areas (Lopez / Winkler 2018). The idea behind microfinance was built on providing capital to the businesses of the customers that were self-employed in order to increase their earnings and reduce poverty this way (Yunus 2008). This was a new development intervention method, since it didn't put the government into a central role but rather relied on market-mechanisms and various institutions to deliver the services (Conning / Morduch 2011).

Microfinance institutions, or MFIs, often work through group-lending programs, in order to circumvent the problem of not having extensive information of the participant's past behaviours (Hermes / Lensink 2007). These so-called Joint Liability Lending (JLL) projects bring a group of lenders together and have them act as a security for each other (Bernard et al 2017). In these programs, a group of borrowers apply for a loan together and share the responsibility. These programs are often supported by international aid organizations, which they are heavily dependent on as they are not self-sustainable through the interest they receive from the borrowers (Kittilaksanawong / Zhao 2018).

Although some supporters of Microfinance have hailed this model as a way of eradicating poverty, researchers have so far failed to prove that it has been efficient in doing so (Banerjee et al 2015). Cull & Morduch (2017) have researched the development of microfinance, and they came to the conclusion that there has been a shift away from addressing the poorest people, while the impacted populations vary greatly depending on the region (Cull / Morduch 2017). This phenomenon is commonly described as a "mission drift" for microfinance institutions (Saab 2015). Due to the high operational costs that are associated with lower transactions, MFIs try and reduce their costs by operating on more profitable higher transactions. This is especially applicable to women, who are normally given lower loans and thus considered to be more expensive for MFIs (Kittilaksanawong / Zhao 2018). Another aspect of this is that in rural areas, MFIs can't make use of the same economies of scale and productivity effects as is the case for urban areas. All this adds to MFIs facing a potential outreach-sustainability trade-off in rural areas (Lopez / Winkler 2018). This can also be linked back to the fact that the often-applied group-lending programs are costly, as they require high operational costs (D'Espallier et al 2013). In this context, the need for a fresh approach to microfinance and changes to the traditional concept become clear. This is where fintech solutions have the potential of solving some of the main issues, such as the sustainability challenge in rural areas or by finding alternative ways to check the creditworthiness of their customers (AFI 2018).

2.1.5 Financial Inclusion for Female Empowerment

The financial inclusion process of women thus remains an important topic, and one that is not to be neglected. According to reports, microfinance institutions serve predominantly women, some putting it at 83.4% (Daley-Harris 2009). The reasoning behind this is not limited to the fact that women form 70% of the world's poorest people but extends to their empowerment and enabling them to form micro-businesses that allow them to participate in the economic market (Kabeer 2012). Thus, microfinance is aimed at giving them the opportunity to gain independent incomes and strengthen their position in the household (Al-Shami et al 2016).

One argument for that is that literature has proven that female entrepreneurs in developing countries can contribute to the economy just as their male counterparts, but that they face more difficult starting conditions in addition to not having the same entrepreneurial opportunities (Lourenco et al 2014). Among the hurdles that women often face when it comes to running their own business are gender inequalities, limited access to education and thus to gain knowledge, prejudices and overall negative attitudes as well as limited access to credits (Kittilaksanawong / Zhao 2018). With the predominance of men, women are rarely able to hold land themselves (Roomi / Parrott 2008) and face less support due to the overall assumption that women are less suitable as entrepreneurs (Gupta et al 2009).

One reason for this is that studies have linked the access of women to microfinance to an increased contribution to the household income (Johnson 2005) as well as their own assets (Osmani 2007). Furthermore, research has shown that if women get access to microfinance, they primarily invest their overall resources into food and education (Pitt / Khandker 1996), specifically of daughters (Kabeer 2012), and that they make more conservative business decisions (Armendariz / Morduch 2010). They are also easier to be monitored while part of the program as they tend to be less mobile than their male counterparts. Another factor is that women are more likely to listen to peer-pressure, which is an important part for the group-lending programs where decision have to be made as a group (Armendariz / Morduch 2010). Women are in addition to this more likely to repay their loans, even in times of hardship such as those caused by natural disasters (Gomez 2013).

As female entrepreneurs face a lack of access to financial resources for their business, microfinance can provide the resources and related social services to them, thus empower them and in this way support women-driven entrepreneurial activities (Drori et al 2018). The income generated through this in turn strengthens the woman's position in the household and can improve her stance in the decision-making process compared to a man. This leads to a gradual shift in the power balance of the household and can over time improve the woman's social status, not only inside the house but also in the community at large. Another effect could be a general enhancement of the woman's self-esteem (Duvendack et al 2014). The combination and interplay of these factors has thus the potential to change society as a whole and break traditional gender norms while reducing gender inequalities (Girón 2015).

Microfinance projects aimed at supporting female entrepreneurs often combine these services with training in income-generation and other life skills. This helps women become educated people, and being an entrepreneur helps them redefine their space in society as well as the social, cultural and political context (Sigalla / Carney 2012). However, at the same time, due to women having lower collateral, they often receive smaller funds, which limits them in their entrepreneurial activities to less capital-intensive occupations, that often take place in their own home and generate only a small profit. This can limit their economic empowerment and overall potential (D'Espallier et al 2010). It is thus crucial to reconsider women's financial inclusion and their empowerment in society, and to find effective ways of addressing the current challenges in this area. This is where the application of technology and more precisely fintech can improve women's financial inclusion.

2.2 Fintech Innovation

The financial technology domain has been a growing trend in the last years. In order to have a clear understanding of the topic, different definitions will be relayed, before the development of the fintech industry is discussed. In addition to this, the information and communication technology related to this topic will be brought up.

2.2.1 Definition

Fintech is a neologism of the words financial and technology. The term fintech is often considered to have first been used in the early 1990s in a Citigroup project (Gimpel et al 2018). However, the term has already been documented in 1972 in a scholarly article by the Vice

President of the bank Manufacturers Hanover Trust. The author in question, Abraham Leon Bettinger, defined Fintech as the "acronym which stands for financial technology, combining bank expertise with modern management science techniques and the computer." (Bettinger 1972).

However, the definition of the term Fintech remains rather ambiguous until today, and there does not seem to be a general consensus of the exact description. Schueffel (2016) suggests, after an analysis of different definitions, to summarize it as "a new financial industry that applies technology to improve financial activities." (Schueffel 2016). Gimpel et al (2018) settles on the characteristics of fintech to use "digital technologies such as the Internet, mobile computing, and data analytics to enable, innovate, or disrupt financial services".

Fintech is often interconnected with the presence of ubiquitous communication enabled by the Internet or the automated processing of information (Gomber et al 2017) and linked to the terms "innovative" and "personalized" (Kim et al 2016). It often refers to an unbundling of financial services that were previously only available by traditional banking institutions as packages (Lee / Shin 2018). The sectors of fintech are roughly made up of lending, equity crowdfunding, virtual currencies, social trading platforms, robo-advisors, mobile payment, mobile wallets (Haddad / Hornuf 2016), insurance, digital banking and investment management (World Economic Forum 2017).

The term fintech is also commonly used to specifically refer to companies based on a business model within the financial services field by using modern technologies (Gabor / Brooks 2017), while others use it to describe the whole sector (Kim et al 2016). In general, there is a distinction between "sustainable fintechs" and "disruptive fintechs" when discussing fintech start-ups in line with Chistensen's theory of disruptive innovation (Christensen 1997, 2003). In this context, sustainable fintechs refer to established providers of financial services that move to use technology in order to protect their market space. Disruptive fintechs, on the other hand, constitute the challengers, meaning new start-ups and companies based on new business models and that offer new services and products (Gomber et al 2017; Lacasse et al 2016; Milian et al 2019). Apart from referring to the digitalization and datafication of financial markets and the newly emerged start-ups, fintech also describes the technological transformation that impacts finance with the introduction of digital services as well as the emergence of big technology firms into the financial market (AFI 2018).

An important topic in relation to fintech and fintech companies is the question of regulation. Since a lot of fintech companies rely on data, issues regarding security and transparency in terms of the handling of this data have come up. Legislative changes, such as the General Data Protection Regulation (GDPR) in Europe and the European Payment Systems Directive (PSD2), have the intention of both creating a regulatory framework and still promoting innovation and competition (Allen & Overy 2019).

2.2.2 Evolution of Fintech Innovation

Gozman et al (2018) argues that the development of fintech and its solutions mainly aims at reducing existing barriers for entry, and thus opening up the playing field for new actors to insert themselves into the various parts of the value chain of financial services (Gozman et al 2018). Fintech has effects on the whole finance sector and thus implicates consumers, financial institutions and regulators that are impacted by the caused changes in the industry (AFI 2018). In many cases, fintech solutions address people or a group of people that have previously not been targeted in the financial services industry, or they address a need that has not or not yet fully been fulfilled by the established players (Gomber et al 2017). This change is furthermore affecting all areas of the financial industry, thus comprising the services and products in offer as well as the operational side of it, the distribution channels, the overall customer experience and the economical aspect of the business (Schueffel 2016).

There are a number of factors that contribute to the rise and surge of fintech start-ups, solutions as well as their implementation and adoption. One important pillar therefore is the technological innovation that has taken place over the previous years, and that describes the pace and capital invested in the development of technology (Gomber et al 2018). Another element that is closely linked to the fintech revolution is the process disruption. Fintech is commonly considered to have the potential for disruption due to the fact that it is changing the very basis of the execution and deliverance of financial services in the industry. The third factor for this development is the service transformation, which results from innovations and financial services offers. Furthermore, it is set in relation to the market landscape and how financial services have changed in terms of how they are offered and delivered (Gomber et al 2018).The changes brought about through the intersection of financial services and technology have been led by a number of different actors, such as start-ups, incumbents, governmental entities or supra-organizations (Schueffel 2016).

Due to the fact that fintech embraces the application and employment of technology, the development of the fintech sector has therefore been closely linked to the technological advancements and innovations that have taken place (Schueffel 2016). The financial services industry has really started to change with the internet revolution in the 1990s that enabled e-commerce, thus making financial transactions cheaper and enabling the emergence of electronic finance. This in turn led to the development of new business models, focused on providing services over the internet, such as online brokerage services and online banking (Gimpel et al 2018).

In the mid-2000s then, as smartphones became increasingly common and with the emergence of cloud-based services and the mobile channel, the financial industry saw a turn towards mobile finance, like mobile payment and mobile banking (Gimpel et al 2018). The development of fintech has also been driven by societies that has increasingly moved towards cashless payments, due to improved digital payments by speed, security, ease and declining costs. This change has been supported by regulations as well as technological developments for broadband capacity and an increase in the use of the internet (Gabor / Brooks 2017).

Eventually, as the technology continues to advance, new technological innovations such as artificial intelligence and big data analytics have been combined with electronic finance, internet technologies, social networks and social media to shift towards consumer-oriented solutions (Lee / Shin 2018; Gimpel et al 2018). The availability of digital information allows an analysis based on which more personalized services can be offered, which is especially crucial in the credit and insurance sectors. This data can be generated through software companies, hardware and IoT companies, social media platforms and search engines, e-commerce providers or telecommunications services providers. This big data analysis coupled with algorithms allow businesses to make better decisions and more importantly get real-time insights and information on their clients, for example on their financial situation, and thus provide more tailored and personal services (AFI 2018). Digital payments furthermore reduce the risk for corruption in governments compared to cash-based payments and thus improve efficiency (Demirguc-Kunt et al 2017b).

2.2.3 Information & Communication Technology

It has been established that information technology has played a huge part in the development of finance and financial markets (Lapavitsas 2011). It is therefore not surprising that the banking and securities sector has been the biggest investor in information and communication technology (ICT) (Scott et al 2017). The importance of ICT innovation stems from the fact that this innovation can “override pre-existing market conditions” (Schumpeter 1943). This allows firms to develop and offer new products, services and processes that give them a competitive advantage over other companies (Cainelli et al 2006). The adoption of technology and ICT has furthermore been linked to firm performance, which is especially impactful when it comes to smaller companies (Scott et al 2017).

The innovation of information and communication technology are mostly characterized by the developed countries with advanced economies, mostly comprised of North America and Europe. This has been linked to the fact that developing nations often face a lack of the needed financial resources, limited availability of technology as well as a talent gap when it comes to skills related to these technologies (Avgerou 2008). There exists a certain kind of digital divide between developed and developing regions, wherein the level of technological infrastructure and development of innovation with all its related elements differ between the regions (De Koker / Jentzsch 2013).

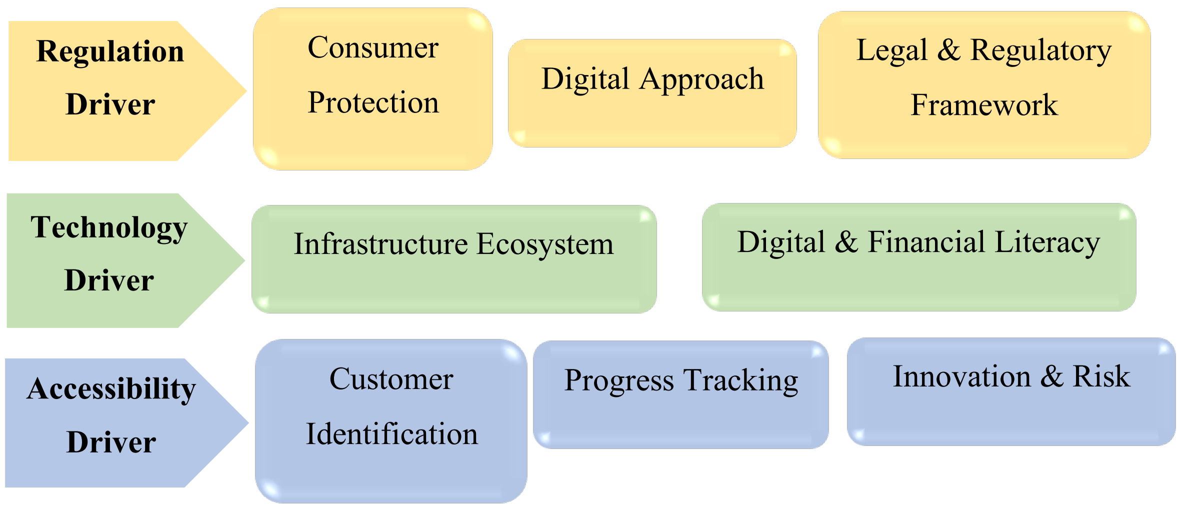
One element of ICT in the context of Fintech is the increased use of mobile phones and the related evolution of mobile technology. The ubiquitous nature of mobile phones has enabled new services and implementations for financial services. As more and more people have mobile phones and access to internet, this has enabled a number of different fintech solutions, such as mobile money whereas users can remit funds, make savings and payments using their phone (Gabor / Brooks 2017; AFI 2018). Another factor for the fintech sector is the presence and provision of affordable and sustainable technology, as well as the availability of the supporting infrastructure in place to allow the distribution and implementation of the solutions (Haddad / Hornuf 2016).

Moreover, another aspect in the use of communication and information technology is the safeguarding of security (Haddad / Hornuf 2016). Cybersecurity especially plays an important role when it comes to the implementation of technologies such as blockchain and distributed ledger technologies (Ducas / Wilner 2017). Among the most common technologies deployed in fintech are neural networks (Guo / Liang 2016), artificial intelligence and the Internet of Things. The new sources and enormous amounts of data combined with artificial intelligence enable the integration, analysis and implementation of data into the services, making them more effective (Gozman et al 2018).

3 Research Framework

Fintech is often hailed as a promising solution to the financial inclusion problem in developing countries. However, the factors and elements that affect the success of start-ups operating in this area remain evasive in much of the literature. For the analysis of this study, the basis for the discussion will be the high-level principles that the G20 established in 2016 in regard to the elements that can impact the process of achieving financial inclusion through fintech solutions (GPFI 2016).

The G20 identified 8 main principles that can either drive or constrain financial inclusion by the means of fintech innovations. These principles include the promotion of a digital approach, the balancing of innovation and risk, provision of an enabling legal and regulatory framework, expansion of the infrastructure ecosystem, establishing consumer protection, the factors of digital and financial literacy, customer identification and finally, tracking the progress of financial inclusion (GPFI 2016). These principles serve as a basis for the analysis of how fintech solutions can impact financial inclusion in the following discussion. As they overlap each other and their impact can be seen in a similar way, they will be regrouped into 3 main drivers, which are regulation, technology and accessibility, as shown below.



This classification is also in line with the basics of the STEP concept that is commonly used to describe the ecosystem for driving financial inclusion in a broader context. As such, the technological sphere is the technological driver, while the political and economic spheres are merged into the legislation driver, as they carry less weight in the concrete discussion on financial inclusion through fintech innovation. Lastly, the socio-demographic sphere is categorized under the accessibility driver, as this driver is more focused on the consumer side and their characteristics (Aguilar 1967; De Koker / Jentzsch 2013; Chen / Divanbeigi 2019).

At the same time, the G20 principles have been defined primarily for governments, to help them identify the mechanisms that can impact financial inclusion and with the goal of giving them guidelines to influence this process in their respective country or region. However, although this serves as a good starting point to analyse how the process of financial inclusion through the application of fintech solutions is impacted, it is not sufficient in its scope. Specifically, in terms of the focus on women and how fintech can improve women's access to financial services, these principles are incomplete. For this reason, the 3 previously mentioned categories that have been derived from the G20 principles are being complemented by a fourth driver that is female empowerment, and that is specifically referring to women's position and the elements connected to them that can impact the process.

The table below shows a summary of the drivers, as well as their properties and example.

	Technology	Legislation	Accessibility	Female Empowerment
Definition	ICT-related infrastructure and skills	Legislative framework for operations	Ease of access to the solutions	Status of women and the power balance in society
Properties	Digital divide in terms of the implementation, access and use of technologies between areas, lack of technological and financial literacy.	Digital strategy, regulation regarding financial inclusion, financial services and fintech providers.	Access requirements in terms of formal documents, identification, credit history, collateral.	Gender-based laws, social norms & status, gender inequalities.
Example	Lack of network coverage in rural areas.	Requirements for certificates to offer financial services.	Lack of universal formal ID in developing regions.	Patriarchal societies limiting women's opportunities.
Reference	Wang / Guan 2017; De Koker / Jentzsch 2013; Demirguc-Kunt et al 2017a; Kabakova / Plaksenkov 2018; Lumsden 2018; Malady 2016.	Gibson et al 2015; Chen / Divanbeigi 2019; Caruana 2016; Ozili 2018.	Wang / Guan 2017; Varghese / Viswanathan 2018. Demirguc-Kunt et al 2017a.	Duvendack et al 2014; Kittilaksanawong / Zhao 2018; Ghosh / Vinod 2017; Deléchat et al 2018; Ashraf et al 2010.

3.1.1 Technology Driver

One driver of financial inclusion through fintech innovation is technology. This includes the G20 principles of the infrastructure ecosystem and the digital and financial literacy. The ecosystem for the deliverance and provision of digital financial services needs to be expanded and adequate, which includes areas such as financial and ICT infrastructure. As fintech per definition relies on technology and technological innovations, implementing fintech solutions for financial inclusion is driven by the technological access and literacy in specifically developing countries (GPFI 2016). In this context, Wang and Guan established that the possession of and access to a mobile phone positively impacts financial inclusion as it supports the access to financial services (Wang / Guan 2017). Furthermore, the link between digital financial access and ICT infrastructure (De Koker; Jentzsch 2013; Demirguc-Kunt et al 2017a), financial literacy (Shen et al 2018), technological literacy (Malady 2016) and trust towards technology (Kabakova / Plaksenkov 2018) have been established and these elements thus need to be taken into account.

This ties back to the presence of a so-called digital divide, both between countries and within. The digital divide refers to disparities and limitations in terms of physical access to ICT, such as internet, broadband and digital devices. But it also includes differences regarding the related skills and literacy in order to operate and navigate ICT, which brings about a motivational limitation as well (Hargittai 2002; Van Dijk 2005). The digital divide and the connected physical infrastructure such as networks can thus affect financial inclusion through fintech, as it defines the availability of fintech solutions and characterizes the market entry of new fintech providers (Servon / Kaestner 2008; De Koker / Jentzsch 2013; Sarma / Pais 2011). A development of the technology infrastructure thus drives the digital financial inclusion process, while a lack thereof can have negative effects.

Generally, there can be found a lack or a limited presence and availability of technology in developing compared to developed countries. At the same time, this divide can also exist between rural and urban areas. This all links back to the same areas where most of the un- and underbanked populations are situated, meaning that access to technology is an element with the potential to drive the financial outreach to these people by means of fintech. By developing the related elements, reaching these people is simplified and fintech operators have a better basis for operating. The technological ecosystem thus includes elements such as connectivity, availability of mobile phones and their penetration, data packages and telecommunication providers (AFI 2018).

With this lack of technology also inherently comes a lack of technological literacy. As people do not have the same level of access to technology and technological devices, their skills in navigating these once they get access first need to be developed, and they need to receive adequate training and education for it (ADB 2016). Connected to this is also the notion of distrust of consumers towards technology and digital financial services channels, as they lack experience and understanding of the underlying concepts (Malady 2016). Addressing these challenges and improving the levels of digital literacy can thus prove to be an important point in driving financial inclusion through fintech.

Another factor that may drive the financial inclusion through fintech is financial literacy. As studies showed, financial literacy can impact financial inclusion, and thus also needs to be considered for the use of digital financial services (Shen et al 2018). As the unbanked people have per definition no access to financial services, their knowledge of the financial system as a whole and the different financial services and offers is mostly limited. In addition to this, financially excluded people can hold a number of prejudices and negative perceptions to these services, that affect their overall attitude towards financial services as a whole. The consequence could be a general scepticism and rejection of fintech products. Financial services are also sometimes connected to a certain stigma that may keep people from freely accessing and using them, even when presented with the opportunity to do so (ADB 2016). This is furthermore reinforced by a general distrust towards financial institutions, such as banks, that is commonly present and may pose difficulties for fintech providers to bridge (Lumsden 2018). This underlines the impact that these elements can have on financial inclusion, and more specifically, how improvements in these areas will also positively impact financial inclusion through fintech innovation.

3.1.2 Legislation Driver

Another element that drives financial inclusion through fintech is legislation. This implies the G20 principles of fostering a digital approach, consumer protection and a regulatory framework (GPFI 2016). The legislative aspect also affects fintech financial inclusion by regulating market entry (Chen / Divanbeigi 2019), providers and operators (Gibson et al 2015), technologies, security (Caruana 2016) as well as partnerships (Ozili 2018).

Those elements relate more specifically to the overall situation and the stance of the governments in a region, as they can have strategies in place that actively promote the usage of technology for financial inclusion. Additionally, having frameworks in place to protect consumers is important in order to support the safe delivery of financial services to these excluded people (GPFI 2016). Consumers need to be protected, but this is difficult when dealing with consumers that have a low financial and technological literacy. When trying to protect these people from high-risk financial products, the system can easily slip into being paternalistic and offering more opportunities and access to people with a higher financial literacy, thus not supporting financial inclusion per se (AFI 2018).

The legislation concerns the regulation of providers of digital financial services, and the requirements and authorisations that they need. A high level of regulation may lead to a safer market, but it may also limit the number and scope of providers and the services which they can offer, thus disincentivising the use of digital financial services (Gibson et al 2015). At the same time, a lower level of regulation can enable the market entry of new providers that use different channels to serve different customer segments (Chen / Divanbeigi 2019). However, this can also lead to an increased risk through bad faith providers entering the market and a lack of oversight. This can then impact the quality of the providers and their services and by extension the access of unbanked people to adequate financial services which ultimately contains financial inclusion (GPFI 2016). Furthermore, Gibson et al (2015) claim that the regulatory and supervision framework proves to be a major part of the success of digital financial services that require the involvement of agents and an agent network, in order to have clear guidelines on the allocation of risk and liability.

However, the legislation aspect is not solely limited to the financial services part, but also concerns the underlying technology in question for the fintech solution. As such, regulations can push the development of certain technologies and their implementation in the country, or with the absence of this, slow this process down and hamper the technological development. The regulation in a country or region can also actively support or hinder the development and access to innovations for the area. In the same context, clear guidelines and laws concerning cyber security and the handling of personal information can impact the market entry and operations of a fintech provider for financial inclusion. Legislators are often faced with a trade-off between efficiency and security for financial services (Caruana 2016).

This also relates to the partnerships and cooperation that fintech providers might seek. Fintech providers can improve the quality of their services and reduce their operational costs by partnering with other institutions or organizations, such as more traditional lending institutions. By doing this, they can act as an intermediary between this institution and the customers and focus on making their services more effective. It also means that the Fintech providers do not need to build the whole financial services from scratch and that they can build on top of the work their partner institution has already done, by adding value and improving their processes by leveraging technology. At the same time, this can represent a loss of control over operations and be a risk in and of itself for the pursued quality of the services (Ozili 2018).

3.1.3 Accessibility Driver

The principles of customer identification, progress tracking and the balancing of innovation and risk form the factors of accessibility (GPFI 2016). In terms of accessibility, studies have shown the impact of credit history, collateral (Varghese / Viswanathan 2018), ID systems (Demirguc-Kunt et al 2017b) and competition levels (Wang / Guan 2017) on financial inclusion and thus need to be considered for driving financial inclusion through fintech.

In this context, the access to these fintech solutions for the unbanked population constitutes an important element, since availability does not necessarily equal accessibility. There are different factors that come into play here, among them for example the access requirements and in how far they constitute barriers of entry for people (GPFI 2016). Traditional requirements for financial services such as formal documentation, identification, collateral and credit history naturally pose challenges for poor people and are seen as one major reason for people being excluded from the formal financial system. Fintech providers are in the position of using alternate or less stringent access requirements and forms of identification. However, at the same time, these alternatives often come with a greater risk for the providers, as the lack of knowledge about the customers makes it harder to gain security and predict their behaviour in terms of using financial services and for example paying back loans (AFI 2018).

In this context, the requirements for people to access the digital financial services affect the scope in which they drive financial inclusion. Other elements that impact this are the affordability and verification systems in place for providers, such as the measures for doing due diligence. This also links back to the balancing of the use and implementation of innovation and all its advantages while still trying to minimise and mitigate the associated risks. Furthermore, the impacts of the solutions should be monitored and tracked in order to identify constraints in the promotion of financial inclusion as well as any issues and problems associated with the solution. This is also needed for the measurement of the actual impact on the financial inclusion of unbanked people through the fintech solutions, as well as any associated benefits. The full scope of the impact can also contain negative aspects, which need to be identified in order to rectify these. In addition, constant improvements can be executed in order to fine-tune the solution and thus increase the impact (GPFI 2016).

Moreover, financial inclusion is also in this context impacted by the literacy rate and the level of education of the individuals in questions, as this constitutes a main element of accessing financial services. Traditional institutions operate on a very paper-centric approach, which means that illiterate customers will face a lack of understanding communication and in will not be in a situation to inform themselves on the products and services on offer (Wang / Guan 2017). Therefore, this also impacts financial inclusion through fintech innovation.

3.1.4 Female Empowerment Mechanism

Moreover, what affects the financial inclusion through fintech innovation is the level and development of female empowerment in a country or region. As the fintech solutions aim at women gaining access to financial services, the measurement and situation of the women overall in the region will have an impact on this process. The empowerment in this sense relates to a number of different factors of the overall evolving status and situation of women. This includes shifts in the power balance between genders, their position in the wider social, cultural and economic context as well as their acquisition of skills and access to education (Ghosh / Vinod 2017). Wang and Guan, for example, have found that the weak economic position that women hold in developing countries negatively affects their financial inclusion (Wang / Guan 2017). Gender inequalities in terms of education and the access to knowledge furthermore affect women's abilities to access digital financial service (Kittilaksanawong / Zhao 2018).

In some societies, especially in the developing world, women are faced with a lack of opportunities, education, as well as social and regulative barriers that may put limits on their empowerment. They may face restrictions in time, authority and mobility (Deléchat et al 2018). All of these elements can hinder their capabilities of using fintech solutions in order to gain access to financial services and thus represent an essential challenge for fintech solutions in the financial inclusion space. Gender-based laws are still widely present in some countries and may limit women in their ability to access the services on their own. Social norms based on a patriarchal hierarchy may hinder women in their freedom to make choices for themselves on their own, and the overall social perceptions may affect their decisions (Ashraf et al 2010). Adding to this, their cultural and societal context can negatively affect women's self-esteem and their view and trust of their own abilities (Duvendack et al 2014). Low rates of women active in the workforce in some parts of the world further impact financial inclusion by eliminating an imminent need for financial services, such as a bank account, for women and thus reduce the strive for financial access (Wang / Guan 2017).

The general gender gap can be observed in a number of different areas. For instance, studies have shown that in terms of mobile subscriptions, there still exists a discrepancy of 300 million fewer female subscribers compared to their male counterparts worldwide. In developing countries furthermore, women are said to be 21% less likely to own a mobile phone (OECD 2015). This discrepancy can be affected by the cost factors, cultural and social norms and policies regarding the registrations for SIM cards and mobile money accounts (Toronto Centre 2018). Inequalities in terms of technology for example further marginalize women and put them in a disadvantaged position for becoming included in the financial system.

4 Method

The aim of this study is to analyse how the drivers impact the financial inclusion of women through fintech innovations. For this purpose, the underlying concepts regarding fintech and financial inclusion are being explained and a background to the sub-topics is given. The theory has been established by using concepts from the literature and modifying them for the specific focus of the project. In this sense, based on the G20 high-level principles for digital financial inclusion and the STEP concept for financial inclusion, the drivers of technology, legislation and accessibility have been determined, which have been completed by a fourth driver, female empowerment, to reflect the specific focus of this study (GPFI 2016; De Koker / Jentzsch 2013).

Consequently, a cross-case comparative study (Yin 1994) has been conducted in order to analyse the drivers impacting financial inclusion through fintech innovations for women. The study focuses on the regions sub-Saharan Africa as well as on the Middle East and North African region, due to their similar characteristics in terms of financial inclusion and containing developing countries. These two regions are the ones with the lowest amount of financial inclusion worldwide and the lowest percentage of their population without access to a bank account (Demirguc-Kunt et al 2017a). At the same time, both regions have the least developed infrastructure, but also experienced the highest mobile penetration (GSMA 2019).

Moreover, the regions face differences in terms of social and cultural norms as well as in regard to fintech activity. As such, there are differences in the adoption of mobile money for instance between SSA and the lack thereof in MENA (GSMA 2018a). Although both regions are defined by patriarchal societies and gender inequalities, the extent of those and the manifestation of those traits differ and the situation and role of women in both regions are very different, with SSA making quicker progress to close the gender gap than MENA (Adnane 2015; Hattab 2012; SIGI 2016). Especially in terms of the economic participation of women in both regions, there are significant differences that provide a useful basis for analysing the drivers of financial inclusion through fintech innovation for women in two different settings (World Bank 2019b).

Due to the fact that they share the traits of developing regions and face similar problems in terms of financial inclusion but differ in the more cultural and social aspects, these two regions offer a good basis for a comparison. Comparing these two regions thus allows to develop a more comprehensive study of how the drivers of financial inclusion through fintech work, as they offer insights into two different developing regions with a similar framework but different context, especially in terms of women, which enables the analysis of the drivers in different environments.

The case studies aim at identifying and explaining the mechanisms that drive financial inclusion in developing regions with fintech innovations. This is done by applying a methodology that is based on a critical realist approach, a theory for deriving causal explanations that are empirically supported. Critical realism seeks to identify generative mechanisms or ‘real’ structures that themselves are not necessarily perceptible but can produce observable phenomena (Lawson 1998). A critical realist approach works based on a retrodictive structure, starting from observing phenomena and from there tracing back to the linked explanations for the causation (Easton 2010; Bhaskar 2009).

In this context, the implications of the four established drivers will be analysed in the context of financial inclusion through fintech innovation and this will be conducted in the two different settings that represent the case studies of the MENA and the SSA region. By specifically focusing on women’s situation and the female empowerment driver, the study will be able to collect insights and knowledge on the effects of these drivers on women’s digital financial inclusion in developing regions more generally.

4.1 Data Collection

The collection of the relevant data was done in 2 steps. The first step was the collection of secondary information reports relating to the thematic for subsequent study in order to gain a solid background. The second step of the data collection was conducting the interviews with representatives of start-ups and organizations working on this topic in the designated regions (Kumar et al 1993).

The data collection was done according to a mono method qualitative study using interviews as the collection technique. The qualitative data collection was done by conducting semi-structured interviews with start-ups and organizations that are active in the fields of micro finance, fintech and/or financial inclusion in either MENA or sub-Saharan Africa. The interviews were conducted where possible in person, resolving in the other cases to online video calling options (Saunders et al 2016).

The selection of the interview subjects contained a few elements. The most important selection criterium was that they were active in the area of financial inclusion and thus in a position to contribute to the study with their knowledge and experience. Furthermore, they had to operate in either sub-Saharan Africa or the MENA region. The selected start-ups vary in their maturity and what the current stage of the implementation of their solution is, thus being able to provide different viewpoints and experiences. Additionally, the selection was also affected by availability and the willingness of representatives of the respective organizations to share information about their operations and participate in an interview.

Interviews have been conducted with representatives from Koosmik, CARE Denmark, HiveOnline, MyBucks, Mahfazti (Umniah), JamiiPay, Sseguku, Al Majmoua and FINCA Impact Finance. In the following, the participating companies will be listed, as well as a brief oversight of their activities and information regarding the interview participant of the company.

- Koosmik is a mobile wallet provider based in Luxembourg and Togo, and the interview was conducted with the CEO and founder Grégoire Yakan. The mobile app allows for holding an account, transfers, payments and a loyalty programme. The company was founded in 2014, launched its pilot phase in 2017 and is focusing on Togo (Koosmik 2018).
- The information regarding the virtual bank MyBucks was gained in a conversation with Fernando Oltra, head of investor relations. The company offers loans, credit, insurance and banking solutions to unbanked people in Africa, Europe and Australia. Founded in 2011, MyBucks now operates in 12 countries, has 1.5 million active users and was the first African FinTech company to list on the Frankfurt Stock Exchange (MyBucks 2019).
- CARE Denmark is coordinating the on-the-ground implementation of HiveOnline's fintech solution as part of their cooperation. Programme Coordinator Line Gamrath Rasmussen provided information regarding the project and their work with their group lending concept called Village Savings and Loan Associations (VSLA) in Niger (CARE Denmark 2019).
- HiveOnline have built a reputation technology and portfolio management tools for VSLAs in Niger in cooperation with CARE Denmark in order to improve access to micro-loans for the participating women. The interview was with Project Manager

Bjorn Blakstad from HiveOnline. They are currently in the first phase of implementation of their fintech solution (HiveOnline 2019).

- Another participant was Charlotte Rønje, CEO of JamiiPay, a start-up offering technology to build credit history for VSLA's in Ethiopia. JamiiPay is currently in the testing phase and preparing for introduction of their first initial launch (JamiiPay 2019).
- Sseguku is an early-stage start-up working to develop a platform to connect micro-entrepreneurs in Uganda with lenders in Denmark, and the interview was conducted with CEO Hans Henrik Hammerum (Sseguku 2019).
- Another company considered for this project is Mahfazti, a mobile wallet service in Jordan. The interview was done with Qais AlTwal, mobile financial services senior officer at Umniah, a mobile company involved in Mahfazti (Umniah 2019).
- Al Majmoua is a non-profit microfinance institution based in Lebanon that focuses particularly on female micro-entrepreneurs and supports women in the creation of sustainable businesses. They've been active in the microfinance sector since 1994. Youssef Fawaz, Al Majmoua's Executive Director, took part in the interview (Al Majmoua 2019).
- Final participant was FINCA Impact Finance, a network of 20 microfinance institutions and banks aiming to deliver responsible finance for entrepreneurs and small business owners. They operate within Afghanistan, Pakistan, Jordan, and various countries in Sub-Saharan Africa. The interview was conducted with Joseph Larsen, strategic communication specialist (FINCA Impact Finance 2019).

The table below lists an overview of the participating companies and organizations, as well as information regarding the conducted interviews, which have been recorded and transcribed afterwards and are available in the Appendix.

Interviews	**Country / Region**	**Date**	**Location**	**Duration**
Koosmik	Togo / SSA	26/03/2019	WhatsApp Voice Call	30 Min.
HiveOnline	Niger / SSA	19/03/2019	Google Hangout Video Call	32 Min.
CARE Denmark	Niger / SSA	02/04/2019	Skype Voice Call	25 Min.
Sseguku	Uganda /SSA	18/03/2019	Physical Meeting at Copenhagen Fintech Lab	34 Min.
Mahfazti	Jordan / MENA	25/03/2019	Skype Voice Call	36 Min.
Jamii-Pay	Ethiopia / SSA	29/03/2019	Physical Meeting at Republikken	25 Min.
MyBucks	SSA	26/03/2019	Skype Voice Call	56 Min.
Al Majmoua	Lebanon / MENA	09/04/2019	Skype Voice Call	25 Min.
FINCA Impact Finance	MENA (& SSA)	17/04/2019	Skype Voice Call	38 Min.

Furthermore, the secondary information that was used in the case comparison and for the analysis have been derived from various reports and databases. The following table lists the sources of this secondary documentation.

Secondary Documentation	Region	Topic	Title
World Bank 2017	SSA & MENA	Financial Inclusion	The Global Findex Database 2017
GSMA 2018a	SSA & MENA	Technology	The Mobile Economy 2018
GSMA 2018b	SSA & MENA	Technology	State of Mobile Internet Connectivity 2018
GSMA 2019	SSA & MENA	Technology	The Mobile Economy 2019
IMF 2019a	SSA & MENA	Finance	Mobile Money Note 2019

4.2 Data Analysis

The aim of the data analysis was to understand how the different drivers affecting financial inclusion through fintech present themselves and how they affect the financial inclusion process. The organization representatives have given their view and experiences on the reality on the ground in the sub-Saharan African region and the MENA region. They not only gave information on how they perceive these impacts, but they also elaborated on how their specific organization uses them in order to improve the financial inclusion situation in the specific region or country. This information and insight combined with the previously deducted knowledge on the topical elements and the mechanisms at large then enable the drawing of a relationship between the drivers and financial inclusion, and to analyse the current situation in sub-Saharan Africa as well as the MENA region.

The analysis of the data gathered through conducting interviews was done by transcribing the interviews and afterwards coding them for important and relevant information. This coding was done according to set categories with a priori codes deducted from the theory. The categories referred to the previously collected drivers for financial inclusion through fintech solutions in the Theory part, and thus contained female empowerment, technology, accessibility and legislation (Saunders et al 2016). In the following, examples of the coding process and the developed codes are provided for clarification. The coding was done using the NVivo 12 software.

Example of the coded sections from the Al Majmoua interview transcript for the legislation driver:

Files\\Al Majmoua
3 references coded, 7.05% coverage

Reference 1: 1.86% coverage

So the volatility of the political and economic environment are a constant threat. So we don't know where this I mean how this will impact the sector but that is a significant potential. There is a significant potential of things going badly for everyone. I mean for the for the macro economic level and the level of microfinance providers

Reference 2: 1.72% coverage

this country seems to be very much behind the curve in terms of digital finance and regulation. So to this day there is very limited regulatory framework that would allow digital transaction to happen over phones or over mobile. And that in a way is putting us as second room players in this field for the time being.

Reference 3: 3.48% coverage

Practically nonexistent. For example we still don't have virtual wallets that are allowed. The telcos because of the specific context in which they function in Lebanon are not heavy investors that feel like they would be in a different country with the owners of the sector and they can develop and sell additional services. In Lebanon the telcos are literally just managing the network on behalf of the state so they get the management fee in return for running the 3G network so they have no incentive to either invest or look for additional products or become a bit more creative in terms of the financial and digital finance space.

Example for the driver accessibility from the interview with Sseguku:

Files\\Sseguku
3 references coded, 6.22% coverage

Reference 1: 0.90% coverage

So we are actually meeting the borrowers down there, interviewing them and trying to do a due diligence if they're able to pay if they would benefit from the loan.

Reference 2: 0.88% coverage

But I have identified that their major weakness was these local partners because many of these were not skilled enough and some were even crooks or fraudsters

Reference 3: 4.44% coverage

This is a small scale banking. And the problem with these kind of loans is that it is hard to get security and therefore you need to use other methods. What we do is we put the borrowers in groups that are securing each other's loans on a mutual basis. So if you have one of the members of the group is failing to pay the others become liable to pay. There is a process that we ask these these borrowers to to find a group of people that would have loans together and that they would select those that they that they themselves think are capable and this group lending is one of the measures that we take in order to increase the quality of the borrowers. So of course those that are not able to fit into a group they will not get loans because they have to come and say we we have five or more people to guarantee each other.

Example of some of the coded sections from the Koosmik transcript for the driver technology:

Files\\Koosmik
4 references coded, 13.98% coverage

Reference 1: 2.12% coverage

Yes, yes, so, now currently the app is only working on smartphone, but what you should already have in your mind or in your study, that the smartphone penetration is really growing fast in Africa, thanks to the Chinese manufacturer. So, you have a lot of 50 Euro smartphones, so it's not like you know in Europe.

Reference 2: 3.26% coverage

But when you go to Africa, you will see that a lot of people have, they already use WhatsApp, Facebook and so on, but on very very cheap smartphones. So, basically it's more like 50 USD basic smartphone and that's it. So, the phone is not really the main issue. The main issue is more the cost of the data subscription. So, this is a second issue, but today is in certain countries, like in Togo for instance, if you want an internet plan with your voice plan, it's quite expensive.

Reference 3: 5.09% coverage

Connectivity in Africa to be honest and to be fair it's quite OK and remember that they do not have, most of the countries they do not have the DSL, the cabled copper lines. So, they, what we say, they leap-frogged a little bit the technology, so they cut a little bit the technology. So, they went from nothing, GSM network to the 3G directly. So, they do not have like the, what we have in Europe, the box with the TV channels with everything, the landlines, and as well the internet connection, they don't have this kind of offer. So, everything is based on the 3G, 4G network. So, the connectivity in the city let's say or in the suburbs, it's quite good. Of course if you go to very rural zone, countryside, it's quite, could be difficult as well.

For the female empowerment driver, following sections were coded from the interview with CARE Denmark:

Files\\Care Denmark
2 references coded, 4.68% coverage

Reference 1: 3.35% coverage

We have we previously worked with mobile phones as a good way of helping women get access to markets and information that they're usually not you know allowed to access because it's a Muslim country and men and women are confined in their home where they're not allowed to go to the market on their own. We have found that giving them a mobile phone and teaching them how to use it is a very good way for them to access all kinds of information and for them not to be isolated in their home. So that was another consideration that we'd already experimented with these kind of digital solutions.

Reference 2: 1.33% coverage

But of course there is an issue of getting the women there in the first place. But it's through our local organizations where they're present and on the ground and speak the local language et cetera. So it's not CARE people who do this.

The coded sections were used in the analysis part to provide information regarding the different drivers and to give practical examples to support a point made. They were furthermore used for direct citations in this context.

5 Case Description

In order to compare the regions of sub-Saharan Africa and MENA, the following section will go into more details about both those areas individually. More specifically, information regarding the overall region and the situation of financial inclusion will be provided, as well as more in-depth information regarding the situation for women.

5.1 Sub-Saharan Africa

One of the case studies is made up of sub-Saharan Africa (SSA). First, an overview of the region will be given, before analysing the financial inclusion situation in the area. Then, the situation of women generally in SSA will be given as well as information regarding women's economic participation.

5.1.1 Overview

The area includes all the African countries, except those belonging to the MENA region, with Sudan and Somalia sometimes being contested between the two.

Map of sub-Saharan Africa (Source: https://diningforwomen.org/sub-saharan-africa-and-the-sustainable-development-goals/)

The region has been facing a rapid growth of its population and holds around 1 billion people. With that is also growing the number of poor people living there. In fact, it contains the poorest countries in the world. However, there has been a decrease observed in terms of people living in extreme poverty (World Bank 2016b). This is in part due to the high annual economic growth the region has experienced in the last 10 years, which has led to a growing middle class (Pelletier / Stijns 2016). However, working poverty remains a big issue in sub-Saharan Africa, with 45% of the working population living on less than 1.25 USD a day (Coulibaly / Yogo 2018).

Due to a high fertility rate, especially the number of young people continues to grow fast, with the number of youth (15-24 years) expected to more than double until 2055. Sub-Saharan Africa currently contains 17% of the world population, which is expected to grow to 26% by 2050 (United Nations 2017). The region has experienced the highest mobile penetration worldwide in recent years. The mobile subscription penetration in sub-Saharan Africa is at 45% (GSMA 2019). The mobile internet penetration in the region is 21% (GSMA 2018b) while the smartphone penetration in SSA is at 36% (GSMA 2019).

The sub-Saharan African region is also characterized by widespread corruption that hinders their socio-economic development (Forson et al 2017), amplifies ethnic violence (Bezemer / Jong-A-Pin 2013) and increases political instability (Farzanegan / Witthuhn 2016). The corruption is further helped by the presence of weak institutional capabilities in the region (Lalountas et al 2011; Gossel 2018).

5.1.2 Financial Inclusion

The banking systems in Africa are often seen as among the least inclusive (Beck / Cull 2015). It is the region with the lowest amount of financial inclusion, with only 21% of the people having a formal bank account (GSMA 2018a). According to Chaia et al (2013), the formal financial system in the region does not serve around 80% of all adults in sub-Saharan Africa, while this number is 8% for OECD countries. Furthermore, the region has the lowest distribution of bank branches overall (Coulibaly / Yogo 2018). This is in part due to the fact that 60% of the population here lives in rural areas where it is not profitable for banks to open branches (Lashitew et al 2019).

The Global Findex study (2017) found that 42.6% of the adults in the region hold an account in 2017, up from 23.3% back in 2011. The most common barriers that people in the region cited for access to financial services are distance, cost and documentation. In fact, almost half the adults in the region reported to own identification issued from the government (Demirguc-Kunt et al 2017).

Moreover, over half the adults of sub-Saharan Africa were borrowing money, but only 5% were doing so at a formal financial institution. Furthermore, more than one third of adults use electronic payment instruments to do transactions. Among the unbanked population, 42% were saving money or making transactions outside of the formal financial system (World Bank 2017). Especially in SSA, a lot of people rely on semiformal methods of saving, such as by using savings clubs or individuals (Demirguc-Kunt et al 2017a). At the same time, 84% of person-to-business sales for small merchants were still paper-based. In the same context, 78% of wages from businesses to employees were also based on paper-payments (World Bank 2016c).

One important element in this context is the increase in mobile money accounts in the region (Demirguc-Kunt et al 2017a). In fact, 277 million people out of the 500 million mobile accounts that exist globally, can be found in sub-Saharan Africa (GSMA 2016). In fact, almost 21% of adults in the region claim to have a mobile money account, which amounts to one third of all account holders and is almost double the amount it was in 2011. Half of these people only have a mobile money account (Demirguc-Kunt et al 2017a). In total, across the 39 countries, there are around 135 mobile money services operating (GSMA 2018a). In some countries, there exist more mobile money accounts than accounts at formal bank institutions (Asongu 2015). The activity rates of the mobile accounts remain stable in SSA at 36.8%. In 2018, 17.5 million new active accounts have been added in the region. With this, 45.6% of all mobile money customers are in SSA. The transaction volume here spans 1.7bn, with a value of 26.8bn USD. Despite this, mobile money is still growing rapidly in the region, although around 90% of the mobile money transactions are driven by USSD (GSMA 2018c).

The microfinance industry there has been growing at about 10% per year for the last 20 years (Chikalipah 2017). Products such as agricultural micro-insurance have seen a 400% increase in the time span between 2010 and 2015 (Kuwekita et al 2015). As for SMEs, experts estimate that around 81 million SMEs have unmatched credit needs in the sub-Saharan African region (Manyika et al 2016). Of these, around 12 million involve at least one female entrepreneur (EIB 2017).

5.1.3 Women in Sub-Saharan Africa

Most societies in the region are defined by a strong sense of patriarchy and women in sub-Saharan Africa are considered to be largely marginalized and seen as the inferior sex, with girls from a young age learning that their male peers or relatives are overall preferred (Ipadeola 2016). Although the region has made improvements in terms of education for girls, only a third of girls are enrolled in secondary education, while it's 7.9% for tertiary education (World Bank Gender Data 2019).

Women in Sub-Saharan countries are often defined by their family system, both their direct and their extended family through marriage. In this context, women often have a great responsibility to both families and need to perform services and tasks for both sides, taking up a significant amount of time (Nukunya 2014). Furthermore, women in sub-Saharan African countries face a high risk of gender-based violence, both physically as well as emotionally. This is most often coming from domestic partners who exert control over them and limit their abilities to participate in the workforce or start their own business (World Bank 2019a). The region also accounts for the highest share of girl child marriages, which partly accounts for the lower levels of education, socio-economic status and reduced autonomy (Efevbera et al 2019).

Most countries in the region have moved towards gender equality by granting women the same rights to land and non-land assets. At the same time, there exist plural legal systems and customary laws still play an important role, which in turn limits women's rights and their freedoms. One study suggests that women only form 19% of all agricultural land holders in the area (SIGI 2016). Furthermore, many countries have introduced quotas for women's representation on a national or sub-national political level (SIGI 2016). In fact, 24% of seats in national parliaments are held by women in the region, with the proportion of women in ministerial level positions being at almost 20% (World Bank Gender Data 2019).

In SSA, almost 37% of adult women hold an account. Of the remaining women that do not have formal financial access, about 43% of them have a mobile phone, compared to 54% of men. Moreover, of the 65 million unbanked people that save semi-formally in the area, more than half of those are women (Demirguc-Kunt et al 2017a).

5.1.4 Women's Economic Participation in Sub-Saharan Africa

The region has a labour force participation rate of around 61% for women (ILO 2019). In fact, SSA has a female-male ratio of 85.2% in terms of labour force participation (World Bank Gender Data 2019). Another study found that the five countries with the highest share of women in the workforce are all in sub-Saharan Africa, with at least 50% of the workforce being women (Pew Research Center 2017). Women in SSA, however, are more likely to be employed in the informal sector, with 74% of them holding lower-paying and informal jobs that leave them vulnerable to exploitation, poverty and with limited or no access to job security or support programmes (ILO 2015). The informal sector thus also constitutes an important domain for the self-employment and generation of income for the women in the region, with sub-Saharan Africa having the highest share of women that are employed in the informal sector compared to other developing regions (Adom 2014).

Furthermore, there are studies that point to some African countries where the majority of entrepreneurial activities is conducted by women (Global Entrepreneurship Monitor 2017). Studies have identified among the challenges facing female entrepreneurs in the region factors such as stereotypes, gender discrimination, lack of access to networks, information technology and market as well as improper education (Nziku 2016). In addition to this, the work-family conflicts as well as lack of entrepreneurial knowledge present obstacles to female entrepreneurs in African countries (Jamali 2009). Overall, there is a lack of attention given to their contributions and to their specific challenges (Diaz-Garcia et al 2016).

In addition, it is usual that any form of wealth is shared among family members, thus restricting the business aspirations of female entrepreneurs (Kuada 2009). At the same time, women are still expected to do the majority of household chores, even when working (World Bank 2019a). It is therefore not surprising that the majority of women entrepreneurs strategically chose to locate the operations of their business at home or close to their home, in order to be in a better position to fulfil both their roles as an entrepreneur as well as to take care of the household (Adom et al 2018).

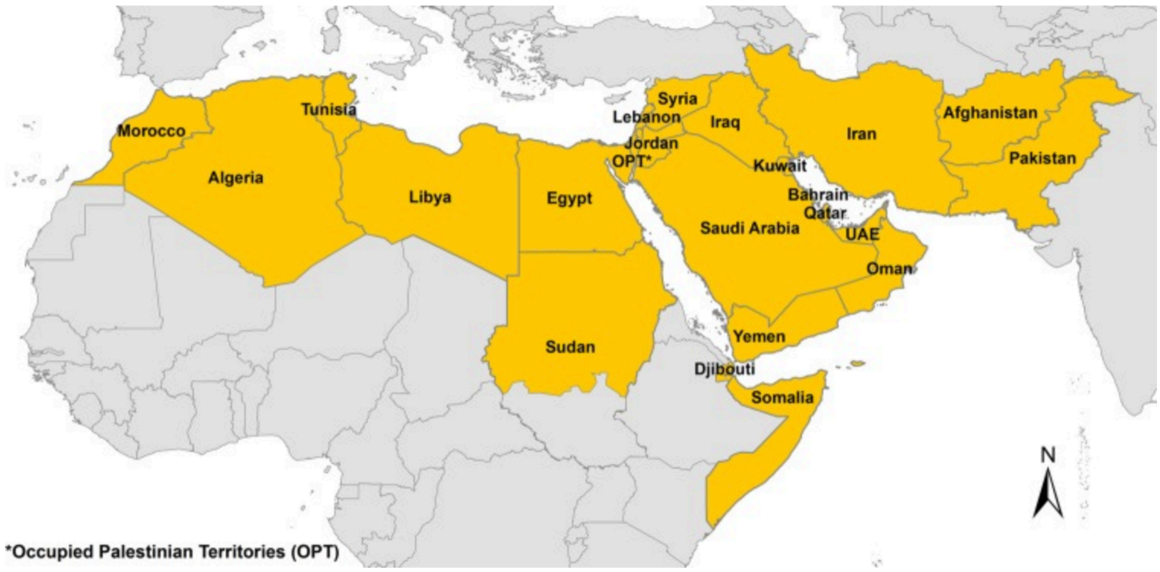
Studies have also shown that among self-employed people in the region, women generally have fewer experiences and skills in terms of formal education, management and socio-economic skills, which affects their overall strategic decision-making. In terms of networks, both men and women remain largely in gender segregated networks, while women's networks consist mainly of family and kin related people (World Bank 2019a).

5.2 MENA

The following part will deal with the specifics regarding the region comprising the Middle East and North Africa (MENA). This region will be central for the following discussion. After giving an overview, the financial inclusion situation in this region will be discussed before looking at the overall situation of women.

5.2.1 Overview

The region referred to as MENA, comprising the Middle East and North Africa, varies in terms of definitions and which countries are included in the term. It generally describes the region that bridges Europe and Asia, encompassing regions such as Maghreb countries, Mashreq and the Gulf region. Countries such as Mauritania and Turkey are not always included. The broadest definition refers to 28 countries and includes around 444 million people (Caporale et al 2017; World Bank 2017).



Source: Abu-Raddad et al 2013.

Although the region is highly diverse and no two countries are the same, there are some general characteristics that apply to the region as a whole (Adnane 2015). The MENA countries share a similar past with their implication in the Islamic Empire, which relates back to the countries being close in terms of language, religion and ethnicity (Solati 2017). Most of the countries in the region are predominantly Muslim, but they differ in the impact that Islamic and Sharia law has on the country, culture, social norms and institutions, especially in terms of laws concerning work, inheritances or ownership (Kamrava 2011). Another element of similarity is the presence of strong patriarchal institutions, defined by their "systematic and institutionalized gender inequalities" (Solati 2017) that form a fixed part of the culture in the region (Haghighat-Sordellini 2010).

The MENA region has been characterized by slow economic growth, income inequality, insufficient financial laws as well as regulations. The region is also prone to political and civil unrest, which discourages foreign investments (Demetriades / Andrianova 2005). Another issue concerning the region is high unemployment, specifically among youth as well as gender inequalities. The region's underdeveloped banking system furthermore hampers their economic growth (Naceur / Samir 2007). At the same time, MENA has seen a strong population growth, especially in terms of their urban populations, which in 2014 included around 64% of the whole population (World Bank 2014). Furthermore, the countries in the region face a high number of autocratic regimes as well as a high level of corruption (Nicet-Chenaf / Rougier 2016). In fact, in one study, almost half of the surveyed companies claimed that they consider corruption to be a major constraint for them. Moreover, 27% of respondents say that the biggest challenge for their business is the political instability (Enterprise Surveys 2018).

The countries in the region have experienced a high mobile penetration, although mobile broadband is characterised by low quality and below-average speeds (World Bank 2018a). From 2001 until 2012, the mobile expansion in the region has gone up from 5% to 105%, reaching a userbase of 400 million in 2012, which constitutes the second-biggest penetration in the world, second only to sub-Saharan Africa (GSMA 2012). This development can be linked back to reduced prices and an enabling regulatory framework that drew investments for service providers. However, the expansion has not yet reached every region in MENA, partially due to a lack of access to internationally harmonized spectrum and taxes that refer specifically to mobile ownership (Ghosh 2016). Overall broadband is still very limited and mostly based on legacy technology like copper wire, which are unable to support 4G or 5G networks. In general, the infrastructure in MENA is lagging behind other regions (World Bank 2018a). In addition to this, the region is also dealing with literacy and digital competency issues, especially in rural areas (OECD 2017).

5.2.2 Financial Inclusion in the MENA region

In 2017, the number of people owning an account in the region was put at 47.5%, compared to 37.6% back in 2011 (World Bank 2017). As for the reasons for not having access to financial services or not accessing them, the people in the Middle East and North Africa mentioned amongst others distance, cost, documentation, money (Shihadeh 2018), religion and trust (World Bank Data 2019). Furthermore, this region is particularly prone to having large discrepancies in terms of account ownership between employed and unemployed people (Demirguc-Kunt et al 2017a).

In addition to this, people here are more likely to borrow money from relatives and friends than from formal financial institutions, with that being restricted to the available funds from these people. Especially in the Middle East, borrowing money from a store with instalments or buying on credit is a common practice (Demirguc-Kunt et al 2017a). One of the main reasons for borrowing money in MENA countries is for a medical need (Shihadeh 2018).

Neaime / Gaysset (2018) studied the MENA region and their financial inclusion. They found out due to the experienced surge in their population, the difference between the poorest and the richest people is increasing, making it even harder to financially and economically include the poorer people. They further came to the conclusion that although financial inclusion impacts inequality, there is no significant evidence that it has an effect on poverty in these countries, as their banking penetration is still rather weak, and the banking structure has not been developed enough to give access to and reach poorer communities (Neaime / Gaysset 2018).

There is also a considerable lack of entrepreneurial activities in these countries and loans are not easily accessible, making it harder for people to get themselves out of the informal sector. Another problem for the financial sector in MENA countries are the widespread corruption and institutional weaknesses that hinder an optimal and efficient allocation of the existing resources and the overall investments made. Furthermore, the absence of political and economic institutions to create a strong supervision and regulatory frame for the financial market contributes to the financial instability that is existing in many MENA countries (Neaime / Gaysset 2018).

Another factor for financial inclusion is the question of religion. As a lot of MENA countries are predominantly Muslim, a number of people voluntarily remain excluded from the financial system. This is due to a specific interpretation of Shari'a, a set of Islamic religious rules, that does not accept the access to formal financial services. Although this issue has been addressed with the emergence of Islamic banks that are compliant with a flexible interpretation of the Shari'a, financial exclusion remains a concern in the area (Mohieldin et al 2011; Kim et al 2018a). Islamic banks differ from traditional financial institutions in that they avoid interest, as the Quran lays out that money can't have a price, and they eliminate speculation and gambling (Demirguc-Kunt et al 2013; Albaity et al 2019). They rather operate on a basis of profit-risk sharing (Hassan / Aliyu 2018).

Furthermore, financial inclusion nowadays relies more and more on digital infrastructure, which could prove problematic for the MENA region. For one, they lack open access to retail payments infrastructure, which is hindering competition as well as innovation from new providers, such as fintech companies. In the same manner, the tools for new innovations such as digital identification for automated KYC-systems are not well established in these countries (Global Microscope 2018). The region has also been slow to take up mobile money, only containing 5.6% of registered mobile money customers and 20 deployments. Despite the slow growth in terms of accounts and transaction volume, the actual value has increased by 25.7% from 2017 to 2018 (GSMA 2018c). This is also linked to a general distrust of unbanked people in the region towards financial institutions, as most societies in MENA are still very cash-centred (Demirguc-Kunt et al 2017a).

5.2.3 The Situation for Women in MENA

In terms of life expectancy, sex ratio at birth, literacy and enrolment in school, there is a relative gender equality in most of the MENA region. Especially in terms of education, the gender gap in this region has practically been closed for the new generations, with women even slightly outranking their male counterparts when it comes to enrolment in tertiary education (OECD 2014).

However, in MENA countries, there is a prevailing "classic patriarchy" with social, cultural as well as religious factors acting at the same time (Adnane 2015). Caldwell (1982) defined the region including MENA, South and East Asia as "the patriarchal belt". In this context, men are seen as the breadwinners while women are expected to stay home and take care of the household (Hattab 2012). This patriarchal society is mostly based on blood ties and kinship systems, meaning that men exercise authority over their female kin, thus reducing women's life options severely (Kandiyoti 1992; Moghadam 2013). A woman's access to society and her overall position depends thus on her male kin, who act as her guardian (Moghadam / Roudi-Fahimi 2005).

This also means that a number of different development programs for women have not succeeded in taking hold, as they did for example in sub-Saharan Africa, where providing food is seen as a responsibility of the women of the house (Ravazi / Miller 1995). The different power relations and structural inequalities meant that projects applicable in one region did not achieve the same results in the other. Furthermore, there is a strict distinction between the private sphere, which constitutes the home, and the public sphere, which builds the centrepiece for the gender roles (Adnane 2015).

Apart from socio-cultural norms, religion also plays a role in the general exclusion of women from the public sphere and the economy (World Bank 2013). Religious interpretations of the Quran may include a general opposition to women working and that they should rather stay confined to their own homes (Adnane 2015). It also promotes motherhood as the most important role for a woman, thus limiting them from other activities and occupations (Tlaiss / Kauser 2011). This is reinforced by local cultural practices and traditions that are not necessarily related to Islamic values as well as the general idea of male supremacy that has been predominant in the area for centuries (Hilsdon / Rozario 2006; Haghighat-Sordellini 2010).

Even in the rare cases where gender legislation and policies have been created to address the issues of gender inequality, they tend not to perform well in countries in the MENA region, thus lacking on the implementation (UN Women 2015). The situation of women in the area has been worsened by the political instabilities and violence in many countries, thus reinforcing the narrative and perception of women staying at home in order to be safe. Furthermore, during these times of conflict, women experience an increase in sexual violence and harassment, which puts further limitations on their freedom of movement (UN Women 2013).

5.2.4 Women's Economic Participation in MENA

Despite the practical gender equality in terms of education, there is a big disparity between this and the gender distribution when it comes to economic participation (Adnane 2015). Women only make up 24% of the labour market here, while the average for OECD countries is 60% (World Bank 2015; OECD 2014). This region regularly has the lowest rate of women participating in the labour force in the world and the gender gap for employment is almost double that of other similar low- or middle-income countries (World Bank 2013; OECD 2014). Women's low economic participation has negative effects on the human capital, the productivity and the economic growth of the country in question (Islam et al 2018). In fact, MENA showed the lowest amount of gender parity in the workforce, having the six countries with the lowest share worldwide (Pew Research Center 2017).

Overall the unemployment rate among women in MENA countries is high with 18% while the global average is 6% (OECD 2014). Especially young women face the highest rate of unemployment worldwide, with 40%, despite their advanced education, while among men of the same age group it is 22% (World Bank 2013). In this context, it is not surprising that the gender gap in the region is significant, with the biggest factor for this being the economic participation (World Economic Forum 2014). Some studies suggest that a closed gender gap for the labour market could bring about an increase of the GDP by over 25% per head in the MENA countries (Aguirre et al 2012). This lack of economic participation of women also reflects back on the low financial inclusion of women. If the women in the MENA region were employed and would receive a salary, they would be in a better position to open a formal bank account (Shihadeh 2018).

The World Bank conducted a study among 127 economies to see how laws in these countries affect women and their economic participation. On average, MENA economies score the lowest among all 7 indicators. In the category for protecting women from violence, 35% of MENA economies received the lowest possible score of 0. Furthermore, over half of the economies in this region have restrictions on women working night shifts while less than 25% of the countries have mandates for equal remuneration. The MENA region also has the highest percentage (58%) of economies with gender-differentiated retirement ages, while 12 out of 16 economies that differentiate between a woman's and a man's testimony in court are in MENA. Furthermore, only 20% of countries here have established commissions for dealing with victims of gender discrimination and their complaints. 10 economies in MENA also have no laws or aggravated penalties for domestic violence, and 70% of the countries in the region have no legislation that protect women from being sexually harassed at work (World Bank 2018b).

Given the overall situation of women in the MENA region, it is not surprising that entrepreneurial activities by women amount to only 4% (Global Entrepreneurship Monitor 2013). The region has the biggest disparity between men and women when it comes to entrepreneurship (OECD 2014). One study discovered that women in the MENA region are more likely to work in a firm as a contributing family member than their male counterparts, but they do not share the decision-making power. Furthermore, when women do own businesses, their activities tend to be centred around agriculture, handicrafts and minor services, which are sectors that are generally paid less and focus on informal work. Women tend to focus more on informal work and their businesses are normally smaller (ILO 2018).

All the while, it is reported that the majority of female entrepreneurs considers the access to financial resources and services as a major challenge and studies have shown that female-owned businesses in this region are underserved in this aspect (IFC 2011b; Saviano et al 2017). Business development services aimed at solving this and supporting women in specific have been shown to be effective. However, these programs are few and very limited, as the business support infrastructure is not properly developed, and oftentimes services are not tailored to women and their specific challenges (OECD 2014). This leads to women not being able to access the programs or generally not having knowledge about them, and thus not getting the skills and training that would support them in the entrepreneurship (ILO 2017).

5.3 Overview

The following presents an overview over the main data regarding both regions of the Middle East and North Africa as well as Sub-Saharan Africa.

	MENA	**Sub-Saharan Africa**
Population (World Bank 2019)	444 million	1 billion
Account (age 15+) (Global Findex 2017)	47.5 %	42.6 %
Account Women (age 15+) (Global Findex 2017)	38 %	36.9 %
Financial Institution Account (age 15+) (Global Findex 2017)	47.1 %	32.8 %
Financial Institution Account Women (age 15+) (Global Findex 2017)	37.8 %	27.3 %
Women Mobile Money Accounts (age 15+) (Global Findex 2017)	4 %	18 %
Used Mobile Phone / Internet to Access Account Women (age 15+) (Global Findex 2017)	9.4 %	18.1 %
Made Digital Payments Last Year (age 15+) (Global Findex 2017)	27.7 %	29.1 %
Made Digital Payments Last Year Women (age 15+) (Global Findex 2017)	21.1 %	24.6 %
Received Payment from Self-Employment Women (age 15+) (Global Findex 2017)	5.1 %	12.8 %
Borrowed Money previous year Women (age 15+) (Global Findex 2017)	41.3 %	43.3 %
Borrowed from Financial Institution Women (age 15+) (Global Findex 2017)	7.4 %	6 %
Subscription Penetration (GSMA 2019)	64 %	45 %
Smartphone Adoption (GSMA 2019)	52 %	36 %
People without Formal ID (million) (World Bank 2018d)	63	490
Adult Literacy (UNESCO 2017)	81%	65%

6 Analysis

The regional case studies focus on the Middle East and North Africa region and the Sub-Saharan African region and aim at identifying the effects of the different drivers in their respective context. After conducting the interviews and gathering information on the different drivers and the overall experiences and perceptions of the experts, a few insights have been gathered. On one hand, a more practical approach to the 4 established drivers has been concluded, but on top of that, the interviews have also informed on varying impacts of these drivers affecting the financial inclusion process through fintech innovations.

6.1 Overview

The below depicted table gives an overview over the main elements comprised in each driver for the different regions, the analysis of which will be conducted in more detail in the following pages.

	SSA	MENA
Technology Driver	- Mobile Money Accounts - Biggest Mobile Penetration 2001-2012 - <20 % Internet Use - Coverage Gap	- Broadband Coverage - 2^{nd} Biggest Mobile Penetration 2001-2012 - >50% Internet Use - Usage Gap
Legislation Driver	- Corruption & Weak Institutions - Outdated Regulation	- Corruption & Weak Institutions - Unrest & Instability - Outdated Regulation
Accessibility Driver	- Gender Equality Laws & Political Quotas - Lowest Distribution of Banks - Lowest Financial Inclusion - Lack of Formal ID	- Laws Affecting Women & Economic Participation - Religion (Islam & sharia law) - Political & Civil Unrest - Cash-based
Female Empowerment Driver	- Shared Decision Power - Some Countries Majority Female Entrepreneurs - Women Part of the Workforce - Low levels of education - Proactive Approach towards Entrepreneurship and Access to Finance	- Women not Part of Household Decisions - Least Women Entrepreneurs - Lowest Rate of Female Economic Participation - Gender Equality in Education, Life Expectancy, Sex Ratio, Literacy - Lack of a Use Case

6.2 Cross-Regional Comparison

The SSA region has the lowest level of financial inclusion, with 42.6% of the population having an account in 2017, compared to 47.5% in MENA. However, the Findex Data also shows that sub-Saharan Africa has had a greater development and made more significant improvements in terms of financial inclusion, as account ownership in MENA increased by 10 percent-points, while in SSA it was double that, almost doubling the number of financially included people. At the same time, while almost all accounts in MENA are at financial institutions of some sort, only 32.8 % out of the 42.6% in SSA are at financial institutions (World Bank 2017).

6.2.1 Technology

The first driver, technology, makes up a core component of fintech solutions, and is thus important for the discussion around reaching financial inclusion through fintech innovation in developing regions. This driver acts through elements such as connectivity, internet access, mobile penetration (Demirguc-Kunt et al 2017b), financial and technological literacy (GPFI 2016; Malady 2016).

The low levels of financial inclusion in both regions inherently connect to a lack of financial literacy and knowledge about financial services. People in both regions thus also lack the necessary skills and experience to navigate the financial services landscape or to have awareness of the different products. This impacts the fintech process of financial inclusion, because on one hand it can hamper the success of these solutions by offering services that people do not know, but on the other hand, digital solutions could also be uniquely positioned to address this situation by using technology in a more sustainable way. As the more rapid development of financial access in SSA and the development of mobile money in the region suggests, there seems to be a fast uptake when confronted with the possibility. This indicates that people in this region are generally willing to engage in financial services and use alternative solutions, despite a lack of experience in the financial system. At the same time, the general attitude in that sense seems different in MENA, where the uptake and development has been slower (Demirguc-Kunt et al 2017a).

In this context, for instance, providers and organizations offer training for people in the regions where they operate, in order to develop these skills to enable people to access and navigate their financial services. In the MENA region, FINCA Impact Finance has experienced a high reception for their financial literacy trainings, especially in the context of entrepreneurs and business development training (Appendix B.9). In SSA, JamiiPay relies on NGOs to teach the unbanked population about financial literacy and entrepreneurship in order for them to be able to use their fintech solution (Appendix B.6). As the representative of MyBucks explained, a lot of institutions in the region have a very low retention rate, especially in terms of handing out loans, which only constitutes a one-time access to financial services for the customer but doesn't mean that they are actually included in the system. In order to avoid this, MyBucks has implemented tools to educate their customers as well in the app, such as a budgeting-tool or an algorithm to detect when a customer might not be able to repay their loan, which prompts a suggestion for an alternative repayment scheme (Appendix B.4).

The infrastructure for the deployment of the technology is important for driving digital financial inclusion. One central element for this is the internet access in the region. In MENA countries, over half of the population is said to be using the internet, compared to less than 20% in SSA. This discrepancy can lead to the conclusion that the former presents a more suitable environment for digital solutions and fintech innovation (World Bank 2017). One part of the internet access is the infrastructure that is in place. Generally, the broadband access in MENA is more advanced and comprises greater coverage than the one in sub-Saharan Africa. At the same time, there has been close to no growth in terms of broadband subscription or phone line subscription in SSA, with these sorts of access being rather insignificant in the area. In the MENA region, however, the broadband connections have experienced a considerable growth in the last few years. The region around SSA seems to have skipped the broadband connection phase and instead leapfrogged to mobile internet access (World Bank 2019b). This indicates that in terms of internet use, the MENA region is better suited than SSA and has a better infrastructure in place.

A similar situation persists in terms of accessing the internet over mobile phones. In SSA, for instance, the coverage gap for mobile broadband networks is the biggest globally, meaning that a lot of people do not have access to a 3G or 4G network. At the same time, while coverage is better in MENA, there does exist a usage gap, wherein people within areas of mobile network coverage simply do not access and use mobile internet (GSMA 2018b). This can be linked back to the more advanced state of broadband connection in MENA that can explain a lesser reliance on mobile internet access. Despite this, they still use more mobile data on average than people in sub-Saharan Africa (GSMA 2019). This situation indicates that in general, people in SSA seem to be more open towards accessing the internet, but that the main issue here is the infrastructure that would enable that access. In MENA, however, although the infrastructure is overall better, there seem to be more people that chose not to access the internet, although the technical components would enable them to do so.

This overall situation of connectivity is also something that is being backed up by the fintech providers. CARE Denmark experiences the topic of connectivity in SSA as “very problematic” (Appendix B.7) while the HiveOnline project manager says that they have to build their solution with very low to no connectivity in mind, “because infrastructure is a massive issue” that has even led them to consider “putting satellites on cows” (Appendix B.2). MyBucks has also experienced issues relating to internet connectivity (Appendix B.4), while the Koosmik CEO says that connectivity in the cities is “quite good” and that they have not encountered problems with connectivity, although he admits that it could be a different situation in more rural areas (Appendix B.5). In MENA, Mahfazti operates in an area where the majority is covered (Appendix B.3).

Both the regions involving the Middle East and North Africa as well as the sub-Saharan African region have experienced the biggest mobile penetrations in the period between 2001 and 2012, with SSA outperforming the MENA region. While the absolute growth rate is bigger in SSA, the mobile cellular subscription in MENA is higher as a percentage (World Bank 2019b; GSMA 2019). In terms of the smartphone penetration, in the Middle East and North Africa region almost half the population has access to a smartphone, while in sub-Saharan Africa it is only slightly more than one third of the people (GSMA 2019).

However, the mobile penetration and specifically the smartphone penetration seems to vary across countries and areas, as some interviewees claim to have no issues regarding the availability of phones while others see this as an issue. In his context, for example, the CEO of Koosmik sees no issues regarding this in part due to the presence of cheap Chinese manufactured smartphones. He rather says that the main problem is the high cost of data subscription and consumption in the region (Appendix B.5). For CARE Denmark and their project partner HiveOnline, on the other hand, phones seem to be a scarcity among their customers, which is why they operate based on the assumption that there will only be one smartphone per group available (Appendix B.2; B.7). In MENA, the Umniah representative of Mahfazti claims that people have at least a feature phone if not a smartphone. To help support the smartphone penetration, they offer customized packages to NGOs to support the technological access to their mobile application. All in all, though, he says that their high mobile phone penetration in their country is a “very good ecosystem” for them to start working and deliver digital financial services (Appendix B.3).

Interestingly though, while sub-Saharan Africa records the highest amount of mobile money accounts, MENA has the lowest number of users (IMF 2019a). This development can be partially explained with the limitations in options for the people in sub-Saharan Africa, that lead to a focus on mobile phones as a medium. As they do not have extensive broadband internet, people have to rely more on their mobile phones, which leads to a further development of services based on this device. This trend is also something that fintech providers use for their benefit and try to implement. Sseguku uses mobile payments that exist in SSA from different mobile companies to pay out their loans (Appendix B.1) while CARE Denmark also notes the importance of the mobile money penetration and their plan to “piggyback on that development” (Appendix B.7). For Mahfazti in MENA, however, the mobile money development has been slower. The representative claims that, especially in more rural areas, the society is still very cash-based and specifically merchants are very sceptical of taking up mobile payments. They have a central switch that enables the interoperability of different mobile wallets in order to support that development (Appendix B.3).

This indicates that people in the two different regions use their phones in different contexts. This is further supported by the Findex data that show MENA leading in the usage of the internet for a variety of different situations, such as online shopping or even to pay bills. However, when it comes to the use of the mobile phone or the internet, such as in order to access an account, the sub-Saharan African region is being significantly ahead of the people in MENA. This could also be linked back to the wide acceptance and usage of mobile money in SSA, and hints at a cultural or societal reason in MENA that people there do not tend to use their mobile phones or the internet for financial reasons, but potentially prefer using cash (World Bank 2017b).

This perception is in line with the insight that most of the participating organizations that operate in Sub-Saharan Africa rely on mobile phones in order to deliver their services to the unbanked people. The technological mechanism plays a crucial role for fintech solutions as it makes up the very core of their operations. Thus, the mobile phone seems to be central to the solutions and a major part of the technology driver. Reason for this is the practicality of this device, as it is assumed that this is the element that is the most available for the poor and unbanked population that make up the target group (Demirguc-Kunt et al 2017a). Providers rely on the increasing mobile penetration rate in Sub-Saharan Africa to distribute their solutions. However, despite smartphones becoming cheaper and more accessible for the populations in the regions, almost all of the interview subjects consider the widespread use of feature phones with their solutions, making at least basic functions available for these simpler phones. However, as feature phones are not as versatile as smartphones, their functions are limited and the financial services that can be deployed this way are also limited (GSMA 2019).

In terms of technological literacy, the MENA region is also considered to be more developed than SSA, on one hand due to the increased number of people using the internet and the increased amount of usage, but also because there are significantly more active mobile applications that are present and developed in this area than in SSA (GSMA 2019). In addition to this, the mobile social media penetration is a lot more prominent in MENA than in SSA (We Are Social 2018). This all indicates that people in MENA countries are more experienced with mobile applications and their technological components, thus have more skills in this area and are considered to be more tech-savvy than people in the sub-Saharan region, where the mobile penetration is smaller and the mobile landscape less rich. However, as previously mentioned, despite more people having access to smartphones in the region and their increased internet use, mobile banking is not widely accessed in the area.

MyBucks notes that in the context of smartphones, the natural focus of these devices on user experience is making it easier to use (Appendix B.4). The CARE Denmark representative notes that there's already a widespread use of WhatsApp in SSA, which makes their solutions more acceptable to people (Appendix B.7). Their project partner HiveOnline has also experienced that the "technological competency is quite high" (Appendix B.2). For Koosmik, the high smartphone penetration rate among merchants means that they have no problems regarding technological literacy and the CEO says that people in SSA are using WhatsApp and Facebook, which helps with their technological skills (Appendix B.5).

Overall, the technological driver seems to be stronger in SSA than in MENA. Although the infrastructure is better and more advanced in MENA, the adoption and usage of the available options seems to be more rapid in SSA despite a lack of infrastructure generally.

6.2.2 Legislation

Another identified driver of financial inclusion through fintech innovation is the legislative context and regulations related to the deployment of these fintech solutions. This relates to a number of factors, such as the government's stance on the issues of fintech and financial inclusion, the laws and regulations as well as the overall context in which the fintech providers are operating (GPFI 2016).

One factor in this is the overall environment in the country or region that can impact the operations and effectiveness of fintech providers in order to financially include people. As has been noted before, both regions have been confronted with a history of unrest and instability, which further impairs the financial inclusion efforts. This volatile environment in many countries puts providers' ability to execute their operations into peril and adds further risks to their businesses. It also entails an added challenge in reaching their target group and effectively delivering financial services to them. This instability means that institutions are not strong enough to enforce regulations as well as strategies and serve the people the way they should (IMF 2019b).

This element has also transpired from the expert interviews, as they voiced concerns regarding the economic and political stability of the country or region where the providers are operating. For MENA, the representative of Al Majmoua in Lebanon said that "the volatility of the political and economic environment [is] a constant threat" and that this will impact the sector negatively, both on a macro-economic level but also concerning the providers directly (Appendix B.8). This is specifically important as the region is known for its political and civil instabilities, such as in the Middle East or the Arab Spring (Demetrieades / Adrianova 2005). Similar to MENA, MyBucks in the SSA region underlined the need to "be flexible", "be able to react fast" and to "accommodate for the challenges of the continent" due to the fact that "Africa is the continent full of surprises" (Appendix B.4). This notion is reinforced by Koosmik, explaining that providers need to constantly adapt to the changing laws in the countries (Appendix B.5).

In terms of regulations, the Global Microscope 2018 determined that both regions scored well in Government and Policy Support for overall financial inclusion. However, they also noted that the regions are performing low on digital infrastructures. In MENA and SSA, the vast majority of countries have not yet mandated open access to retail payments infrastructure which could accelerate financial inclusion through fintech solutions by giving new providers access to the payments system. Furthermore, both regions are lacking new tools such as digital identification via automated know-your-customer systems, which would also help drive fintech financial inclusion (Global Microscope 2018).

Another finding is that the most common concern or issue here is the timeline. Multiple experts mentioned the extended periods of time that are required in order to receive the necessary licences and certificates to operate and offer their solutions in SSA. This is perceived as an extended challenge that delays the implementation of their services and impacts the operations of giving people access to financial services. The regulations can have an impact on how easy it is for providers to enter the market and reach the unbanked population in order to financially include them with fintech innovation. MyBucks says that to get a banking license in Africa from scratch, "the average time will be like 3 years". However, in order to get it, they are required to have the necessary capital, procedures in place, nominate board members and the like. In getting the license, he furthermore claims that the bureaucracy in Africa is a challenge, as there are various laws and providers need to be patient (Appendix B.4).

In addition to that, regulations are perceived as being too slow to adapt to the changing environment and allow providers to offer their services. In this context, MyBucks mentions that "legislation is not fast enough" and that in terms of their technology, "legislation is not ready for it". At the same time, the representative thinks that the implementation of sandboxes in the region will help them (Appendix B.4). JamiiPay has also experienced challenges in terms of legislation, as they operate in a market where tiered KYC has not yet been implemented, which would differentiate between different financial services and the amount of control that providers need to execute. Having this in place would enable the providers to offer smaller financial services with less effort and less requirements for the customer, making it easier to include unbanked and poor people. They also see issues in the fact that the market has not yet opened up to agent banking, which would make it easier to reach people in rural areas through so-called agents, as they think that this is a crucial delivery channel in the future. However, they also mention that they are still able to execute some of their operations without needing any regulations, which they can use during their trial phase, which positively impacts their testing of the solution (Appendix B.6).

For MyBucks, one issue regarding legislation is the fact that in some parts in Sub-Saharan Africa, they are required to have physical bank branches in the areas that they want to operate in, even though they want to work as a “virtual bank”. This is obviously a challenge for them, as it diverts funds from being invested in their digital infrastructure and their main operations, as they have to be used to open a bank branch. This type of regulation can also be seen as not being up-to-date, as it implies a lack of understanding for the benefits and business models of digital financial services (Appendix B.4).

In MENA, the issues with regulation seem to be partly more severe. As Al Majmoua claims, Lebanon for example lacks the adequate regulation for digital finance as they have a “very limited regulatory framework that would allow digital transactions to happen over phones or over mobile”. In this context, they have no regulation allowing for the creation and usage of mobile wallets, such as are rather popular in Sub-Saharan Africa. Al Majmoua also links this back to the fact that their telecommunications operators are solely managing the networks on behalf of the state, thus lacking any incentive to invest into the network or develop any additional products (Appendix B.8). FINCA Impact Finance also sees restrictions in terms of the legislation. Although they prefer to be a deposit-taking institution, as they are in other countries where they operate, this is not possible in Jordan, since they are a microfinance institution and as such, they are not allowed to take deposits (Appendix B.9). These types of gaps or hurdles in the legislation of a country limit the providers in their operations and how much they are able to do, and as such also limits the effect on financial inclusion that they can have through the deployment of fintech.

However, legislation can also have a positive effect on fintech solutions working for financial inclusions. As CARE Denmark shows, the support of the government for their solution has been positive, and they have declared their leadership in the Smart Village Africa Initiative, a pan-African initiative looking to “offer Internet access and digital infrastructure in villages during the next 10 or 15 years” (Appendix B.7). This digital strategy of the government not only sends a positive message to fintech providers about the support in the implementation process, it also impacts the overall environment for the operations as well as the reception of the solution.

The benefits of this can also be seen in MENA, with Mahfazti. The involvement of the Central Bank of Jordan in this solution simplifies the overall operations. As the representative explains, the Central Bank there has created their own mobile money payments switch, which aims “to connect all the payment services providers through that switch in order to enable interoperability and transparent transactions”. Although they as a telecommunications operator were not allowed to offer mobile financial services directly, but had to create a different company for that, the involvement and leadership of the Central Bank and the resulting interoperability of accounts can have a positive impact on the adoption and implementation (Appendix B.3). In relation to the Central Bank, Koosmik in SSA also benefits from the BCEAO, the Central Bank for a number of African countries resulting in unified regulations that make a market expansion easy (Appendix B.5). Sseguku in Uganda faces a situation where there are four different categories, which have different levels of regulations. Banks are the most heavily regulated, but microfinance falls into the last category, which has the least regulations, thus proving to be a positive point for them as microfinance fintech providers. They also fall under a different authority with that (Appendix B.1). In this context, the legislation can be an effective driver that helps fintech providers enter the market and execute their operations, but if unfavourable, it can also be a significant challenge and hurdle for providers to master.

Another element that plays into this is the characteristics of the present institutions. As relayed earlier, SSA exhibits particularly weak institutions which can hamper financial inclusion through fintech solutions. Similar to the Sub-Saharan Africa, the Middle East and North Africa is also lacking strong institutions that on one hand can lead the way for new initiatives and strategies but on the other hand are also able to supervise and check the market sphere adequately. Coupled with the strong presence of corruption in both regions as well, this might lead to additional hurdles for new players to enter the market or grow their businesses and operations in the areas and it might be discouraging for people to access the services (Nicet-Chenaf / Rougier 2016; Enterprise Surveys 2018). In this context, both regions face the same challenges and show the same weaknesses in relation to institutions and corruption, despite recent improvements and efforts for betterment.

Furthermore, the literature has established that more competition in an area leads to greater financial inclusion, as the higher number of providers increases the probability of them reaching out to the poorer and more high-risk clients (Wang / Guan 2017). However, a high amount of competition in a market can make the market entry harder for new providers such as fintech providers to establish themselves and successfully reach their customer segment.

CARE Denmark, however, explained in the context of their fintech project in SSA that due to the fact that no other provider is present in their market “everybody’s very keen to work with us, both civil society, private companies, the government”. They claim that the absence of competitors has made it substantially easier for them and has been resulting in a lot of support from different sides on the ground (Appendix B.7). As for MyBucks, the development of competition actually presses the government and the Central Bank in the country to implement sandboxes and start testing out different models and create “a regulatory environment” (Appendix B.4). For Al Majmoua in MENA, on the other hand, the additional challenge that arises for them as a microfinance institution is that due to the competition in the market and a number of different providers present, “the risk of over-indebtedness and cross lending” increases. As customers take out loans at more than one loan provider, their risk for being unable to repay them all rises and with that the risk of becoming indebted to them as well (Appendix B.8).

All in all, the legislation driver can be supportive in driving financial inclusion via fintech innovation. However, as a lot of countries in the developing regions do not yet have updated legislation that relate to the fintech models and new technologies, legislation can be more of a challenge than an effective driver. Moreover, the developing regions are characterized by corruption, an unstable economic environment as well as weak institutions that slow down overall progress and innovation. Despite this, providers still seem to find ways of delivering financial services in some ways with the current regulations in place.

6.2.3 Accessibility

The accessibility driver comprises the elements and context for accessing the fintech solution for financial inclusion. This relates for instance to the access requirements such as identification as well as collateral and credit history (Varghese / Viswanatha 2018; Demirguc-Kunt et al 2017b). In terms of accessibility, it is noteworthy that a lot of the participating organizations are aware of the need for alternative access requirements, compared to more traditional financial institutions. They also try to cater to the specific needs of the population or target group while trying to maintain a sense of security for themselves.

Moreover, the accessibility of the fintech solutions is linked to the access requirements. As universal identification is not available in a lot of developing countries, providers have to turn to alternative methods in order to impact people that lack formal ID. For instance, the World Bank estimates that in MENA, around 63 million people do not have a formal identification, whereas in sub-Saharan Africa, around 490 million people remain without proof of legal identity, which almost makes up half of the world’s unregistered population as well as half of the region's population (World Bank 2018d). This also means that these people can't access formal financial services, and if fintech providers want to include them, they need to find alternative ways.

Al Majmoua, for example, requires some form of identification but accepts a number of different ones, such as birth certificate or residency permit, as there is not one universal form of identification that most people possess in MENA (Appendix B.8). In SSA, MyBucks use a different route, where their agents, who sign up the customers, have a fingerprint scanner on their tablet which they use to register the customer and take a picture of them. With the scanned fingerprint, they can then identify the customer even without formal documentation, keep track of them in their systems and give them access to a mobile wallet (Appendix B.4). HiveOnline uses phone records from telecommunication companies and activities on digital platforms in order to build verification of the person in question (Appendix B.2).

Linked to this is also the fact that the low amount of people with a formal banking account means that these unbanked people do not have a credit history when trying to access loans from fintech providers. This in turn is among the reasons why formal financial institutions don't want them as clients, as they see the risk associated with these people as too high. In the context of fintech solutions, this is one aspect where technology allows providers to use alternative ways of building some sort of history on their customers to try and minimise the risk for themselves as providers (AFI 2018).

In SSA, HiveOnline uses the available information on the customer's phone and also tracks the user behaviour in the app during the time when they use their services to build their reputation, which the customer can then use in order to access formal financial services at a financial institution (Appendix B.2). Similarly, MyBucks uses an algorithm to collect the information that is available on the phone of the customer to build a "digital footprint" such as from social media data. Among the 65'000 points of information is also data from the government as well as from credit bureaus where available in order to build a credit score for the customer. They also build a history for the customer while they use their services which can then get them access to formal financial institutions (Appendix B.4).

Another element that also plays a role in minimizing the risk for providers that exists because of the lack of a credit history is by using group lending. Ssgeguku for instance organizes women in groups, where they are each liable for the loan repayments of others, thus "securing each other's loans on a mutual basis". By creating guarantees amongst the group members, the providers trust in people knowing each other and only allowing people inside the group that are reliable and trustworthy, thus doing their reliability check (Appendix B.1). In MENA, Al Majmoua also relies on the concept of group lending for minimising their risk. The group members pledge their solidarity to each other and hold responsibility towards each other to hold them accountable. Furthermore, they require a co-signer for individual lending in order to limit their risk and form some sort of "moral collateral" for the lender to repay the loan (Appendix B.8).

Another element that has transpired in the interviews with experts and fintech providers is the need to adapt and customize their solutions for the cultural context on the ground and the characteristics of the country they operate in. Among these are apart from specific language also cultural considerations in the wording, such as a stigma that accompanies the taking out of loans, as the CEO of JamiiPay explained: "we need to phrase it differently, talk about start-up capital, school money […]. Because otherwise poor people already feel like […] the world is trying to take away their dignity" (Appendix B.6). Generally, the CEO of Koosmik thinks that "you need to build your product from scratch, tailor-made for Africa" in order to appeal to customers (Appendix B.5), while the CEO of JamiiPay also advocates for a "100% bottom-up" approach ((Appendix B.6).

In line with the cultural context is also the fact that the accessibility in the context of financial inclusion through fintech is also impacted by the prevailing religion. In MENA, for example, Islam is dominant in the region, with the degree of influence and the strictness of the interpretation varying across countries and areas. However, these religious influences might keep people from accessing financial services despite their availability due to some interpretations of Islam not allowing financial elements such as interests and speculation. This has also been prevalent for decades, making it difficult for providers to address these people and change their attitudes (Kim et al 2018b). Despite the emergence of Islamic banking and providers partnering up with these institutions in order to access these groups, such as HiveOnline, breaking through the mental barriers could prove to be a bigger factor in MENA.

Moreover, due to the lower literacy rates in general in developing countries, providers underline the need to design their solution in an easy and accessible way with these limitations in mind. As has been previously discussed, the literacy rate and the level of education impacts financial inclusion (Wang / Guan 2017). This includes using a lot of images instead of text and making the use very natural and intuitive. Specifically, in SSA the adult literacy is 65%

compared to 81% in MENA, the need for alternative communication is obvious (UNESCO Institute for Statistics 2017). This can be linked to the level of education, which tends to be higher in MENA than in SSA (World Bank 2019b). In this context, CARE Denmark and HiveOnline use a lot of icons and images in their app, and they develop it in close contact with the women that are supposed to use the app. This includes testing images with them to make sure they are understood, and their app is effective in communicating (Appendix B.2; B.7). Koosmik as well uses a lot of pictures and simplify the app (Appendix B.5).

Moreover, the issue of trust is also important for the accessibility of fintech solutions for financial inclusion. As has been previously discussed, mobile money is already spreading quickly through sub-Saharan Africa. In contrast to this, the societies in MENA still rely for a large part on cash and cash-based payments. This is one aspect that could hamper the success of digital financial solutions, as people prefer to stick to their habits and use cash instead of switching to a digital model, where they are not face-to-face with the recipient anymore. This lack of knowing who they're dealing with and who ultimately the provider is comes down to trust, and in how far this trust in a digital solution is there. However, this trust normally has to be built first (Demirguc-Kunt et al 2017).

Al Majmoua in MENA sees a big factor in the fact that they are part of the communities where they operate, with agents being present and knowing the customers and their families (Appendix B.8). Mahfazti also works with agents, people that deliver their services for them. They furthermore partner with NGOs for the cash distribution, which also helps with trust-related issues or a general scepticism, as people know the organization and having a person in front of them is easier for some than doing it solely online (Appendix B.3). In SSA, CARE Denmark also relies on local organizations who have local agents in the villages that help start the groups and lead them (Appendix B.7). The CEO of Koosmik has also recognized "the lack of trust in the banking industry", particularly from the side of merchants, as they don't know the company, the brand or the product and are thus rather sceptical (Appendix B.5). For MyBucks, they go through the community manager in the villages that help them build trust with the other community members. The representative further noted that the agents are also "very helpful at a cultural level, because Africans find it difficult to trust you when it comes to money if they don't see the person". Moreover, "the human part is also very important in Africa from a human perspective" (Appendix B.4).

In this context also, it is important to acknowledge that, as the representative of FINCA Impact Finance mentioned, “accessibility is not the same as financial inclusion” and that providers need to develop a product with a use case for the target group in order to be effective in their mission (Appendix B.9). For the accessibility driver, the characteristics and current situation of a country or region need to be taken into account, and a solution needs to be catered to those traits specifically. Developing regions generally lack a universal ID, lack of formal work leads to absence of credit history and collateral, and cultural influences are strong. Fintech solutions are thus in a favourable position to adapt the solutions to these contexts and find alternate ways to circumvent these problems.

6.2.4 Female Empowerment

The fourth identified driver is the situation of women, and their empowerment in society. This is relevant as it refers to the overall power balance that can drive the financial inclusion of women through fintech solutions (Ghosh / Vinod 2017; Wang / Guan 2017). The need for this is recognized by many providers. As HiveOnline notes, “women need help”, that despite them having aspirations and the will to access finance and be entrepreneurs, “they are so disadvantaged, and they face so many struggles” (Appendix B.2). Al Majmoua have identified women as “being the most vulnerable […] of all disenfranchised segment” (Appendix B.8).

In this context, it is notable that both regions show traits of a patriarchal society where the gender gap is still highly noticeable. Especially in MENA, the status of women is not only as second-class citizens, but their overall position is also highly dependable on their male family or spouses, who in turn have authority over the women. This weakens their overall stance in society and presents a challenge for women in terms of their financial inclusion and their access to fintech solutions, as women are not naturally empowered in these societies. Furthermore, women are mostly restricted to the house and housework, meaning that they are not generally part of the public sphere which makes it harder for fintech providers to reach them, educate them and get them access to and knowledge of financial services (Adnane 2015; ILO 2018).

It also encompasses the difficult power balance and gender relationship, as men might openly oppose women accessing digital financial services in fear of losing control over them, as their financial inclusion can entail a female empowerment and thus a shift in the power balance and gender gap. As the FINCA Impact Finance representative observed in the context of finance, fintech and gender equality, “sub-Saharan Africa socially tends to be more egalitarian in the gender sense" (Appendix B.9). This sentiment is being echoed by the representative from MyBucks, who are currently operating in SSA, but are in consideration of expanding into MENA. However, as the representative said, the situation regarding gender equality and financially including women is "a bit more complex in those regions" due to "the cultural background" (Appendix B.4).

The situation of women and their positioning and history in patriarchal and inegalitarian societies also has effects on their attitudes. It means that women in these areas have no experience in the financial sector and most likely not with entrepreneurial activities at a greater scale as they were missing the capital before. This relates back to two elements: a lack of trust towards not only the financial services and technology, but also in themselves and in seeing themselves as an entrepreneur or a recipient of capital. This might lead to women not accessing digital financial services, even when they have the opportunity to do so. In this case, as interview participants have mentioned, availability does not equal accessibility, and there can still be mental blockades that exclude them, even if all other components are fulfilled (Deléchat et al 2018).

In terms of the economic participation of women, it is notable that the MENA region has recorded the lowest rate of economic participation of women globally and has also been shown to have the most labour-related laws that differentiate between men and women. This fact persists despite the fact that the countries in the region generally experience relative gender equality in terms of the sex ratio, life expectancy, literacy and education, with women even being more likely to attend a tertiary education. This seems to be in contrast to the fact that young women in the region face the highest rate of unemployment. The reasons for this disparity are thus more deeply situated in the culture, social norms and gender-based laws in the region. The fact that women here face the most labour laws that differentiate on the basis of gender mutually influences the lack of women in the labour force. With that comes a lack of representation in the workforce and thus an absence of advocating for the rectification of these laws (World Bank 2018b).

This situation gravely affects the context for financially including women through fintech innovation. As women are not part of the workforce and are for the most part not economically active, their need for financial services is also not strong. Since they are not employed, they don't receive a salary, thus don't need an account and don't have money to put in a savings account. They therefore simply don't have a need or use for financial services as they are excluded from the workforce and society at large in some part. This isolation gravely affects their overall situation (Adnane 2015; Shihadeh 2018). FINCA Impact Finance recognizes a "gender inequality in access to finance" which is in part due to a lack of "use cases for financial services because of cultural and societal reasons" for women. The representative further describes the problem as lying in the "attitudes towards women's participation in the economy", which lead to women being discouraged or in some cases "prevented from participating in the economy" (Appendix B.9).

The same is true for entrepreneurial activities. MENA has worldwide the lowest activity rate of female entrepreneurs. This is also in contrast to the SSA region, where some countries even have a majority of entrepreneurs that are women (Global Entreprenuership Monitor 2017; OECD 2014). In line with this finding is also the discrepancy in terms of women that receive payments from self-employment. Although the numbers are generally low, it is noteworthy that in Sub-Saharan Africa, more than double the percentage of MENA women receive money from being self-employed. These women in SSA are thus also more likely to need a bank account or to make payments and transactions. With having their own income also comes empowerment and the more decision power over expenses. They also might need or seek out a loan in order to get additional capital to support and grow their entrepreneurial activities (World Bank 2017). This can be linked back to the previously described phenomenon of women in MENA being constricted to the household work and being absent from the public sphere, and that it's oftentimes culturally not accepted that women are a part of the work force. This further indicates that generally, women in MENA countries are not as empowered as women in SSA (Adnane 2015).

In line with this situation in SSA, HiveOnline has experienced women being eager to start their own businesses and to, on top of that, grow their businesses and invest into them. As they've relayed, the main motivation of these women is the impact that they see happening on their family's life as well as on the community at large (Appendix B.2). This shows an anticipation and embracement for loans and other financial services that will help them in their aspirations. This attitude in women could well be what distinguishes them from their counterparts in MENA, that are less experienced in working in the public sphere and starting their own businesses, as the culture and society around them is not generally open to that and it is oftentimes not approved of. Thus, women might not have these sorts of aspirations as they are very restricted in their movements and opportunities. Mahfazti works on the basis that they provide loans for women that they can access solely from home. Their goal is to empower "the women and helping them to take microloans in order to establish their own businesses by providing them with the latest technology". (Appendix B.3).

The lack of representation is not only limited to the job market but is also connected to the political sphere in MENA. The region only records around 15% of women holding seats in national parliaments, compared to the SSA region where that percentage is 25%. Through this lack of representation and lack of female voices being heard, the development of women's situations and the outreach to women, for instance in a financial context, are hampered and their specific struggles risk to remain unheard (World Bank 2019b).

The two regions furthermore have similar numbers in terms of women borrowing money, with around 40% of women doing this. However, only a marginal number of women in both regions resort to financial institutions to get their loan. The reasons behind this can be many-fold, but it ultimately shows that financial institutions in these countries are not currently serving women in terms of loans, leading to them seeking out alternative ways of borrowing money or not being able to do so at all. This opens the playing field for alternative providers such as fintech solutions to enter the market and better serve these women (World Bank 2017).

Moreover, fintech providers have underlined the need to not only focus on the cultural and social circumstances and contexts for their solution, but also to customize their product for women in addressing them. For instance, JamiiPay's mobile application has a feminine design as it targets women and aims at making financial services, a typically male-dominated and -associated domain, appealing to women (Appendix B.6).

In relation to using mobile phones to reach people and financially include them, CARE Denmark has relied on their past experiences, specifically in a Muslim context in SSA, of empowering women by getting them a phone and internet access (Appendix B.7). As in Muslim countries, women are confined to their houses and are generally not a part of the public life, they tend to be isolated. With a phone and internet, they gain access to information and knowledge that would otherwise have remained out of reach for them. This lesson from the SSA context could also be helpful for the MENA region and its Muslim countries, and thus proves the point that mobile phones are the best way of reaching the unbanked women. Through this, they can also get information and knowledge that allows them to become empowered and maybe find aspirations to become economically active or start entrepreneurial activities on a small scale from home. With the help of fintech providers that offer the supporting financial services, this package could prove to be effective in the MENA region as well (Deléchat et al 2018).

Another common denominator between the two regions is the extent of sexual violence that women face. While women in both regions are victims to this, the contextual prevalence of this seems to differ. In MENA, violence against women is mostly used in the public sphere, during the civil unrests, protest as well as in the form of sexual harassment in the workplace (UN Women 2013). This further adds to the constraints that women experience and face in society and contributes to them remaining in the safety of their homes and staying out of the public sphere. Through this, they become increasingly hard to reach for fintech providers, and as previously mentioned, do not have a real use case for digital financial services. In SSA on the other hand, women face a significant amount of domestic violence, where their husbands or partners exert exceeding control and authority over them and abuse their spouses (World Bank 2019a).

The financial inclusion in the MENA region and the SSA region are comparable, with the percentage of women having an account being almost identical. Although women in MENA lead the way in having an account at a financial institution, women with a mobile money account in SSA outweigh their counterparts in MENA significantly. The same is true for using a mobile phone or an internet connection in order to access an account, where again women in SSA represent a higher percentage, leading to the assumption that they have a more readily available technology and devices, and generally more opportunity in the digital field (Findex 2017). This indicates that, although mobile phones and smartphones are more commonly used in MENA, the women there do not use them for financial services such as mobile money or mobile banking, either because these services are generally not available or because women specifically don't have access to or use for them.

In the case of women, collateral or more precisely a lack thereof is also a bigger problem. Since in these two regions, women are often limited to the housework or informal work, showing collateral and security when taking out a loan can be an obstacle for these women (World Bank 2017). Especially in MENA, where women do not participate in the economy and are dependent on their male spouse or relatives, thus don't hold assets themselves, this presents a big challenge. Their exclusion from financial services furthermore means that they do not have a credit history, which adds to the risk that financial institutions see in women as clients, and which is often the main reason for not serving them (Adnane 2015, World Bank 2013). In SSA, women have been shown to be more active in the informal sector, which at least gives them some leverage and opportunities in the informal financial sector as they have more of a need for financial services than their peers in MENA (ILO 2015). Furthermore, the idea of savings clubs has been naturally born in SSA, where women out of their own volitions have organized themselves into lending groups to get access to more capital. This proactive approach indicates a clear need for these women to get capital as well as a wish to engage in saving money (Demirguc-Kunt et al 2017).

Overall, it can therefore be said that the female empowerment in both regions differ significantly. The lack of empowerment in MENA is connected to the absence of women from the workforce, which in turn lead to a lack of credit history, collateral, income and decision power in the household. This is all influenced by the strong patriarchal society in the region with gendered laws and that limits women to the private sphere. In SSA, although the empowerment levels are still relatively low, the participation of women in the workforce, and particularly in the informal sector, gives them a better status in the household and thus more decision-power as well as a stronger role in society. This leads to women there being more open and eager to access financial services, as they have a strong use case for it, which differentiates them from their peers in MENA.

7 Discussion

The access to financial services in developing regions such as the Middle East & North Africa and sub-Saharan Africa remains a current issue. The application and employment of technology and fintech solutions has shown a lot of potential in this area, but also faces some challenges (Deléchat et al 2018). In particular in terms of including women, the analysis has shown major particularities that affect the process of financially including women through fintech solutions in developing regions. In this section, it will be discussed how the understanding of the drivers and their effects presented in this paper can impact the financial inclusion through fintech process. Then, the focus will be on the 4 different drivers that drive the process and how they operate.

7.1 Financial Inclusion through Fintech

The established drivers in the theoretical background for financial inclusion through fintech innovation for women in developing regions are technology, legislation, accessibility and female empowerment. The analysis has supported the claim of these four different drivers, and it has shown that these drivers work to different extents and vary across contexts.

The identified drivers of technology, legislation, accessibility and female empowerment deliver important insights into the powers that impact financial inclusion through fintech in developing regions. With the increased attention to technological solutions to save issues such as financial inclusion, understanding the context in which they operate and the forces that affect operations is an important aspect of designing and employing these solutions in a way that can be effective in financially including unbanked people (AFI 2018). As has been shown through the regional comparison, there is an imminent need to analyse the characteristics in each region or country before deploying digital financial services, as the cultural and social elements play a defining role in the usage and effectiveness of these fintech solutions.

Furthermore, understanding how the drivers act on the solutions provides a basis for analysing the potential of success of such solutions in different contexts and thus in how solutions need to be deployed. It also indicates how a change or impact on factors that define the drivers can change the impact on the driver's ecosystem and thus on the solution and its operations (Aguilar 1967; Schueffel 2016).

One element that has transpired in the analysis of the study is the influence that drivers have on each other, and the potential of one driver to amplify another one. This means that ultimately, the drivers do not act on their own, but there exists an interplay between them. It is therefore not a situation where one driver can be singled out as the ultimate one, but rather that they have to be considered as a whole, and on a broader scale as well. This is also in line with the spheres of the STEP concept, which was used as a support for the development of the drivers, and also underlines the need to consider the spheres simultaneously, as an underdevelopment in one specific area has ramifications on other spheres as well (Kabakova / Plaksenkov 2018).

However, what can be said is that for the specific topic of the study, which is the financial inclusion through fintech for women in developing countries, the underlying driver for this discussion is the female empowerment driver, as it builds the basis for the particular context. This has emerged as being the most important driver in this discussion, as without female empowerment, women are not in a position to use and access the solutions, and thus even when financial services are theoretically accessible for them, they have no use for these solutions. At the same time, this driver is also the most difficult one to grasp and address, as contrary to the others, it is an intangible notion that is difficult to measure in numbers. In addition to measuring female empowerment, it is also more of a challenge to directly address this driver, as it is more about changing overall cultural and social perceptions, attitudes and traditions, and thus more about influencing mindsets rather than implement specific projects such as developing mobile network coverage for the technology driver or introducing new legislation. Female empowerment is thus a driver that requires more of a long-term and multi-facetted approach in order to develop it, but it is also very strong and powerful for the financial inclusion once women are empowered and actively accessing financial services (Deléchat et al 2018).

7.2 Drivers of Digital Financial Inclusion

The technological driver describes the very basis of what fintech contains and plays thus also a big part in the financial inclusion process through fintech innovation. Especially in a developing region, the driver can push the access to financial inclusion by overcoming the most common obstacles for financial access in these regions, which relate to distance, cost and availability. Technology allows providers to offer financial services without customers having to travel to a branch or a fixed location, these services can be offered at a lower price and include previously unbanked people. The driver, however, also includes the underlying infrastructure and devices in order to be effective. This can in a developing context be a challenge (Demirguc-Kunt et al 2017a). As the analysis has shown, internet access is not always available, network coverage is oftentimes lacking, and mobile penetration has not yet reached its potential in many regions (GSMA 2019, 2018a, 2018b). However, with the implementation of these elements and a focus on the necessary components, fintech can use this momentum and technological development in order to get people access to financial services in areas where they previously did not have access to them. Technology allows providers to offer these people a solution that surmounts the most common challenges and is convenient for their situation. Even with a basic level of technology, such as feature phones, elementary financial services can be delivered (Demirguc-Kunt et al 2015).

However, despite this phenomenon, it has also transpired that technology and its access for the unbanked population alone does not necessarily mean that it will be used for access to financial services. As the analysis of the situation in the MENA region has shown, the sole prevalence of phones, networks and internet access does not always lead to financial inclusion. On one hand, the offer of services available plays a role, but more so than that, it is the population's attitudes, culture and preferences that impact this process. A traditional reliance on cash, the culturally ingrained factors of trust and conducting business and financial services in a physical and face-to-face scenario all affect the access to digital financial services once they are available to people (Demirguc-Kunt et al 2017a). As has been noted, the mere availability of fintech solutions does not automatically lead to a usage and access of such solutions, as the culture and attitudes can prevent that. Through this factor, it becomes clear that the culture, traditions and social context of a region or country can really impact the financial inclusion through fintech and is thus also important to consider. Seeing as to how these elements can present challenges to the digital financial inclusion, it can also be an advantage and a factor that can drive the process by accelerating the access, usage and adoption of these solutions that ultimately lead to financial inclusion (AFI 2018).

In terms of the legislation driver, it partly falls to governments and regulatory authorities to build an enabling environment for digital financial solutions. This relates to the infrastructure, but also to laws and legislation that facilitate fintech provider's operations. In most developing countries and regions, the legislation is not up-to-date on technology and innovation, and thus hampers this driver. Considerations such as in terms of the requirements for certificates or for

KYC can support the entry of digital solutions by enabling or simplifying the process (Demirguc-Kunt et al 2017a). The legislation driver is thus building the overall framework in which fintech solutions operate and has an impact on the overall process. A favourable legislation and the active support and engagement of governments and central banks for instance can greatly drive financial inclusion in this context. It can attract new providers to enter the market, knowing that they have a cooperative authority that they can work with, and a good partnership and commitment can speed up the process for the providers and the customers as well. However, a lack of such can be a major challenge for providers and significantly hamper their efforts, thus why most providers in the study considered legislation to be an issue or at least reason for concern (GPFI 2016). In addition to this, developing regions often grapple with elements such as political and economic instability, corruption and violence, which further reduce the effect of the legislative driver and creating a volatile environment for the process of financial inclusion through fintech innovation (Demirguc-Kunt et al 2017a).

Moreover, the driver of accessibility implies the access requirements for the unbanked women in order to access financial services. As developing regions often face a lack of a universal identification form, unbanked people do not have a credit history and poor people often struggle to have collateral, this is a necessary point. This driver can drive financial inclusion via fintech solutions by making it possible to use alternative access parameters that overcome the barriers that some women may have faced compared to formal financial services (Gabor / Brooks 2017).

As has been shown, the biggest driver of fintech solutions for women in this context is the female empowerment in the region in question. Whereas the female empowerment driver in itself is important, it also affects the more concrete context of the other three drivers. The technological driver contains elements such as mobile phones and infrastructure, the penetration of which is a key enabler for financial inclusion for fintech solutions. At the same time, however, there remains the need to consider women specifically for this, as there is a digital gap between the access to and use of technology as well as digital skills. Especially in developing countries, men take the lead in these categories, thus gaining an advantage on women in using fintech solutions for financial inclusion. Due to this situation, the gender gap can actually widen with the use of fintech solutions, as men take these services up at a quicker rate (Deléchat et al 2018).

Similarly, the particular situation of women also affects the legislation driver. Having regulation and legislation in place to support the introduction of fintech solutions enables the entry of providers and their operations. However, as long as developing countries still have gender-based laws and ignore women's particular struggles and challenges, the overall gender gap will not be affected by it (World Bank 2018b). Finally, the accessibility of fintech solutions also influences the inclusion of women. In terms of access requirements, women are the most likely to lack those, be it formal identification documents, credit history or collateral. Using ways to circumvent these problems thus allows women to access financial services more easily and helps in closing the gender gap (World Bank 2018d).

Moreover, the analysis has shown that in the context of women, one important factor is reaching these women in an effective manner. As has been discussed, the variations in the female empowerment per region and women's status and position in society affect fintech financial inclusion in different ways. In regions where women are naturally part of the workforce and economically active, even if just in the informal economy, the process of financially including them via fintech solutions can be faster and more efficient, due to their direct need of capital and other financial services. This is the case in most sub-Saharan countries, where women work and thus have a natural desire for taking their activities to the next level by for example taking out a loan for investment (World Bank 2019a).

However, a lack of female empowerment and the absence of women from the working sector can also make it more difficult for fintech providers to reach women and get them access to financial services. The cultural and social restrictions in a big part of the Middle East and North Africa region that keep women out of the public sphere make the women a harder to reach target group, but it also puts up mental barriers for providers to break as women simply do not have a use case for financial services, considering that they often are limited to housework and excluded from household finance management. This is thus in line with Wang and Guan's study that links the weak economic position of women in developing countries to their limited access to financial (Wang / Guan 2017). These variations in the power balance in society between men and women can be linked back to cultural and social reasons, and thus oftentimes stem from internalised attitudes and beliefs. All in all, this particular situation and the status of women in a region has a big impact on fintech operations for financial inclusion and can serve as a big driver if female empowerment is developed (Adnane 2015).

A lack thereof can compromise the financial inclusion goal. In this case, complimentary efforts are needed in order to simultaneously drive female empowerment in the region, to create a need for financial services for women and thus use this driver for financially including these women through fintech solutions. This is also in line with insights from the technological driver. The developing regions have less access to technology and to financial services, which leads to a gap in experience and thus knowledge in these areas. Digital and especially financial literacy are thus issues that also impact fintech provider's operations and their success in including unbanked people. In this area, additional efforts are needed in terms of training and developing the necessary knowledge and skills in order to use the fintech products for access to financial services (Demirguc-Kunt et al 2017a). As has been discovered in the analysis, partnerships and cooperation with non-profit and local organizations are a preferred way of achieving these pre-conditions.

However, it has also emerged that these drivers do not work isolated, but rather that there is an interplay between them. It is thus necessary to consider them in a broader perspective and in relation to each other. As such, for instance, the technology driver and the female empowerment driver mutually affect each other. A higher level of female empowerment in a region means that women are more likely to have access to a mobile phone or other related technology necessary to access fintech solutions. Technology such as mobile phones in turn can improve the level of female empowerment in a region, as they give women access to information and knowledge that otherwise would have stayed out of reach for them. This is especially true in patriarchal societies where women lead more restricted lives and don't enjoy the same freedoms and opportunities as men, which is often the case in developing regions such as sub-Saharan Africa and the Middle East and North African region. Technology can thus empower women and give them access to information regarding financial services, but also knowledge related to micro-entrepreneurial activities that they could perform from home. Building these aspirations through technology and through showing women the opportunities available in terms of financial access can add to wearing down cultural stigmas and general attitudes, thus further empowering women and redressing the power balance (GSMA 2019; IMF 2019a).

This situation is also closely linked to the accessibility driver. As mentioned, women are more likely to face additional hurdles in accessing financial services. Technology and its use by the target group allow fintech providers to use alternative methods for identification and minimising their risk, while fintech solutions enable the construction of a credit history which can then be used for access to formal financial services. In this sense, the technological driver also has the potential to amplify the accessibility driver, but this can only be effective if the women in question have access to the technological components such as mobile phones and actually use them. This is also impacted by the legislation driver, and in how far legislation is open for fintech providers to use these alternative ways. A more open legislation enables providers to use less stringent access requirements, which in turn drives financial inclusion by making it easier and more accessible for unbanked people to access and use the fintech solution (GPFI 2016; Demirguc-Kunt et al 2017a).

7.3 Implications and Future Research

The findings from this study have some implications for both research and practice. In terms of research, this study contributes to the emerging literature in several ways. On one hand, it fills an imminent gap in the research relating to the analysis of financial inclusion in the MENA region. As most literature as well as practical efforts focus on the sub-Saharan region, adding the MENA region and comparing the both adds another angle and introduces a new aspect to the discussion. It furthermore gives a more nuanced point of view that is mindful of the cultural aspects and the individual drivers and their elements in the process of fintech financial inclusion.

Moreover, it addresses the particular challenges that women face in accessing financial services via digital solutions, an aspect and a differentiation that is often overlooked in the research. Women, particularly in developing regions, face challenges that differentiate from those that their male peers experience in the same context of financial inclusion as well as fintech generally (Deléchat et al 2018). These characteristics of financial inclusion of women through fintech solutions thus offer a more detailed view of the specificity of the gender gap and the effects this has more concretely.

In relation to practice, this study offers a sort of broad roadmap for providers and stakeholders to assess the different drivers in a market or region, in order to take them into account for their operations and services. It also contributes to creating an understanding and consideration for the particular situation of women in terms of financial inclusion through fintech solutions and raises awareness for the need of specialized solutions and specifically designed services that address the additional challenges that women in this situation face.

Despite this, there are some limitations to the conducted study. Restrictions on the scope of the study affect the level of analysis and put limitations on the considerations for details. Furthermore, it resulted in the decision of focusing on the SSA and MENA region as a whole instead of focusing on the individual countries with their characteristics. Further research could zoom in on analysing the specific drivers on a country level and complement them by extracting concrete strategies and recommendations on optimally using the drivers for success in terms of financial inclusion for women through fintech innovation in developing regions.

8 Conclusion

All in all, the study has shown the effect that different elements can have on financial inclusion through fintech innovation for women in developing regions and it has established the drivers behind this process. As such, it has confirmed the presence and effect of the drivers of technology, legislation, accessibility and female empowerment. In addition to this, the study has also extracted the value and importance of the culture and social norms in a region or country, which influence drivers such as technology and female empowerment. Moreover, the analysis has shown the reciprocity of the different drivers, and how changes in one of them have effects on other drivers. This linkage is important for the considerations in the ecosystem of financial inclusion through fintech innovation in developing regions for women.

In addition, the notion has been reinforced that there is a real need for a special focus on women in the discussion around financial inclusion and fintech, as they represent a vulnerable and disadvantaged group in practically every context. Tailoring solutions to their needs and unique challenges is thus a necessity in order to close the gender gap and include women in the overall processes, economy and systems.

As such, addressing the need for up-to-date legislation that deals with innovation and fintech can significantly drive financial inclusion in developing regions by enabling fintech providers to operate more smoothly. The development of the technological infrastructure as well as the access to digital devices such as phones can furthermore push unbanked and sometimes isolated women to access digital financial services remotely. As for accessibility, fintech solutions can address the lack of collateral, credit history and formal identification that women specifically oftentimes face in developing regions. But above all, in order to financially include women in developing countries, women need to be empowered and supported, they need to be an active part of society as well as be economically active for the process to be effective.

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10 Appendix

A. Glossary

SSA	Sub-Saharan Africa
MENA	Middle East & North Africa
KYC	Know-Your-Customer
ID	Identity Document
NGO	Non-Governmental Organization
MFI	Microfinance Institution
GDP	Gross Domestic Product
SME	Small and Medium-Sized Enterprise
ICT	Information and Communication Technology
ATM	Automated Teller Machine
VSLA	Village Saving and Loan Association

B. Interview Transcripts

1. Sseguku

Interview with Hans Henrik Hammerum, CEO of Sseguku. 18/03/2019, Copenhagen Fintech Lab

Nathalie Hemmen: Okay so I want to start with just like some general if you could just talk about what and what exactly it is that you're doing or what you plan on doing in relation to microfinance.

Hans Henrik Hammerum: Yes, we are we are building a platform which will connect lenders in Denmark with small businesses in Uganda so that the Danish lenders will provide microloans. So, you may see on the website is posted some applications for loans and those that are on the platform will thnen have the option to give bits to these loans, not the entire loan but to say if the borrower wants to borrow say a million Ugandan shillings. Then we go in and say well I would provide hundred thousand at an interest rate of say 10 percent. And it's then an auction, so that the different lenders are competing so that the borrower would get the cheapest rate before some date. So, the auction ends at some date and then and the borrower will also set a maximum level of the interest. So, we have the combined interest rate of all the bids or the accepted bids. Above these limits the loan will not get funded. So, so the borrower will have the option to say well you know maximum I can pay twelve percent. But some of the bids uh maybe have a higher interest rate. If others have a lower. So, it is it is the average interest rate at the time when the auction ends. It determines whether the loan would be disbursed.

N: Okay. And then you mentioned I think it's only for Uganda. Right?

H: Currently yes.

N: So why, what were the factors that influenced the decision to say that you only operate now in Uganda?

H: That's because I think that's where the opportunities.

N: All right. And then I want to ask um if there are any factors like cultural or social norms that you have taken you have to take into account when designing a platform for example or for your whole operations in Uganda?

H: Well a lot of considerations. Is there something specifically you're aiming at?

N: No, I just want to ask it there's maybe something about the culture that you say okay that we have to take into account. Because basically what I want to do is that I want to kind of develop a model like say how it could be done in the Middle East and North Africa because there's not a lot of research focus on that and one aspect of that is that the culture there and the social norms are very particular. So, I just want to see that maybe this is something that is similar or different in a way in Uganda.

H: I don't know. Because I don't, I don't know the conditions is in in in in say Tunisia or Egypt or not so. So, it may be differences and maybe not.

N: Okay that's fine. Then you said that you operate the platform so is that like the only technological element of your platform, of your solution is just to the website.

H: Well, the platform is two-sided. So, it is a website towards the Danish lenders. And, but in in Africa we are operating through a branch of the company. So, we are actually meeting the borrowers down there, interviewing them and trying to do a due diligence if they're able to pay if they would benefit from the loan. And so on.

N: Okay so. I mean some of these questions are just that I because I do multiple interviews so ask them everyone. So, I kind of know the answer. So, you don't work with any partners on the ground right. It's just that you have a branch from your company in Uganda that you are working with?

H: Yes! And that is that is actually that is an important element because there has previously in Denmark been a similar website called MYC4 which had many loans and huge operations in Africa. But they did this through local partners. Microfinance Institutions in in Uganda, Kenya, Tanzania and some other countries also. But I have identified that their major weakness was these local partners because many of these were not skilled enough and some were even crooks or fraudsters. So, so I think that is that is the single most significant difference between me and this MYC4 which was which has been the only one that has been going into Denmark.

N: OK. And then who is specifically your target group and how do you reach these people?

H: We meet them because they are close to our branch. So, while our target group is currently mainly within the trading sector and it is those that are nearby our office. But we have not yet defined or selected our target groups. But now we are focusing at these these are primarily women at the market close to our branch.

N: So, do you just mostly just meet them on the market and then talk to them?

H: Well, they come to our office. So, our manager down there is then called by phone or something. Okay. We are just on the ground and then we have we have not done much to attract customers. They are coming almost automatically.

N: Okay. And so, then the customers come to you. And then do you then do like the whole application for them?

H: Well it's a corporation. So, they sit together with our manager and then they fill in the form together.

N: Okay. So, they don't need like an internet access of their own?

H: No.

N: Okay. And then what is like the legislative context for your operations so especially in Uganda. Are there any regulations that you have to take into account?

H: Well yes there is a. And I guess that applies to most of the African countries that there are the financial regulations which apply. And specifically, in Uganda the legislation divides the different institutions into four categories where the banks are those that are most heavily regulated and then there are two other levels until we have the bottom level which is microfinance. So, I think, there is the Tier 1 is the banks. And then there is generic term called creating institutions. And then there is a deposit taking financial institutions and then. And this is two-fold. And here we have the microfinance. And we have these SACOs, savings and creating cooperatives so and there is a low regulation in this. Which is from 2016. And there is a, they have a separate authority called the Ugandan microfinance regulatory authority and we are currently applying for a license with this. But we are already on the borrower's side, operating small scale. And we do that with the license from the local area company.

N: So, you are technically in the in the sector that's the least regulated?

H: Yes.

N: Okay. So, in terms of legislation then it wasn't like a big challenge?

H: We have not got the license yet, so we don't know the size of the challenge. But but we are also, in order to provide the website towards the lenders here in Denmark we are also obliged to have a license from the Danish financial supervisory authority. And this is also one where we are currently preparing the application.

N: And what are the main challenges that you face or that you are facing with the introduction and implementation of your solution in the region?

H: Well we don't know yet because we are at an early stage. So, we don't know what challenge. There's been a lot of of of small technical issues that we had to do, like having a bank account. I think there's one technological benefit that we use, we use only mobile payments via phones. And then we don't have any money at our office, so we don't need any guards and we don't need any safe. So, our operations are much cheaper because we don't need to have security personnel and we don't need to have any safe device.

N: So, the clients get the money to mobile pay as well?

H: Yes. Yes.

N: So, they need to have a phone then and a bank account?

H: No no no bank, just a phone. In Uganda, like most of Africa, they use this standard called M-Pesa which is widely used.

N: OK. It's over that then that they get the loans?

H: Yes. Each mobile company gives it its own. So, we use MTN mobile money and we use Airtel money. So, these are specifically for the different mobile companies.

N: Okay, then are there any over all lessons that you've already learned in like in the process of it in regard to microfinance in Africa?

H: Well so far, we have learned that the need is huge. Yeah, I guess that is what, that is what we have learned so far. But of course, we have also learned a lot of the necessary information in order to to build the financial infrastructure.

N: And then I was also on your website and I saw that there's also like one tab would like the cancelled loans and I saw that someone was because people have already lost their homes because they didn't pay rent. How difficult is it to kind of like keep it like uh keep tabs on people's? So, to like to check up on people and see if they'll be able to pay back the loan?

H: Well uh I don't know if we have found the ultimate answer yet. But I think the answer is is to spend time to know I think the activity is the same as it is with ordinary banks that there is a model called the Five C's which is about what do you have to do in order to provide good credit or to find quality borrowers. But we have we have found out that it is uh it's a good idea not to be too hasty not to give out the loans at the same day as they come ask for credit but that it would take some days so that we get to learn them and that if there are any things that we have the option to to get to know them

N: And then the last question is what just the next steps for your company or what the plan is?

H: Well, the next step is to get licenses with the Ugandan microfinance regulatory authority and to have the similar license in Denmark because without these licenses there is no business.

N: And is the plan long term then to also spread to other countries?

H: Yes, but it is easy to keep the plans. It is harder to do so. So, I think we are focusing rather on the short term. So, because until we have reached the short-term targets there is no reason to have long term targets.

N: I would say that mostly it for me I mean except if you think that anything.

H: Well I think you should talk to an ordinary banker and get a lesson about credits because microfinance is not different. Not much different from ordinary credits. This is a small-scale banking. And the problem with these kinds of loans is that it is hard to get security and therefore you need to use other methods. What we do is we put the borrowers in groups that are securing each other's loans on a mutual basis. So, if you have one of the members of the group is failing to pay the others become liable to pay. There is a process that we ask these these borrowers to to find a group of people that would have loans together and that they would select those that they that they themselves think are capable and this group lending is one of the measures that we take in order to increase the quality of the borrowers. So of course, those that are not able to fit into a group they will not get loans because they have to come and say we we have five or more people to guarantee each other.

N: So, is the group loan your main focus?

H: Currently yes. But also, this group lending that is actually part of these Grameen Bank. So, I think look into what you should study these Grameen Bank and the methods that they had that is somehow there was somehow the starting point for much of these microfinances.

N: Yeah yeah. But I also read that the group loan is like the most, where you need to invest the most time in it because you need to you know always check up on the group and on the individuals.

H: It should work. Actually, you can put some of the time on each in the group, the work that requires most time on the group itself saying well to put pressure on those that are not paying. So actually, you can see the group as your assistant, so right that you only have to have meeting with the group chairman and your treasurer and then they would them selves meet with the members.

N: But so, if in a group one member is is not paying or doesn't have the means to pay back that do they get removed from the group or does the whole group get?

H: Well it is the intention is that it is solidarity so hopefully the others will help the one that is non paying.

N: And do you know how many like roughly how many loans you've given out at this point?

H: Well I know exactly that we have given out twenty-nine.

N: Okay so most of them were group loans?

H: All but one.

N: I think that was mostly it for me.

H: But there may be some with these, that the information about the loans and so on would harm them in the competition that they have with the competitors. So, it is it is a sensitive matter what information that you provide on the Internet because the lenders would like to have full openness so that they are able to know everything. But from the borrower perspective. It could be harmful, if the wrong people got to know about their loans and about the performance that they have on these loans and so on. I don't know if we currently have found the right level, and also when you a lender, this is a risky business. There is a lot of, there is a number of different issues that you're facing about the interest rate. You say when the in the users down there pay about, with our loans, about 2 percent per month. That would be annual at about 27 percent. That sounds very high in a danger perspective. But since the loans are very small, all the administrative work and the effort to collect gives a lot of effort for us with our office in Uganda. So therefore, we put a markup on top of the interest that the lender provides. And also, we have a disbursement fee at the beginning. But then still there is some risk. In Uganda there was an inflation which is higher than in Denmark and because the loans are issued in local currency in Uganda shillings. Then when they are repaid some time has gone. And therefore, the value of the amount repaid is less than when it was dispersed. And therefore, you have to say well those uh repayments that I give. They have lost some and there is a typical difference which is about 6 percent per year that the currency in Uganda is is falling compared with Danish currency. So when you set your, you should start with at least 6 percent because that's a different in inflation then there is a risk of non-payment. There is some delinquency among the payer, so market standard is that about 3 to 5 percent of the loans are not repaid. This amount you have to put in on top of this, then we are at at nine or ten percent. And then there is some cost transporting the money from here to Uganda. And that is another one or two percent on top. So without having any value you have to give, set an interest rate of eleven or twelve percent in order just to have all these expenses and risks and inflation and so on covered. And then if you want to earn as a lender I want to earn some, you should put. So therefore giving out a loan of 12 percent is not big business. Now you can hope that you get your investment back. And you should not do this if you want to get rich but you may do this if you want to save the world or to do something good with your with your savings. And also you are paid not only by the interest but you are also paid by the story about that you actually get some message back. Well you have now helped this lady to improve her business. Awesome. And that is also part of the output. So and you have to see this together with the openness thing so you cannot you're not saying well you don't tell anything about a specific case but at the same time you cannot share everything because then you would risk to threaten their competition in the market. So this is this is really sensitive matters. About this idea that you have to give these peer to peer loans.

N: But so the idea is also that it's like just a one time loan that people just get their loan once?

H: Well, I don't know. I don't know if we have found the answer to these issues yet but I am pretty sure that those borrowers will come and ask for another term when they completed the first one. So, where I think some of these will return and become a second and third time borrowers. And of course that is a huge advantage for us. As long as they keep paying.

N: I think that I mean I think a it's a really interesting topic because it seems so simple and my concept of it.

H: I think that the main issue is is whether it provides any good there. The main issue with this interest rate of 2 percent per month. Are the borrowers actually able to increase their business enough so that they are able to pay this interest on these loans? Or are they just trapped that they need to take loans in order to continue their business? But they are actually not improving the business and therefore they are just generating profit for the lenders and not actually improving their loan situation.

N: So how do you measure the impact that you have?

H: We don't know. Because it is it is almost impossible to measure them. And the main issue is is that is lack of figures. We don't have any. They do not to provide content, so we don't know why very specifically we know at some level. And and the numbers look very specific. But but actually I don't believe when they say well last month I paid seven hundred, I had an income of seven hundred thousand Ugandan shillings or whatever they would say they don't know because their economy is not separate. They do not have a separate business economy and private economy. So. So if you go and pay for five bananas they then take your money but if they get into the business pocket or the private pocket, you don't know. And therefore until you have businesses that are somehow sure, you cannot give precise answers to these questions.

2. HiveOnline

Interview with Bjorn Blakstad, Project Manager, 19/03/2019, Google Hangout

Nathalie Hemmen: If you could just briefly explain what exactly it is that you're doing.

Bjorn Blakstad: So, what we're doing is we are taking the VSLA system that has already been introduced by MFIs and different NGOs in sub-Saharan Africa. And we are developing a digitized product to be able to make the whole system a little bit safer because they do operate on a cash basis at the moment. And of course cash is very high risk. It is a physical thing that can be stolen. So we are doing a three stage project to be able to digitize the whole system of the economy got. On top of that we are introducing a new aspect into it which is called reputation. We are taking things like phone records which we can get from partnerships with telecommunication companies. And we are also using their activity on the digital platform to be able to build verification. That these women are who they say they are, that they're doing what they say they're doing and that reputation can be used to apply for other financial services in a more formal sense and get them to grow wealth within their communities.

N: OK. And you said you're mostly working in sub-Saharan Africa, right. What were the factors or what are the reasons for why you're in that region, specifically?

B: So we're partner with CARE International, that's why we're able to do this project which is an international NGO. And that's the area that they want to focus on. And that's where they're best supporting us to be able to start. But we do want growth throughout all areas where VSLA operate which is globally. Niger is one of the most at risk countries in the world. They are one of the least densely populated countries in the world with some of the lowest connectivity and the highest rates of poverty and significant risk to health and life. It's a very, very difficult place to live. So, we want to start at the toughest place and kind of it out from there.

N: Are there any cultural issues like social norms that affect the way that you're operating or the way that you're reaching the women?

B: At this point we haven't faced any major blockages except that when we do go to Niger to be able to meet these women we have to go with armed guards. But we do anticipate some pushback. Niger, actually, is a very strong Islamic operating country which is also factoring into how we're building this because we need to go through Islamic banking but that's a different thing. But it's a very, very patriarchal society. These women do all of the work but they have very little control of money. The guys in the villages will always, they will have smartphones, they will have most control over the finances of families and things like that. But the women are the ones who do all the work. The women are the ones who have to actually do the backbreaking tasks that keep these villages alive. So, we do anticipate to have some pushback as this grows. At the moment is still in the pilot stage but we do want to take this global and essentially we're trying to counteract years and years of billions of people looking at women and saying 'no you can't have control of your finances'. We are anticipating quite a lot of pushback and we are prepared to face that definitely.

N: And so, as I understand it, your solution is mainly delivered over smartphones, right, or like phones generally. Is that also an issue in the area? I mean you mentioned that men mostly have smartphones, that women don't have access or like the skills to use a smartphone.

B: It is something that we are combating. So, the current structure of the VSLA is helping us a lot because the way VSLAs operate is these women gather in groups regularly. Now on average there will be one woman who has a phone in that group. Not necessarily a smartphone, it might be something which is called a feature phone, which is a button based non-touchscreen phone, which does have access to the Internet. So, what we're doing is we're building a progressive web app which can operate on those sorts of phones and our first build is going to be based on the assumption that there is one phone in a group which kind of access a ledger, a record of all of the women's activities. I'll talk about what we do as this project grows. We are essentially looking to grow wealth so further down the line we can move towards concepts where every single woman has a phone, because we will have been building wealth in these communities and then people can access technology.

N: But there's in that sense no training aspect of the program.

B: There is currently CARE International trains these women as they were already doing it in terms of their group structure, they don't train with phones as of yet. But there is already training in place though the literacy rates in the villages that we talked to are incredibly low. The technological competency is actually quite high. So, what we're doing with actually building the app is we are using very image-based stuff. We've already gone out to visit some women in Niger and test images with them, test icons with them and say ‘Do you understand what this means’. And the response is mostly yes. So, we are testing on the ground with the women who are going to be using this, we're not just assuming what will work, we're actually saying ‘does this work’ to the women and they’re giving us positive feedback.

N: OK. And then in terms of infrastructure, was that ever an issue, like for example with mobile networks?

B: Yes, Yes. Infrastructure is a very big issue. So, not to go too deep into the technology. But what we're doing is we are looking to build a network that requires very very low connectivity or no connectivity in some senses to actually operate, because infrastructure is a massive issue. Obviously, we are working with CARE International. So, they have funding. And while we're building the projects, we're hoping that they can support us in terms of building some connectivity just so we can grow and operate and get feedback from the women. We want to have people in Niger work with the women every single day as we grow this project. But mostly we're kind of taking the challenges as they come and we're trying to kind of fix and stitch as we do. In terms of the actual apps that we're building and the actual project that we’re building, we are building it with the current connectivity in mind and the understanding that it's not really going to massively improve for another three to eight years. So, we have found ways around that with our technology to be able to build something that works with no connectivity or low connectivity in some cases. We’ve even considered putting satellites on cows.

N: OK. And then I mean I guess the way I understand it you are just responsible for the technological stuff. So, I assume that your target group is women and you reach them through CARE international and their network or their projects right.

B: We're collaborating, so it's definitely that CARE is mostly working directly with the women, but we do understand that there's a human element to the technology that we're building. So for instance, our CEO Sofie Blakstad, has been to Niger I think three times now and been to Kigali, which is the capital city of Rwanda where we're building, we're actually hiring resources, African resources, African developers from University in Kigali to be able to help us build this and we travel between the countries a lot. So, we do, although CARE is the one providing training, we are suggesting impacts on how the change we have conducted because we communicate with them and we are all doing our own testing as well to be able to make sure that we can be face to face with the people who are using what we're building for because otherwise there's no point to it.

N: And what is the legislative context for you? Are there any like regulations that impact the work you're doing?

B: Yes. So, we do anticipate that there are going to be some regulatory issues. So, we are hiring people who do have legislative training. On the ground in Kigali we're going to be hiring people who have understandings of the countries and how to deal with different regulatory issues. The actual project itself is currently a 19-month project is currently what we've dedicated to. But we do see this growing after the project is completed. Like I said we are starting in Niger and that's what we're building for, but VSLAs operate globally. They are in South America. They are in Nepal, they’re all over Africa. There are some in rural India. There are some in rural China even. They are global. Not necessarily in every single organizations impact, simply because when you put disadvantaged women together, they find a way to make their lives better. They work together. They come together in groups. They understand that they don't have enough control of their money, so they fix it. And we just want to help them make that happen.

N: And how do you again plan on measuring the impact that you're having or the success that you're having on these women?

B: Well, initially we are going to be obviously face to face saying ‘Is your life better?’. And hopefully they will say yes but also, we're going to look at things like census reports, growth of wealth in different countries. We don’t want this to get away from us being on the ground as we as a company grow. We want to be able to put our feelers everywhere and see that it's moved. But we are also going to be looking in a global sense how statistics are changing and are we affecting that, is it linked to what we are doing or not. So, there are multiple different ways that we can go and gather data to measure the impact of this. So, it's quite a wide question.

N: But so, from what I understand like the main goal is to grow the wealth in the countries or in the regions that you are?

B: Yes, that's right. And give disadvantaged people more independence, because from a more overall perspective in Africa in general almost 20 percent of the population have a phone, less than 5 percent have a bank account. That's not right. If you don't have formal identification, you don't have a passport, you can’t apply for a bank account. Simply due to the fact that you live too far from the nearest passport office or you can't afford the registration fee. That means the only way that you can get a loan to fix your roof or to buy farming equipment is through much less official terms through very corrupt groups. I mean you can see some of the interest rates gotten as high as six hundred percent for short term loans. The average is 40 percent for short term loans. It's insane. And it's simply because there is no way of verifying these people's activity. But everyone has a phone and you can find so much about who someone says they are with a phone. And with this sort of activity that we're going to be reporting on the platform that we’re developing, that's people’s verification, people are who they say that they are. They don't need traditional especially western entry fees forms of identification, they just need someone to say ‘we believe you are what you say you are, here’s some money’. Because these people are already entrepreneurial. When we went to Niger, every single one of the women except for one said ‘What would you do with more money?’, ‘I would buy a cow so I can make more cows and sell them’. The one that didn't say that said that they would buy some land, some of vegetables and sell them. Every single one of these women have hopes to grow wealth already. They just don't have the tools there. And that's what we want to give them.

N: And so, all of the clients in the way are women right?

B: Yes. It's not exclusionary at all. We're not actively saying no boys allowed or anything like that. It's simply that the men don't care. They've got their money. The women do care. So these groups like I said globally, it’s not just in Niger. These groups globally have naturally formed. And we're just kind of helping the people who are already doing what they want to do, help make it work a little bit better. They even have literacy programs that they're developing themselves. They're taking the CARE representatives that go and teach them how to run these meetings and they're saying ‘can you teach us to read and write please’. Often times there’ll be one or two women in a group of 20 that can read or write and they are independently conducting lessons to improve literacy within the groups. It's not just about finance, it's about growing their community and growing their abilities to be able to be more dependent, stronger and just safer.

N: So, what are the main challenges that you’ve faced so far?

B: Well, connectivity is a big one obviously. When our CEO goes to Niger, we don't have a CEO for a week because the connectivity is zero. So, communication has been a struggle. Also, with the upcoming issue with Brexit a lot of our employees are British. So, travelling between Europe and Africa is going to be quite difficult getting back into Europe is going to be quite difficult. So that's something that we foresee. Securing funding is a very very difficult issue when you ever have any project that's helping people who aren't going to make you that much money. It's always quite tricky to get someone to support you. Luckily, we have an amazing partnership with CARE and they approached us with this project and we really really pleased as how it's going. The funding has been almost completely secured for the second phase. Like I said there are three phases, got the funding for the first phase, almost got it for the second phase. But that's the thing I think for the people and they just said look we're not going to give you money to do this anymore and therefore these women don’t get helped. So that's always something that's over our heads but connectivity and funding are a primary issue I would say at this point. But we do as we grow, we do anticipate governmental and social backers.

N: OK. And what would you say are like the biggest lessons that you've learned so far in the process?

B: For me personally I think the biggest lesson I've learnt is when you see these kind of poverty-porn adverts 'look at these poor people, they don't have shoes. They're not real people, give them money to help them be real people'. It's not true. These women are also fiercely independent. They want to grow their businesses. They want to be able to develop wealth. They have massive understanding of cause and effect and how this stuff is going to impact their lives and their friends' lives their children's lives. I think one of the biggest things that I've learned is that there is no difference between a woman trying to buy a cow to build a small business in sub-Saharan Africa and a builder in Denmark who tries to get a loan so they can buy to toolbelt. These are the same issues globally. Every single small business no matter who you are will face the same difficulties. It's just for some it's way harder than others and there's something that we can do to fix that.

N: So, in society it's not really a problem that women are working or that they're the ones that bring the money home? So that's a widely accepted?

B: Yes, that's widely accepted everywhere that we've gone so far. It's very kind of lion pride situation. The women do the work, the women have the skills as well as, and the men are expected just to be head of the household. That's their job, just to be men that's pretty much it. But it's still a massively patriarchal society. It's still very much about them, as women are less than a man, that they're less important, or less intelligent. They have less rights. And that's something that we think that we can disprove. I think it's not just that we're changing the understanding, we're actually showing that they will. And we do. I mean it's very wide. But we want to end poverty, obviously, but we also want to end this sort of patriarchal culture that exists around finance and we want to put an end to that.

N: And then just a last question, why specifically focus on women? What's the main reason for that?

B: Because women need help. We focus on women because they want to. The women want to grow, they want to start businesses. They want to develop their own lives. They have a desire to do this. That's why we're starting with women, because they are so disadvantaged and they face so many struggles and they want to change and in some of the cities that we visited in Niger, the women when we asked what they would do with wealth they said they would build a school. Build a community center. They are already campaigning to get girls in schools, as most women in Niger, most girls don't get to go to school, but the boys do. They're already doing this. We're just giving them the tools to do it better.

N: So, would you think if men had the same opportunities, if you would put that money into men that they would invest their money differently?

B: Definitely. We haven't had a chance to talk directly to men but from our understanding of kind of how the power structure exists between men and women in the countries that we've visited, the men want to do things like, they want to buy a fancier phone, they want to buy a nicer motorbike so they can go hang out with their friends and chill out because they don't they don't struggle at this point. Yes, they're in one of most war-torn, infrastructure poor countries in the world but they're happy. We see them. I'm sure that they would like, you know, nicer clothes, better built houses, better roads. Yes, they would want to do things that make their lives easier. Women want to do things that make other women's lives easier.

N: OK. Well I think that's been mostly my questions that I have. Except if you think that maybe there's some important issue that I haven't said touched yet.

B: I think really focusing and getting into not just the kind of overall cultural effect but also the more microcosmic cultural stuff that exists within the VSLA the actual groups themselves. I mean the fact that these women come together independently and they've built a system where it's essentially a distributed network. So, these women they've accidentally done it without knowing any of this. So what they do you'll get 20 women sitting in a circle and you have three people, there's a box with three locks on it and each lock has a key. There's a Treasurer who's the one that counts the money, there is a secretary who's the one that writes down what everyone's done. And there is the chairperson who's the one who runs the meeting. You have 20 women sitting in a circle. That's the that's the system that has been introduced by CARE, that's what they're teaching women to do globally, they're basically teaching them how to build these systems before. Before though, and this is what currently exists in these groups coming together independently without any help from other organizations. It would be 20 women sitting in a circle around a box with 3 locks, that same sort of system, but instead of having one ledger where everything is written down, everything is recorded, everyone said "I will remember what I did. I will remember what she did and I will remember what she did". If one person doesn't come to a meeting, it doesn't matter because you got two other people who know what she did. They built a distributed network just with people completely independently. They have zero literacy. They couldn't write. They couldn't. They obviously they can count because money exists as a huge human thing. They couldn't write anything down, they couldn't record, they couldn't spell their own names. But it worked. Everyone remembered who had a loan coming out. Everyone remembered how much she had to pay back. But value from this because these women they know each other. They know that you know Hope over there, she never pays her bills on time. They know that, they know, everyone gossips. They also know that Tamoka there, she is absolutely wonderful. She paid everything back and she almost never takes a loan out. These women already know this. All we need is getting microfinance institutions to know this because there's value in that information. Data is the new oil. And if we can actually record this and get some visibility then these women can do things like apply for a loan to be able to start a business without having to massively suffer.

N: I think there is just so much potential there that is not being reached at the moment.

B: I mean it's just poor people are the biggest market in the world because that's most people are disadvantaged. I mean, I mean you yourself. Let's give an example. Currently you have a computer in front of you. Obviously, you've got clothes that have been mass-produced, unless you make your own clothes. You're living with a roof over your head. I'm assuming you have some sort of heating or air conditioning going on wherever you are. You're in the top 1 percent of humans on the planet. Just because of that. Actually, the top 10 percent, I'm sorry. Just because you have those basic things, I can see that just from this screen, you could be eating rice for every single meal and not be able to afford to pay your bills and you would still be in the top 10 percent of humans on the planet. So yes you can't immediately make money off these people but you can give them the ability to just be people and let them grow their own wealth and just let the world benefit from that. Carnegie Mellon University has a branch in Kigali, right. Rwanda recently faced one of the most horrendous genocides in African history. And Carnegie Mellon University is there. And they have some of the most valuable pools of talent globally. There's a huge technological uprising in students in Africa because of this entrepreneurial spirit. This adversity inspires change. It inspires growth. It's not a good thing. But people don't want to be poor, people don't want to be in danger. And I think the Western world has a very fucked up view of African countries.

N: I mean I don't think it's even like African countries. It is just Africa as a whole.

B: Yeah exactly. It's just Africa. Africa is this one place where everyone's poor and sad all the time. And in fact also, like mobile money. Have you heard of M-Pesa. That is already huge in Kenya and Nigeria. That's already enormous. This isn't sort of like people in caves with sticks, these are like intelligent entrepreneurial people who want to find easier ways, they want to make their lives easier, just as you and I do.

N: Yeah, I guess it all comes down just to opportunity.

B: Exactly. You might download an app to be able to make it safer to pay with your phone. They are going to find a way to get a phone. It's same principle, different approaches I'd say.

3. Mahfazti

Interview with Qais AlTwal, Mobile Financial Services Senior Officer, 25/03/2019, Skype.

Qais AlTwal: I'm going to give you a brief about our company what we do and how we target our segments what we are focusing on and etc. So, basically, Umniah is a mobile company, a big mobile company here in Jordan, we cannot directly provide our customers with mobile financial services unless we have a separate company. It's related to developing regulations here in Jordan. So, basically, we established another company called Al-Hulool, it means the Solutions. So, it was established back in 2014 under the umbrella of the Central Bank of Jordan. The Central Bank of Jordan at that time made a new switch for mobile payments called JoMoPay, Jordan mobile payments. This JoMoPay switch, the main aim of it is to connect all the payment services providers through that switch in order to enable interoperability and transparent transactions etc. So, we were licensed back in December 2014 as a payment services provider. This company actually it's a big company because it represents a self-integrated Consortium, in other words Al-Hulool is owned by a top-quality corporate owners, we are about 6 bands banks in Jordan. In addition to Umniah, as a mobile company and a company called network international this is a company which provides point of sale and perform its activities as an acquirer in the market for Visa and Mastercard payments. You know the point of sale? Devices that are in their merchant shops etc. So, this is another company. The largest payments or let’s say service provider in Jordan and it's also a card operator. And in addition to a very new institution which is microfunds for women. it's an institution in Jordan that concerns with the woman and entrepreneurs who would like to have let’s say small loans, microloans, in order to establish their, let’s say, small business etc. So, all in all, we are 9 companies. We as Umniah have the majority, let’s say, we have the strongest voice in that company because it is driven by us. All this 9 companies forms Al-Hulool, they are all shareholders. Our business model is a little bit unique, as we do not deliver our services for mobile services directly to customers yet, we deliver them through, we call them agents or super-agents. In other words, Al-Hulool will deliver the cash-in, cash-out, payments services, international money transfer, through for example Umniah, or through exchange houses etc. But not directly through all their distribution channels. So, this is our unique let’s say business model. In Jordan we have 5 PSPs, payment service providers, but we are the only one who collaborate with microfund for women or let’s say an institution that is concerned for microloans for women and to enable them and empower them in Jordan. In order to expand our needs, we’ve made too many let’s say agreements and collaborative initiatives with partners, super-agents, agents. So, now we have the first exchange houses as a distribution channel was through us, so, we have many exchange houses in Jordan in order to as we use them for the over-the-counter services. We have greater Amman usability for online payments, for government fees. We have the ministry of justice, the Jordan Post, other banks as well. So, it’s a unique model. Then we expanded to work and collaborate with NGOs, like the NRC, the Norwegian Refugee Council, USAID, for the work with the development project, UNDP as well, national microfinance bank, UNICEF. So, it‘s a very big network of NGOs that we are collaborating with. Those NGOs are providing the cash distribution through our system, for their beneficiaries, especially in villages and areas that they don’t have either banks or ATMs or even these segments they don’t have the financial awareness, they don’t have bank accounts, they don’t transact through either mobile or web banking etc. So they are, let’s say vulnerable in terms of financial awareness, we target those segments through the NGOs and through also microfund for women, by providing them awareness campaigns, we provide them also with flyers, guidelines, how to use the mobile apps, the mobile wallet app we have, how to enhance their knowledge, how to financially include them in the system we have in Jordan for online payments and financial inclusion. So, basically, this is what we do, in terms of specifically of microfund for women and how to empower them by providing microloans, there is a big segment in Jordan, especially for women who would like to establish their own business. Normally it’s just a small business, like could be making t-shirts or could be some local food that they have a small factory for the packaging, so it’s very basic and small business. However, it empowers them to help their families, it empowers them in order to be financially stable. They can ensure financial stability there. So, normally in order to take this loan or microloan, they have to submit a form, there are a lot of let’s say, advantages for microfund for women in Jordan. They apply for a form, then they get for example a loan for 2000 JDs. Instead of going back to the branch, in order to take the amount of money in a check or cash, and going back to their homes, it will definitely it will take them one to two hours by transportation, it’s going to cost them 4-5, sometimes 6 JDs to pay for transportation just to take this loan. By our solution, we just open a mobile wallet for them, through any agent in our network, the nearest agent to them, after they apply to that loan, the approval comes, for example, then directly the payment is transferred to their mobile wallet and a SMS will be delivered to the woman at their home, "Yes you have received your money. You can for example cash it out". I'm going to talk about these services we offer in a while. So, then they can for example cash it out, start their own business. On the other hand, they have a monthly installment, loan repayment. And instead of going back also to the branches and to avoid the hassle of cash-delivery, avoid the hassle of big payments etc. They can also through the mobile wallet, we've made an integration to the CRM, customer management system for microfund for women, so they can also do on their form the repayment of the loan with the amount they desire, instantly, through the mobile app. So this is mainly what we do by empowering the woman and helping them to take microloans in order to establish their own businesses, by providing them with the latest technologies, the easiest one, and they can do it all from their own homes, without going back and forth to their branches and settle their payments and etc. Of course, the app has different and many services, including the cash-in and cash-out directly. For cash-out we have 2 methods, one is from the ATM, cardless without using an ATM card. And the other one is through the agent directly, which is, if you familiar with the expression OTC, over the counter services. So, normally they do prefer the ATM cash-out, the cardless ATM cash-out, because it's 24 hours a week available. Compared with the agents, they have working hours, working days, so they are not available all the time. Plus, we are talking about loans of 2000 or 3000 JDs, it's a little bit hard for our agents to make this cash available for cash-out. So, imagine in some governorate, we have 10 loans with a total amount of 30'000 JDs, it's a little bit hard for our agents there to make this cash available. So, they use the ATM network we have. In parallel, of course, we have the over-the-counter services, let's say for micro amounts. So, this is one way, as I said, without using the ATM card. You can go just to a certain network of ATM branches that are directly integrated into our system. You just request, we call it a voucher code, which is also like OTP, one-time-password, including some verification of the identity, you just enter this data into the ATM, and you get your cash directly. The other services we also offer is the person-to-person domestic transfer, and it's cross-wallet as well. If you want to transfer to other PSPs, for example our brand name is Mahfazti. Mahfazti means "My Wallet". So, you can transfer between Mahfazti accounts directly and also you can transfer between Mahfazti and non-Mahfazti customers. And this is done through the JoMoPay system, that is implemented by the Central Bank of Jordan. So, JoMoPay will receive the payment, then will search for the wallet, for example with PSP X, it will then redirect the payment there with acknowledgement etc. So, this is a very excellent solution. For example, let's say, maybe in the near future we have up to 7 or 8 PSPs, imagine if it will enable cross-wallet transfers, we need to make 8 integrations, each company will have to make 8 integrations. In our situation, we only do one integration with JoMoPay, which is the Central Bank switch, and everything is handled there. Which is an efficient solution. Another thing we are looking forward is the person-to-person transfers, but international. So, it's international money transfers, however, we are still, it's still early stages in Jordan, and we are expecting to launch that very soon, maybe in Q3 of this year. And it will also empower all the, it will provide a very smooth service for all the residents in Jordan. It will enable them to transfer money outside. Another service we have is the bulk payment, like salaries as well, in addition to the loans. And business to person transfers, person to business as well, and person to merchant payments at using for example QR codes, using either direct transfer for merchants. We have a very big catalogue of services. Another one is the airtime pop-up direct integration. For example, for our customers, we have our own integration to our billing system at Umniah, at which customers can recharge their lines or pay their subscription directly from the wallet. Another big service and international service as well, it's called ***. It's another switch, owned by Central Bank of Jordan, where customers can pay all their bills digitally. For example, electricity, the water, all other bills. For example, could be for education, private sector. It can be either from the bank accounts or from the wallets directly. So, this is another service that also we believe that it will empower the woman, for example if she has her own business, maybe she will need to pay the electricity bill of her own business, the water bill etc. So, rather than going to the electricity distribution company in Jordan, to their branches to pay the bill, no, she can do it directly from the wallet. Another key service we have launched last year, actually the beginning of last year, it's the companion card. This card is opened locally and internationally, for all online payments, all the merchants in Jordan, I mean locally and internationally.

And it's linked to the wallet, so we are also trying to push this service to the woman wo empower them to explore the outside world, just by purchasing online, from eBay, Amazon etc. They can also top-up their mobile wallet and perform their shopping in Jordan, for example they go to Carrefour and they can use their card instead of the cash. So, we are trying to build a profile for them to educate them on how to be engaged financially and include them in the financial inclusion vision we have in Jordan. Other services that are let's say coming soon micro-insurances, of course, it could be also the payment in point-of-sale directly, governments payments as well, etc. Those are coming very soon. However, the market here is still in its early stages, we only have half a million wallets in Jordan, and I think with a percentage of 24 or 25 active wallets only. So, it's still new in Jordan, however, we see a very big demand and a very big need here. And it will solve a lot of issues here, hopefully very soon. And that's it. I think until now, unless you have any questions, I'd be happy to answer.

Nathalie Hemmen: You mentioned how many wallets you have, do you have any numbers on how many of them are from women, or the percentage?

Q: Well, actually, I don't have an accurate number currently, because I don't have the access to the data currently. But I think, let me give you a number. Give me one minute. (…) I think the number of the women wallets are not too big, but the amounts of microloans are very big. Let me just have a quick look here. We are talking about maybe around 32'000 wallets for women. Just for, sorry, those are women that are just paid for micro-loans. Around 32'000 wallets. But, of course, there are other wallets for women who use the wallet on daily basis but not for micro-loans. And this is our own numbers, not other PSPs number. I don't know about them actually. But in Jordan I think it's about to reach half a million I think by the end of this month. Total wallets for all PSPs.

N: Because you said that the foundation of it is these ATMs and these agents that you have. So, I was just wondering about the distribution of those, if that might be reflected by where the wallet users are situated?

Q: So, normally we try to cover the whole kingdom. For us, we have more than let's say 220 touchpoints currently, agents. We have out of the 120 agents, we have around 55 shops only for Umniah, others are for exchange houses and our own agents. However, our main key point here is the access to the ATM network in Jordan. We have more than 1'700 ATMs in Jordan. You can access them through the companion card, which is the Mastercard actually, and it is accepted in all the network in Jordan. This is more or less covering the, let's say, the majority of the areas in Jordan, at least. At least in where you can find a lot of people are living, so for example in villages. So, in one village you might find one ATM, in other governorates you can find up to 40, 30, sometimes 50 ATMs. So, normally, it's almost covered. And this is our key point of reaching our customers. Of course, we have the hotline support 24 hours and 7 days, it's available anytime for them. For any support needed, for example for the nearest ATM, also we have other features inside the app. For example, you can look at the nearest agent from the app itself, so, just access the app, go to the agent's map and there you can see the nearest one, and you will be directed to the nearest located agent. So, we are trying to enhance the user experience by providing the easiest ways and the most convenient ways to use the service. This is normally.

N: And then one more question. Is the app then personal? So, if someone doesn't have a mobile phone, could they access it over someone else's phone?

Q: Excellent. Currently, the JoMoPay switch supports the USSD, you know for example you dial 123#, you know it the USSD channel. We currently, all of them our users don't have access to that channel, because the Central Bank of Jordan is releasing a new document for the menu. So, we are looking forward to the unified menu. The issue we have in Jordan is the mobile number portability is not available. For example, Umniah customers are recognized because they all have numbers starting with 078. However, Orange customers numbers they all start with 077. So, if you want to switch the mobile network operator, you need to threw your number and buy another number, unlike Europe and other places in the world, in which you buy the number and then you chose the network operator you wish. So, that's the thing we have here. And it hinders us from having our own menu, so in collaboration with the telecom regulatory commission and Central Bank of Jordan and mobile operator, we are trying to have a unified menu for all PSPs, sorry for all MNOs. For example, I can have an Umniah number that starts with 078, but register with Orange, let's suppose Orange have a mobile wallet solution. I also can still register with Orange for their Orange money service. Likewise, Orange numbers can subscribe to our own service. It's not related to the mobile number. However, the telecom and the USSD is linked to the mobile number portability. So, here comes the main obstacle we have in Jordan. We already saw that, we launched actually, we piloted a unified back in, I can't remember, 1 year ago or 2 years. It worked, but not all the operators implemented that solution. For example, my customers, Umniah customers that have the number that starts with 078, they do have the access to our mobile money solution, however, our customers who does not have the 078 numbers, for example the 077 numbers, can't access our own USSD, it has to be through their mobile network operator. Then they reroute their request for access to us. So, here comes the complexity. Unified menu will solve it, but, however, it is still under development in Jordan.

N: But so, if someone in a rural area they can't access the wallet and can't do transactions over someone else's phone, they need to have their own phone?

Q: We have, as Umniah, we have developed for all of our customers who hold the 078 and 079 a cash-out service customized to them, it's through OTP, one-time-password. So, they just, if they don't have smartphone, they have a featured phone, they go to out agent, we look into their profile, we make sure they are the wallet owner, and then we send them OTP, with their password, if the customer who owns this mobile device sent us back the OTP, the cash-out act is performed successfully and the agent can give him the cash. However, they still do not have access to other services, like person-to-person transfers, or person-to-agents transfers. However, to overcome this issue, we are always trying to provide customized packages for them. For example, we collaborated with a bank called National Microfinance Bank, it's specialized in providing funds, for example from UNDP to customers or beneficiaries in Jordan, and they also provide micro-loans. So, we sent them an offer for smartphone with a very competitive package for our network, for example you get 1'000 off-net minutes, 10 GB, with a very minimum monthly fee. Some of them, they were happy and could afford that offer, and they have access to the mobile wallet offer we have, and others couldn't. So, we are trying to push more. However, it needs a little bit more time in order to finalize the use of the issue. There are alternatives, but not, you can't find a proper solution for everyone that satisfies everyone with one click, you need time for development, for enhancements. Actually, in Jordan, it's still not well established. For example, the point-of-sale devices we have, we have only 35'000 devices distributed in Jordan, most of them are in Amman. So, still the cash culture in Jordan is dominant. So, even if you have a point-of-sale, the merchants they usually like to get cash rather than online payments, because to avoid could be the taxation, to avoid the, they call it the merchant fees. So, if you have a point-of-sale, you will pay 2-3% of the transactions as fees to the acquirer. So, they prefer the cash and it's a culture here in Jordan, especially in governorates outside of Amman, you pay in cash. So, this is the main obstacle we have.

N: And what about connectivity, is that an issue? That connectivity for the mobile phones is not the same across the country?

Q: You can say 99% of Jordan is covered. Except some places in the desert or etc. But there is no need. The majority, or more than the majority, 99% is covered. Actually, the numbers in Jordan are unique in terms of mobile phone penetration etc. So, we have I think the population is 10.2 million, or 10.5, I'm not sure about the actual number, and the mobile phone penetration is around 110% or 11% actually. So, we have a very high mobile phone penetration number. Most of the people actually hold 2 mobile phones. So, yes, it's a very high penetration and actually a very good ecosystem for us to just start working. Exactly, so mainly the issues we face is like the distribution channel or network, it should be more and more, but the culture of the people is still, they are not convinced in such solutions like payments, if you perform a payment through your mobile and done, it's settled. It's still in its early stages in Jordan. I mean, in the governorates, not in Amman but other governorates.

4. MyBucks

Interview with Fernando Oltra, Head of Investor Relations, 26/03/2019, Skype.

Fernando Oltra: We don’t work in the MENA region or North Africa, but we are currently in conversation with a couple of entities from Egypt and Saudi Arabia. So, in those cases, just so that you have, get an overview, so MyBucks is obviously present in third-world countries, mostly in south and east Africa. At one point we started to expand into other regions, so, we acquired a couple of entities in Australia, just because, you know, we were offering transactions, they make financial sense, and we saw that as a good opportunity to use that as a basis to expand into south-east Asia, which is obviously a very attractive market, with good demographics and lots to do in terms of financial inclusion. But, you know, at one point we realised it's a bit complicated, it's a bit complex for us, we want to focus on Africa, and that is what we are going to continue doing. But when it comes to other regions, like the Asia-pacific region, latin America, Europe, what we want to do is to outsource our technology, we want to partner with sound institutions in specific markets where we can provide our technology and our know-how. And where they can also, you know, be in a strategic partner with a large idol, a good infrastructure, you know in terms of sales infrastructure, or with anything that adds value, also. So, like I say, in those two markets, we have obviously conversational markets, but just the ones that are of your interest, we are in conversations there to provide a technology to financial institutions. What we do see is, obviously, you know, because of the cultural background, this thing that you mentioned with female, it's a bit more complex in those regions. To give you an idea, in Saudi Arabia, well obviously you know that you would not be able to travel to the country without permission from either you dad or your husband if you're married. A woman on her own is a bit of a difficult thing. Our partners actually literally showed us an app that they have, that has been criticised by many governments in Europe, it's basically an app, it's a very modern infrastructure. So, they have this app where you can actually register if you want to make an appointment with the doctor, you can just do it through the app, if you want to get a new passport, you request it through the app and in a few days you have it sent home. You can register to whatever, to get your kids to school and things like that. But the app also allows the husband to allow her, his wife to travel abroad or do certain activities that in Europe would be normal things, but unfortunately in countries like Saudi Arabia, we even have limited, they are quite limited. Obviously, that's the thing, we do have, we do include statistics in terms of the percentage of women we service. In each market it depends, typically it's not 50-50 between men and women, but probably 60-40, sometimes more women, sometimes less. So, yeah, as I was mentioning, obviously we don't have any bias in terms of the lending process, we use technology like you've probably read, we basically use artificial intelligence algorithms. If you go to slide 11, so, basically the algorithms use any data we can collect, so, obviously more developed countries like South Africa you have access to credit bureaus where you have very accurate information on credit history and things like that, if we have a banking operation like we do in 5 markets in Malawi, Mozambique, Uganda, Zambia and Zimbabwe. In those markets we obviously have all these transactional data from our customers. But in some markets there's nothing. In some places, they don't even have ID's, not even that. So, we just use whatever information is available on their phones. Because as you can imagine, in Africa, because of the characteristics of the continent, the logistics, the infrastructure that's in place, it makes it difficult for banks to have branches or operations in certain areas, especially in rural areas, right? So, traditional banks in Africa are mostly focus on big cities. You cannot have an armoured truck with money going around with, on these unpaved roads in the middle of nowhere to take money to a remote area. So, obviously, in Africa, that triggered a mobile money payments to succeed a long time ago, in the beginning of the years 2000, you're probably familiar with the likes of M-Pesa in Kenya, and things like that. So, everybody uses their phone, even if it's no smartphone, if it's just a feature phones. And they use them to make payments. And all that information is something that our algorithms can use and can read. Even information from like social media, like a digital footprint, even like, you know, we also try to test now like psychometric data through tests where you can ask people to see, to assess more or less their risk profile in terms of depending on what the answer to this question is. We obviously have the information from governments, we have, you know, we use all this data to assess. And the algorithms are, they use machine learning. So, they are constantly updating, so they check over 65'000 points of information, or they can up to, depending on what's available. And based on that information, they detect or they predict a credit score for an individual. And we notice that in every market, you know, and that changes also over time, but we see that certain aspects may influence more or less in the credit profile of the person. So, typically, you've probably investigated about this, you probably know about Mohammed Yunus, the Nobel prize, you know. MFIs, micro-finance institutions, typically believe that women, it's true to some extent, a woman with children is more likely to repay a loan. You know. But that's not necessarily the case, we look at many different things. And in some markets, being a woman, I mean, typically yes, being a woman may be more reliable, being in your forties is more reliable than being 18 years old, being, I don't know, having children probably also, you know, things like that, but it's not necessarily the case. And like I said, it changes in every market and it obviously doesn't discard you just because you don't meet those patterns. Because there are so many things, that the algorithm actually calculates the probability of default based on all that information. So, we don't really focus on women, like all the micro-finance institutions do, we do look at many other aspects. Just to see, if you scroll down to slide 12, where you have Jessie. That is the credit scoring algorithm. We typically also use like a control group, where we provide some loans following normal procedures, and we see that the algorithm always outperforms the control group. The performance, you know, you can see the impact, defaults are reduced by almost 20% by use of our algorithm. And like I say, we use up to 65'000 points of information, so, it's completely unbiased. Obviously, there's comments from people that say that, you know, the algorithm may eventually make, take this issue that could be biased, we have probably seen these debates where they talk about what we, a car, a self-driving car, what will they decide if they have crush a child or an elder person, you know. There's obviously debate on that, but like I said, because we use so many patents, the algorithm, our algorithms don't just necessarily discard someone just because they don't meet a specific characteristic. It just calculates probabilities of default.

Nathalie Hemmen: So is gender still one of the criteria that is taken into account?

F: Yes, yes, yes. So, there's loads of criteria, and like I said, we have, it's not in this presentation, I don't think we use it anymore. We have one slide, let me find it for you, giving two examples without providing names, it's just at a specific point in time, and it shows you which aspects may have more impact on the credit profile at a specific point in time. So, like I say, in some cases the gender may be one of the top 5 aspects to take into account, but in some others it doesn't affect at all. It's like I say, it's not necessarily a key aspect. I'm trying to think of more examples, so, yeah, like gender, age, there's actually, yeah, lots of things. So, for example, yeah, in this, if you slide up you have Dexter also. So, that's an algorithm for fraud prevention. And that one for example can also detect like the speed of which you type on the loan application. So, for example, if you hesitate too much to put your date of birth, or if you correct it, that's not the normal thing, right? People know their birthday by heart. So, it may trigger a flag, it doesn't discard the customer immediately, but it raises a flag so then we can actually manually check, who is this person and so on. And it also checks, you know, information like if you have contacts and you actually actively communicate through SMS or through social media with people who have been flagged as you know having fraudulent behaviour, it will flag it as well. So, like I say, it's thousands of points of information, with a normal credit profiling, credit assessment process, it would be impossible, it would take so much time to analyse each loan application that it's simply not possible. So, technology obviously is of great assistance for us. If you go for example to slide 14 also you have an algorithm which we call Maica, which is for, to improve collections. So, one of the things we notice also, we've acquired some banking operations from NGOs, that worked to promote financial inclusion. And typically, like for example Opportunity International, which is an American NGO working to promote financial inclusion, on the institutions that we've acquired, the customer retention was only 9%. What they did basically to promote financial inclusion is to just to get donations from the United States and Europe, they put it in the bank, they give the loans out, but customers don't repay it. It's basically just a grand. People get it and they don't repay it. So, if you do that, obviously the customer is not being financially included. You can count it as such, but it's not going to have any impact because the customer gets one loan and that's it, but they don't, they don't stay banked, they don't continue getting loans, they don't start saving. So, that makes no sense. So, what we do, what we try to do is always to try to educate the customers also. In our apps, we have budgeting tools, like you would say many of the modern banking apps that we see in Europe, where you can see how much you spend on every area and so on. And then, also this algorithm Maica, what it does is it actually predicts if a person will not be able to repay an instalment at the end of a month, so we can actually track all the payments, and you know, what's been done in the past. So, if the algorithm detects that there's a high probability that the customer will not have at this rate of expenditure, will not be able to repay the instalment next month, the algorithm immediately generates an alternative offer, you know, more affordable, maybe higher (18:01??) and more months to pay it and with the lowest instalment. You know, something that the customer can afford and it sends the offer to the customer, it say: Hi, we noticed that you may be going through a tougher month, so we would like to offer you this. And by doing this, so, we know by experience that when a customer doesn't repay one instalment, the probability of that customer not repaying that loan at all increases by 50%. And if he misses two payments, it increases by 73%. Right, you have that statistic there. So, if we are able to actually, you know, get them hooked, if we tell them, you know, continue, we allow them to repay the instalment, and we get this engagement with them, we actually get them financially included, right, they don't leave the financial sector. So, that obviously has improved our collections by 21%, but more importantly, we're able to retain 60% of our customers. Versus that 9% that NGOs do. So, obviously, you know, these are all the things that technology can allow us to do. Then you have for example on slide 15, you have Tess, which is a chatbot. We started this one in South Africa to provide loans through WhatsApp and Facebook. At the moment we have stopped the system because we want to, you know, the South African market is a bit complex, but well, we have a chatbot in our Website. It's a simple chatbot to ask questions about our company, if you want to know what our revenue was, some things like that. It will take you to the specific area and it will answer the question. But obviously the intention is to have this everyone, in all the African markets so the people can actually through WhatsApp request a loan, and again, this algorithm is linked to the other algorithm so that it can do the credit profiling and the fraud prevention and so on. And then, so, if you go to. So, basically, that's a bit more or less like what we do in terms of being able to bank those that have been unbanked. Because our reach customer is the low-income customer that's being neglected by traditional institutions, so like I say, mostly like rural areas, people who have obviously never been banked before, who don't know, who don't have experience budgeting, they don't have experience managing their own money and repaying their loans and things like that. And obviously, you know, if you're part of that 77% of people in Africa who has never been banked before, it's very likely that you will be able to be banked, because traditional banks simply won't try to engage with that customer, they prefer to go for the government employees, and the big firms employees, and the expats and so on in the capital cities. And rural areas are just neglected, you know, the informal economy in Africa is also a big part of the economy. So you don't have salaries paid into bank accounts or things like that, and you know it's very very difficult to bank these customers. Then I also mentioned, they don't typically have ID's, they are not registered. So, what we do, where it's possible to do, especially if it's not necessarily a bank account, if it's more like an e-wallet, we have these agents who go with a tablet and the tablet has a fingerprint scanner. So, we take a picture of the customer, we take their fingerprints and that allows us to identify the customer, even if there's no legal documentation to do that. And that allows us to get these people banked, right. So, they start doing transactions, they start getting loans, and that will allow them eventually to open a full bank account and, you know, get into the formal economy as well. So, just to. In the presentation you obviously have information on, well, the, you know, the African markets. So, obviously, demographics are a very interesting thing, because right now there's 1.2 billion people in Africa, less than 30% are banked at the moment. And it's the fastest growing continent in the world in terms of population. So, we expect 2.6 billion people by 2060. It's also the youngest continent in the world, so most people are quite young and you obviously need to bank them. Most governments are working hard to promote financial inclusion, they have admissions targets, and it's difficult. So, we obviously see that, when we meet with central banks, they are a bit sceptical, because they're scared, because central banks are very conservative. They're not sure about the technology, but you know, they're are looking forward to collaborating with us, they want to work by the hand, and they want to see that it works and as we prove them that it works in other markets, they eventually allow us to. We've also, we spoke to CGAP, which is a think-tank from the World Bank, backed by (23:46???) and institutions like the Melinda and Bill Gates foundation. And that institution is also trying to create sandboxes in different African central banks. Are you familiar with the concept of sandboxes? Okay, so, they're trying to do those things and for us it would be extremely interesting, right? So, to give an example, in Mozambique, at the moment you need physical paperwork for any loan. But we have apps than can disperse loans automatically without any human intervention on our side, without any person approving the loan or anything. We can disperse a loan in less than 5 minutes into an e-wallet. And those loans for example, I'm speaking more about the Haraka app. So, if you go to slide 9, you have the Haraka app. Haraka means "speed" in swahili, and in Arabic also. And through that app, you know, in Kenya we collect 85% of our loans. Giving completely unsecured loans to people who have never been banked before. It's quite a thing. And obviously for countries like Mozambique where only 20% of the people are banked, they are very interested in these things, but the legislations is, as it happens also in Europe and the US, legislation is not fast enough. So, the sandboxes will obviously help us to, you know, to give a regulated environment, start implementing and testing this kind of things, and lead the market also. Because we see that the competition is also, also triggers this developments. Like I said, at the moment, traditional banks just focus on traditional lending in capital cities, which is also quite limited, because as you know in Africa credit cards or products like (25:35???) obviously make no sense with the interest rates and so on. You know, they have very comfortable positions, but if someone, you know, if a player starts doing these things, they will eventually follow the lead and that can actually help a lot. What else? So, on this slide 9, if you're on slide 9, on the digital channels. So, you can see also the typical channels that we have, so, obviously, websites, apps and so on, the chatbot. And then one very interesting thing you have is the e-wallet Sim Skins. Ok? So, basically, what that is, it's a plastic membrane, so it's a clean plastic membrane, you attach, like a sticker to your sim card and you put it into your phone. It works on any kind of phone, whether it's a smartphone or a normal, feature phone. It can be any brand, any mobile network operator. You just attach that sticker, that plastic sticker to the sim card, you put it into your phone, and the moment you do that, it opens an e-wallet in your phone, OK? So, obviously, this sim skin is also by our agents, so the agents are the ones who take the details of the customers, take the picture, the fingerprint, to open the account. And then when the customer puts the sim skin it can open an e-wallet. So, if it's a smartphone, you can download an app for that. But if it's a feature phone, which is the most common thing in Africa, it uses USSD technology. Are you familiar with USSD technology? OK, so, basically you know how that works. You just type in a number like #123, you call them, it opens a menu where you can actually see the balance of your e-wallet, you can make payments in shops, you can transact, send remittances and receive remittances into the e-wallet, you can apply for loans. So, obviously that's an extremely interesting thing. If you're familiar, if you've been to Africa, you know that, you will see there's agents everywhere for like mobile network operators selling sim cards, and things like that. So, that is what we are doing. Basically, trying to have these agents everywhere in the country, selling the sim skins, allowing people to actually start on transacting and start getting loans. So, it's a very easy way to actually promote financial inclusion, and I think that's one of the best solutions we're very proud of.

N: So, is that something that you developed as well, the sim skins?

F: Well, no, that's actually through a partnership with a provider called Bibimoney. So, we typically, I mean, they develop the technology for the sim skin, what we do is, obviously, we have submitted, through APIs, the capability to have the e-wallet and to provide loans using the algorithms. So, that also works with the artificial intelligence algorithms. And we obviously provide the licensing as well and the infrastructure. Because, you know, to open the accounts, you need a license. Since we have banking licenses and microfinance licenses, we can provide that. So, it's a joint venture. And then, well, sorry, I'm just jumping from slides randomly, but yes, so, on slide 8 you have the traditional channel. So, obviously, in Africa, sometimes because of the regulatory environment, sometimes because of the cultural characteristics, you still need to have branches. So, we're not a fully digital bank like you would see in Europe with the likes of Monso, Revolut, but we need to have branches. Because in some countries, like you need to have branch in every region or every state where you want to be present in order to operate in that region. So, we have branches. We have also mobile branches, or trucks that go around the countries with cash and so on. Then we have kiosks and agents, like I said, with the tablets and the fingerprint scanners. That is also very helpful at a cultural level, because Africans find it difficult to trust you when it comes to money if they don't see the person and so on. And very often, small communities you typically have the community manager, who is the person, you know, designed as community manager, typically by inheritance in many places. And he is the person that everyone refers to, and so on. So, if you can actually engage the community manager and son on, people will actually trust so. So, the human part is also very important in Africa, from a cultural perspective. And then we have a call centre. So, obviously, we would like to, at some point, be able to assist as much as possible through chatbots, but obviously, things go slow. But, hopefully some day. And then, well, obviously, you have some case studies from slide 17 going forward. So, showing which is probably something that you may want to see for your thesis. So, on slide 20 you have our entity in Zimbabwe. So, that's a greenfield operation. We started from scratch in 2012, as a micro finance institution, and in 2015 we got a banking licence. And the banking licence obviously allowed us to use the data, the transaction data from our customers, you know, obviously, allows a better risk profile, it allows us to get cheaper funder from, obviously, customer deposits, but also from alternative sources. Because as our market, our risk profile improves, we can also easily these bonds in local stock exchanges, so, we've listed bonds, to give you an example, in Zimbabwe, in Botswana, in Malawi we've listed the first corporate bond ever, in Mozambique we've listed a lot of bonds, () it's very difficult to lease your bonds in, to get an investment in Mozambique because of the price and the country. At the moment, but we don't know that, you see the operations in Zimbabwe, it's always been profitable, it's growing, it has double digit growth rates. And if you look on slide 23, you can see the portfolio risk, how it decreases over time, thanks to the more data we have, the better the algorithms work. So, having the Par90, so you know what portfolio risk means? Loans that are on, that are not performing for 90 days. So, that's below 5%, which for Africa, especially for an African institution focusing on the lower-income people, who have never been banked before, that is extremely good. And then, well, you can see that we start, () in Zimbabwe, we grow in deposits, we grow in loan book, so we are tracking customers, user experience, the technology, everything aimed to engage the customers, to not just get them on board for one specific product, but you keep them on board with all types of products and to you keep them engaged with user experience, providing them with a good service. So, that's the greenfield operation in Zimbabwe. But then in the other operations, we acquired banks, like I mentioned for example from banks from Opportunity International, which is an American NGO. So, if you go to slide 25, you see that the Opportunity bank in Mozambique, called, at the time, Banco Opportunidade. Now, we named it as MBC. and that bank had been losing money for 12 years, since it was incorporated in 2015. After we acquired it, we restructured it a bit, reduced operational costs because they were very high, we started to implement technology, and if you go to slide 28 and 29, you can see that the bank was the smallest entity in the country, the smallest bank, now it's the fastest-growing bank in, like I say, Mozambique is in the middle of a crisis, so most banks are stagnant or even losing traction, despite the market only has 20% of the population banked. But, we are focusing on the unbanked people, and we are growing fast. The portfolio risk is also reducing, 2.7% Par90 is incredible for a bank in Mozambique. Maybe banks have like 20% with traditional credit scoring methods. And then yes, we grow in loan book deposit with these bonds like I say. On slide 30 you have Malawi so that was a MFB, a bank that we acquired that had been losing money also since it was started in 2015. Again, we reduced costs, we started to implement technology, portfolio risk is at 7.4%, still good for Malawi, and we're growing very fast. So, deposit grew from 6.9 billion Malawi () to when we acquired to nearly 50 billion at present in just a year and a half. And then, well, Uganda, Uganda we still have a partnership with Opportunity International. So, we only have 49% of the bank, so we haven't been able to implement all the things that we want, because until we acquire the rest of the bank, we'd rather not invest as much as we would like to. But once we do it, you know, the bank has been restructured, so, used this money also for the 60 it had been in operations, not generating profits, portfolio risk is quite consistent. We haven't really developed much there in terms of technology. And you know, everything is growing, net loan, deposits and so on. And then, obviously, like I say, so we are a for-profit organisation. We want to make things that make financial sense. But at the same time, we still have that objective to promote financial inclusion, right, to use technology as an enabler, to promote financial inclusion. So, obviously, we have, we lend to SMEs and to individuals. We do lend to women, but it's as I say, we don't really discriminate for that. In some markets, women may represent 60% of our client, in some others maybe 40%. There's no real, we don't really discriminate by that, we do everything through technology. But we typically lend to the smaller people, so imagine a person who buys some products in Nairobi, the capital of Kenya, and then they travel to their village a few miles away, sell the products there at a profit and then they repay the loan, and they continue doing that. So, obviously, that leverages the possibilities and gets them financially included and the more they transact with us, the more information we get that will allow them to eventually be fully banked and be able to even operate with other institutions. Although we obviously try to keep them with us. But, you know, that's good. Then on good initiative that you, not sure that you've heard of or not. But we've opened the first bank branch in a refugee camp in the world. So, the Dzaleka camp in Malawi, it's a refugee camp where people have been living since 1994, so it's not like a provisional thing. There's basically a city there, with, not with great infrastructure, but nobody there still services them. But there's however an economy there, so, people actually transact, there's obviously remittances, the World Bank sends money to them and so on. But there's also lots of things, you can imagine, it's on the border of Malawi, so most of the refugees come from the DRC, despite it's not a bordering country. But most of them come from the DRC, because you know the border of the DRC with Uganda and Rwanda and Burundi, that's a very conflicted territory I think it's the most dangerous part of the world at the moment. I was there last year, so it's basically where you have all these mines to get all these rare materials that are used for mobile phones. So, and there's obviously still many people, many people who used to, military people and paramilitary people, who used to be active in the Rwanda genocide and so on, they cross the border and it's there. So, if you go to that area, it's, I've never seen that many UN blue helmets and UN SUVs as I've seen there, there's lots of camps in the area, everybody has weapons, in every house there is someone with a weapon. 5 Million people have died in the last few years. So, many of these refugees are living now in this Dzaleka camp in Malawi. There's also a big part maybe, I'm gonna say around 20%, but I'm actually not completely sure about that, but there's a big part of those refugees who come from the centres used in Mozambique, because, you know, there's also a conflict in that area in Mozambique, with the opposition. And obviously, you know, there's been this tragedy recently, the cyclones, so I, we imagine more people may actually come. But in any case, in the camp there's a big population there, who has established basically a city. Nobody servicing them, there's a local economy, there's people buying things and selling them. Unfortunately, because it's on the border, you also see there's a lot of transports, so there's obviously trucks crossing one country into another, so there's also lots of prostitution and, you know, even children being prostituted. So, if we can actually assist in formalising the economy in, allowing people, giving them a chance to get a loan and start a business buying and selling things, that will be good. And also, if you can give, for example, imagine this sim skin card or the Haraka app, if we can get people to have e-wallets, remittances can be send directly to them, without any fees. And you know, that will help a lot, because you also know that donations and the money that you give to NGOs, typically 70-80% of that money will be lost on the way. Not necessarily because of corruption, also sometimes yes, but also because of expenditure, right. So, NGOs have people in place, Expats getting big salaries, and they need to, they have expensive accommodations and things like that. At the end of the day the money that gets to the final person, the beneficiary, is a fraction of what it should be. So, if we're able to provide them with this technology, they will be able to get 100% of these donations, so we're very excited about this initiative, and hopefully if we're able to do everything, we'll probably try to replicate this in other places. And then we just created the MyBucks foundation, you can go to slide 43. So, we plan to also centralise all of our social responsibilities, activities, through our foundation. Which will allow us also for example to raise funding for occasions like what happened recently in Mozambique, Malawi and Zimbabwe, with the cyclone. We try to start an initiative, but unfortunately, we could't raise any funds because we are a private company, so we help in other ways. But I think the foundation will allow us to do that also in the future.

N: I mean, I just have like a few questions to clarify some things. As for like especially in the refugee camps, but everywhere, is it an issue that maybe, that, because you have all this technology with AI, that people don't necessarily understand the technology behind it, that maybe there is some scepticism behind it, that people don't trust it or are not convinced by it?

F: Yes, so that's actually, something that I didn't mention. I made reference to the importance from a regulatory perspective, but also from a cultural perspective. So, you have the agents, right, very often, most people in rural areas, low-income people, they cannot read, that's a fact. But still, the technology can be useful, obviously we have the agents to help them, to assist them in the first place, to open the accounts, and to teach them how to use these things. Obviously, with the smartphones it's good, because at the end of the day, the smartphones are easy to use, the focus on the user experience, I don't know, you've probably seen this, if you have I don't know, kids in your family environment or friends environment, you must see that even babies and toddlers have learnt to use tablets and apps, so the apps are quite good to help people who don't know how to read. So, you just press the right button and so on. Even if they don't understand what's there. But typically, in those cases, the agents help a lot. So, the agents assist, they help, they educate and teach people how to do these things, and explain them everything. So, we train our agents, we have training facilities all over the countries. In Mozambique for example we have nearly 30 training centres, so, we teach the agents to do all these things, to assist the customers, and to, how to do everything. Obviously, it's a challenge, it's good that you mentioned that, but we typically overcome that challenge through the cultural thing, which is having the agent, someone close who can explain them and dedicate some time to them.

N: So, I assume also that the agents are like your main way of reaching people and getting people to use the app?

F: Yes, so in rural areas, yes, because very often there's not even internet. So, that's why we also need the USSD technology, because internet is not there, it's very difficult to reach them. In the cities it's easier to use, social media, so we obviously have Facebook pages and these things, we use marketing campaigns, we have commercials on TV and things like that. So that works very well for the city customers. But in rural areas, yes, the agents are definitely necessary.

N: What would you say are still like the main challenges that you face when you enter a new country or region with the solution that you have?

F: Well, I think, it's actually lots of challenges. So, to give you an idea, if you want to get a banking license in Africa from scratch, the average time will be like 3 years. And that, taking into account that you have all the capital needed, that you have all the procedures in place, that you have a strong team in place, because you need to nominate board-men and things like that, with good resumés. You need to be, to have either banking licenses or be listed, which is one of the reasons why we list the company. You need to be, the parent company needs to have all these things. Just getting the license is a challenge. The usual bureaucracy that you would see in other markets is incredible in Africa. And there's various laws also. So, you need to be patient and do these things. To acquire a bank, typically the process takes 12 to 18 months, to get it approved the acquisition, so that's why we have focused more on acquiring rather than, and restructuring this stressed entities, rather than starting them from scratch. But yes, that's a challenge, and obviously all the regulatory environment, like we say, we need time to access, we need to educate to all, to regulate to allow us to use this, some if this technology, when the legislation is not ready for it. And then, really, there's challenges in many things. I think, also one of the key ones is just the African environment in general. Africa is the continent full of surprises, so you need to be ready to react fast, and that's something that we do. Whenever there is a problem, I don't know if you're familiar, but in Zimbabwe there were some riots a few weeks ago or one month ago. It wasn't really in the news in Europe, at least I haven't noticed anything there, but it was quite a thing. In Mozambique you have now this Idai cyclone, so we try to always move fast, and as soon as there's an issue, try to find solutions for that. Africa in general is challenging, but you need to be flexible and you need to, and I think technology allows for that. Like the big traditional banks, they need to go through a long, consuming internal process to get things approved, even if they want to start a new app, it will take weeks and months to do things. In our case, if you want to start an app in 3-6 months we can have a new product out there in the market. And we need to take last-minute decision, you know, emergency decisions, we can, our board can do that in one day. So, I think it's important also to be flexible and fast to accommodate for the challenges of the continent.

N: And then, you mentioned with the foundation, the social aspect of what you're doing with financial inclusion. So I was just wondering, how do you measure the social impact that you have? Obviously you are a for-profit company, but it's still a social mission in that sense that you have, so how do you measure that social impact that you're having in the areas?

F: Yes, so we have this, we typically use this portfolio internal focus, like on slide 41 you have these case studies. So, every month we get internally from all the companies, they send us case studies where they show what's been achieved. Then also because we receive sometimes BFI funding from the likes of KFW or things like that. Very often when they provide this funding, as part of the requirements in the process, they require that you provide them with semi-annual, quarterly or annual reports on the impact. And the impact is measured in different ways. Sometimes it's just the number of loans that you provide to people, to first-time clients, things like that. They also focus a lot on improving procedures. So, very often this kind of institutions won't finance, like for example tobacco and alcohol related activities, they won't finance business for example where the family and children work, things like that. But that's very difficult in Africa, right. Because in a country like Zimbabwe, tobacco is a big thing. Tobacco crops is one of the key things in the economy. Children who help at home with the local business, that is very common. So, we typically try to based on the guidelines from the institutions, we may help in terms of advising the customers, telling them "look, your kids need to go to school first and then yes, they may help you a bit after school, but they need to go to school and things like that". So, we put those things as requirements and we, our agents and branch bank people, they follow up on that, they make sure that those things happen. So, in terms of measuring, it's a bit of that, reports where we may mention specific details about specific case studies, or we may just say 'Look we have dispersed these many loans for SMEs, for small SMEs" and things like that.

5. Koosmik

Interview with Grégoire Yakan, CEO, 26/03/2019, WhatsApp Voice Call.

Nathalie Hemmen: I have a couple of questions, but I would like you to start by just briefly describe what it is what you're doing with your company in terms of financial inclusion specifically.

Grégoire Yakan: Okay, so, basically, you already know that more than 75% of the population that are in Africa remain unbanked, meaning that they do not have bank account, that they do not have credit card, they do not have access to financial services. Except, let's say, except mobile money, but it's limited to their mobile phone provider. So, basically, what we have been trying to do, is to from the design conception to the service we have been trying to develop an app for them. Free of charge, smartphone banking app, in order for this people to access banking services without creating like a bank at a branch, without paperwork issue, and all based in African way of banking. Meaning, maybe we, it's our bet, maybe they won't need any credit card, the physical credit card, they just need the smartphone app. So, that's what we think. And that's what we've been doing, from, first from Luxembourg in terms of RND, and we are live in Togo since 2018. And Togo is our first pilot country with 60'000 users now. And then we will replicate I think in 2019 but maybe close to 2020 to other countries. But we are still a very small start-up, we are not profitable of course, because we need, it's a mass business model because we just take a small transaction fee, so it's commission-based business model. And yes, that's it. Our ambition is to provide all kind of service, financial services, through one app of financial services inside the app, that's it. So maybe you could have a look and download the app and see how it looks.

N: So, if I understand correctly, they don't need a bank account to sign up, and no documentation, so no formal identification or anything like that?

G: No, in order to sign up they just need a phone number. So, an active simcard anywhere in the world it will work. And then, when you will create your account with your active sim card and if you want to do some transaction, deposit money or withdraw cash, of course it's a regulated business, so they will need at a certain amount they will need to do like what we call, KYC, know your customer, so, they will need to upload their ID, they will need to input some more information about them.

N: And then also, it's an app, so I assume it only works on smartphones?

G: Yes, yes, so, now currently the app is only working on smartphone, but what you should already have in your mind or in your study, that the smartphone penetration is really growing fast in Africa, thanks to the Chinese manufacturer. So, you have a lot of 50 Euro smartphones, so it's not like you know in Europe. Have you already been in Africa already? (-Only in North Africa) Yes, so it's not really exactly the same. But when you go to Africa, you will see that a lot of people have, they already use WhatsApp, Facebook and so on, but on very very cheap smartphones. So, basically it's more like 50 USD basic smartphone and that's it. So, the phone is not really the main issue. The main issue is more the cost of the data subscription. So, this is a second issue, but today is in certain countries, like in Togo for instance, if you want an internet plan with your voice plan, it's quite expensive.

N: And what about connectivity? Is that also an issue?

G: Connectivity in Africa to be honest and to be fair it's quite OK and remember that they do not have, most of the countries they do not have the DSL, the cabled copper lines. So, they, what we say, they leap-frogged a little bit the technology, so they cut a little bit the technology. So, they went from nothing, GSM network to the 3G directly. So, they do not have like the, what we have in Europe, the box with the TV channels with everything, the landlines, and as well the internet connection, they don't have this kind of offer. So, everything is based on the 3G, 4G network. So, the connectivity in the city let's say or in the suburbs, it's quite good. Of course, if you go to very rural zone, countryside, it's quite, could be difficult as well.

N: And how do you reach the customers or the people that you want to get on the app?

G: Okay, so we have to reach 2 kinds of customers. First, the end-user, so it's business, B2C model. So, this is only with online marketing. Because doing that, we make sure that they people are connected online, we make sure that they can use our service, we make sure that they are technology ready. So, there is a referral program inside the app, I'm sure you know that, you can refer a friend, and if you refer a friend, you will earn some points or money and you will be able to purchase more credit for instance, or pay your electricity bill, or pay your TV subscription as well. And then you have some social media marketing with like special events, online games and so on, so it's more like community marketing. So, that is online and let's say offline, because we need B2B, because we need to have some small merchants and shops, acting like branches was. It's a operation team going on the ground and trying to do some commercial operations. That's it, that's what we do. So, one is 100% online, and second one is 100% real-life operation on the ground.

N: Okay, and in that context, especially then, with merchants, is financial literacy, because then I guess technological literacy is not such an issue, especially in terms of financial services, could that also be an issue for people?

G: So, the issue we face is more the lack of trust in the banking industry. So, for small merchants, they don't really trust banks or institutions like that. And also, they don't know our product, they don't know our brand, because we are not a mobile provider, we are not a bank. So, they did not hear about us before. So, this is the biggest challenge for us. For the merchants or for the entrepreneurs, I won't say that they have a technological issue, because they all have a smartphone. In order to do business, they all know how to proceed. Maybe in terms of financial literacy it could be nice for them if they had an app, and that's what we want to try in 2020, an app in order to help them improve their business, to help them do some more savings, let's say, clever up to easily manage their money. So, this will really help them, even on the credit or insurance product.

N: Ok, so more like an educational and training side of it?

G: Yes, yes, because today it's more like, if something happens, I will use a credit. Maybe, they don't have really the habit to insure their business or it's more a day-to-day money management. There is no middle or long-term vision. Or it's more acceptable.

N: But credits that's not something that you do at the moment, right?

G: Not at the moment, but we will do. Because it's something, it's not going to be a credit like you're going to own your house. It's going to be micro credit first, and maybe we will also focus that, the first credit that we'll do, we may focus on women entrepreneurs, so we are working on a special project like that. But it's not live. So, when it will be live, I will share the news with you.

N: And then, obviously you are a for-profit company, but basically what you're doing has a very social side to it, with financial inclusion. And so, I was just wondering, how do you measure the social impact that you're having?

G: Today, we do not have, we are working on impact KPIs. I'm sure you have heard of that, the gender equality, all this UN sustainable goals. So, we are trying to define at Koosmik level, which KPIs will make sense for us. So, in order to answer your question, I think today we are more looking for strategy called meaningful KPIs to measure our impact. There is no big formula that is really, that applies to every company in terms of impact. It is very hard to measure I think. So, of course we have created some jobs in Togo, of course some people who did not have a bank before, they can do some transactions and so on, of course we have done something like that. But in my point of view it is not enough, we need to define some better KPIs to measure, to measure the trend, to also have a clear view of the consequences behind. Because if there is less cash payment maybe there is less fraud, or less corruption as well. And today, we can't really measure that. So, yes, it's a very very good and hard question for us.

N: And then, you said you're currently in Togo, I just wondered what were like the factors that impacted the decision to focus on that country specifically in the beginning and then on Africa as a continent?

G: So, why we chose Togo, that's the question, right? (-Yes) First, it's because our, I'm going to be very direct and honest with you, it's because our main, one of our shareholders is from Togo. So, he knows the country, and also we chose Africa as a continent because it was the less banked continent, let's say that. So, it was the biggest market for us. And I had a past experience since 2010, I have been travelling and I have been doing some IT consulting missions, one week or two weeks per month since 2010. So, I don't know all the countries or all the continent, but I've been aware of some issues and I've seen myself the opportunity and the difficulties for the people. So, they only had cash, so we decided to create a fintech product for them. And why we started with Togo is also because it's a French-speaking country, so we, every fintech ir big banks they focus on English-speaking countries, because they are more advanced, more developed. But it's also where the competition is quite tough, and the last reason is also because you have a fixed parity, so no exchange risk between the CFA currency, XOF and Euro, so there is no variation. I'm not sure you understand this, but quite a security for us as well.

N: And so, were there any like cultural characteristics of the country or the region that you had to take into account when you were developing the app or in the operations of it?

G: Yes, so, when we have developed and designed the app, we took into consideration a lot of parameters. Like, you have to use a lot of pictures, you have to simplify the app a lot, you have to reduce the data consumption of your app because data is really expensive in Africa. So, you just have to forget all the crazy fancy stuff like video or something like that in your app, because it is going to cost a lot for the user. Everything like that, we took it into consideration. This is something you don't need to adapt your product. You need to build your product from scratch, tailor-made for Africa, in my opinion.

N: But so then when you're expanding into other countries it's going to be with that same exact app?

G: Yes, it's going to be with that exact app, but the way you talk to the people, the way you present all the products, the languages as well could be updated. Also, the range of services you offer, because in some countries, some of the services will not be allowed, or there is an extra regulation for that. So yes, everything should be adapted for each country, each population. But the fundamental need behind is the same, it's their need to access financial services, that's it.

N: And then I was just wondering if you have any numbers, or percentages of the female users that you have?

G: Yes, we have it, just let me check right now. So, it's declarative, so people just subscribe and when they subscribe they say "I'm a male" or "I'm a female", so we did not verify that information, but I can give it to you. But in my opinion, it's not enough, we don't have 50-50. (-OK, so it's more men) Yes, of course, but it's not really, it's like for one female, we have three men, so like 70-30, something like that. But that's something we are working on. (-So you're doing consciously an outreach to more women?) Yes, of course, we have to balance that. It's not because we want more women, it's just we need to balance that, it's the same thing in your, when, I hope one day you have your own company, when you hire some talent and some people, at the end it's just some question of balancing your human resources, that's it.

N: But who is then generally your target group?

G: More generally, it's all the unbanked people. If we focus on a specific group it will maybe be the young population, the student one, but you know everyone is young in Africa. They almost have like 50% of the population is below 25.

N: Do you also like face any legislative challenges?

G: For the moment, no. The laws in the countries, it's something that you have to adapt constantly. But the regulations are also continental because you have the BCEAO, so the central bank for most of the African countries. So, it's not only one country regulation, it's more 8 countries regulations. Like in the EU, if I can compare it quickly for you. It's not working exactly the same, but basically in terms of central bank, there's one central bank like the ECB in Europe, and for our activities they are the regulator.

N: And then one more question, what would you say has been like the biggest lesson that you have learned in the whole financial inclusion and fintech situation?

G: I would say the biggest lesson is not to, to avoid thinking that the product, your product that you are building with passion, is going to to be naturally adopted by people. It's a constant challenge, and you need always always the feedback of the population. And be prepared for any kind of feedback, also unexpected ones, in order to constantly transform your product, to constantly improve your product for the population's needs. And this is really something, it's quite simple advice, but it's hard to always listen what your customers or your users are saying to you, because it's not always direct way for them to say, sometimes they contact the support or the customer service in different ways to express that, maybe we can do better things like password reset, or safety things, or security or so on. And then, with that information, even if you have solved the issue with that customer, you always have to think "OK, I have three requests like that last month, how can I improve my product in order to avoid that customer frustration?". But this is something you have to do constantly, but you don't want to make your product more complex. Always simplify, but always answering the customer needs, it's hard, and then it's like a permanent challenge. This, I think, was for us the biggest, and is still, the biggest challenge.

6. Jamii-Pay

Interview with Charlotte Rønje, CEO, 29/03/2019, Republikken.

Nathalie Hemmen: So, maybe we can just start by you explaining briefly what it is that you are doing in terms of financial inclusion?

Charlotte Rønje: So, explaining about JamiiPay? So, Jamii is actually a Swahili word that means community. And that's because we want to unlock the potential we see that there is in the unbanked communities of the world. So, every second adult in the world do not have access to financial services such as loans from the banking industry, and that's a big problem, because access to loans is one of the most important things for moving oneself out of poverty and enhancing your opportunities for making money basically. It's a really big problem that we want to tap in to, and in doing so we believe that we shouldn't just come in with some services and push that down anyone's throat, we should understand the communities that are already there and doing really strong good things, and building on that. So, that's why the community. And what we do is, in countries where you don't, where you have many unbanked people, people have social structures that enable them to save up together and have access to loans, loaning each other money and so forth. And on of those systems is a system called Village Savings and Loans Association, it's a concept where you meet once a week, you save up together, you buy shares in a box and put money in a box, you take turns on taking loans plus a fee, and then you pay those loans back and at the end of the year you distribute the content of the box. So, it's a way to have both a social exercise in and of itself, but it's also a way for you to have access to loans, access to having a bulk of money at least once a year, which is difficult when you're poor because you tend to use everything there is, because there is so many things, so many needs needing to be met.

N: Okay, and so that's the process that you're basically digitalizing then?

C: Yes, so what we are doing now is, this is a really strong concept, it's really important and it works really well. If you're only allowed or able to loan very little money that poor people can put aside, it's really limited loans capacity. So, we want to increase that loan capacity. And we do that by digitalising the groups, allowing them to capture the data on a digital platform, and based on that knowledge we connect them with financial services through the NGOs, and the NGOs go to the banks to take out the loans that we want to give them, deliver them to the group, and when the group pays it back, they take it from the group into the bank.

N: Ok, so the way that you reach the people that you want to reach, give the access to it is through the NGOs? So, the groups that they already have established?

C: Yes.

N: And then, one thing, because on your website it says that you are in Ethiopia, but I remember you mentioning in your email that you're also in the MENA region. Or that it's also relevant for the MENA region.

C: It's relevant, yes, definitely, this concept is worldwide.

N: But for now you're only in Ethiopia?

C: Yes, we also have a little bit of activity in Ghana, but still not MENA.

N: So, what were the factors that impacted your decision to start in Ethiopia?

C: It's just a very, well, I have my experience from the classical African countries. So, there's a big difference between general Africa and North Africa. North is kind of its own. So, in my selection process, I only looked at not northern countries, because I don't know anything about northern Africa. I know more about general, west, central Africa, and in that, I think that it's a really big business opportunity. It's everything that Nigeria promised to be. You have a stable, and to me wasn't at the time, I didn't understand why people were so hyped because it's really a dangerous place, too many to a last degree. Ethiopia has a population of more than 100 million people, they have had 10% economic growth year on year for the past 10 years. Half of the, well, many people are, most of the people are actually children. But out of the adult population, about 47 million people do not have either ID or access to banks. So, it's a really big market opportunity for us.

N: And where there any like cultural factors or social norms that played into your decision to go there, or that impacted the way that you designed your solution or how you implemented it?

C: In terms of going in, I think it's difficult to say, you know, because I don't know enough about all these cultures to make that decision based on that. But I did find what I was seeing in that culture very appealing. But, I didn't feel like I could make a final decision on whether the Ethiopian culture is easier to work with or not. I have a good hunch, but that's all at this point. But in terms of how we are developing our product we're developing, we are two Ethiopian people here in Copenhagen in our office, and we are developing with the end-customers and the group, we travel there all the time to make sure that we are developing is developed to their logic with their languages, with the way, even, one thing is using their language, you can just translate, but you have to have the whole understanding, so for instance taking a loan is a stigma, it means you're poor and you can't afford to do what need to do in this context, right. So, then it becomes about wording, because of course in Denmark it's not bad to take a loan, you take a loan to get a house, to start a company, it's a positive thing. But we need to phrase it differently, talk about start-up capital, school money, money to send your kids to school. Because otherwise, poor people already feel like people that the world is trying to take away their dignity and they try to hold on to that dignity. You really, it's not enough to just think "I can translate it and talk to the embassy", you have to have it inherently in your team and in everything you do and in how you design your service. Understanding the culture, everything, that's key.

N: So, then, in that context, if you expand, or if ,you say you also have activities in Ghana, then do you always adapt, or would you always adapt the solution or the app?

C: I would definitely. But so far, we are too small to be active in two countries for real. But what we are doing, we are testing both places and that will also give us some learnings about what is the same and what is different. Not that we will then be able at this point to implement the differences towards Ghana, because we are not ready, but we will be longterm and just in general we are getting an understanding of what is more general and what is more Ethiopian. And of course that process will continue on with every country we go into. However, I do expect that some kind of percentage, let's say 60% is the same. Because it's a very fixed process that goes on across Africa, you have manuals for that are being implemented by NGOs that are international and engaged in 35 countries in Africa. So, there will be some similarities but let's then say 40% or however many will be specific to that context. We'll get to learn and then I believe over time we'll be able to build on what we already have. And so, that's a little bit like we have in Ghana, this is a little bit, you know, and we're putting it together. But it will need a lot of adapting wherever we go. At least that's our expectations, of course it would be easy if it doesn't. But that's not our expectation.

N: And then in terms of like the customers that you have, is it the majority of them women or is it like also aimed at women, or is it generally?

C: So, we are targeting savings and loans associations, and I'm not actually sure about the number in Ethiopia, but it is something like 80% are women. And so, in that regard it's not like we are targeting the women deliberately, but they are so big a part of the service that we need to consider them, so we do think of that in our design. Some people have said that our new design is more, is quite feminine, and I see that as a positive response, because, well, most of our customers are feminine. And we are within sort of financial services, and what you see there is probably not very feminine, it didn't use to cater to feminine people, you can just look at the management across banks, how many women do you find there? I think that's good, so, yes, we do cater more to women and we think about that in our design and what we are making.

N: So then, in terms of financial literacy, because I assume that's not a very developed skill that the people there have, is that then also something that the NGOs in that sense take care of or is that also implemented in the app?

C: Well, I think that both the co-founder and I we both have a sort of teaching dream, so I think at some point there will be some teaching in our app also just because we really love to do so. But in general, this is already being taken care of by the NGO. They help the groups establish, they learn them about loans, and they learn them about general financial literacy, and in entrepreneurship. So, in that way, it is a good set-up.

N: Okay, but the app is then just being used by the people themselves?

C: Well, to begin with we will let the NGOs actually use it. So, they'll come to the meetings, which they already do, and instead of, so the people in the meetings are registering in paper-books, and the NGOs is standing behind also registering in his paper-book, but now he will be standing with the app registering everything on the app. But, longer term the groups will do it themselves but there will also be some barriers to that. They will need to learn how, not all groups have a smartphone. We will also adapt to feature phones at some point, but we are not there yet. In the beginning it will be the NGOs, and I think it will go nicely hand in hand that mobile penetration, or smartphone penetration is also increasing really rapidly.

N: Yes because I assume there is also like infrastructural issues like connectivity?

C: Yes, like internet.

N: And then, what would you say at this point is like the biggest lesson that you've learned so far in addressing the financial inclusion situation with fintech in that sense?

C: It's probably how different we have to build our services, like basically almost none of the logic is important in this context. It has to be 100% bottom-up, we have to understand them and their structure and the whole set-up, what is their life situation, what is it that they really need. Because we are sitting here, thinking "Oh you need loans, it's horrible for you that you don't have access to this". Is it? I still think that, and I believe and I have seen that the impact of loans, but loans in which way? And how much? And attached to what? So we need to start much much more bottom-up and just engaging with the people. Getting to understand their pains, getting to understand their specific society, you can't make something general here. How is that structured, what are the organisations, how do they work and then what is the right entry point and what is the biggest pain to solve. And I think that's at least when you look at the whole blockchain space, they start with the technology. And their own dreams. And then they are saying "This is relevant for all African people". I would say it's relevant for no African people. So, start there, have a sit, down in the group, talk to them, ask them.

N: Now obviously you are a for-profit company, but I would say the mission that you have and what you are doing has a very social aspect to it. So, I was wondering, how do you measure the social impact that you have?

C: So, we are going to do different types of measuring, there are some pretty set standards on how to measure this, that we will probably be going with. And we'll do both quantitative and qualitative analysis of this. We'll probably be doing some baselining, where we kind of see what is the situation before we start, and then from there how is this progressing. And then using, because if you only do quantitative then it's really difficult to know if there are some other determents or your product that is making that difference. So using the quantitative to understand "was it the Jamii loan that made the difference or what was it, or should there be something to be combined with". And also of course catching if there is any negative signs, stigma or...

N: But then also, with that, what is like the ultimate goal or what you want to achieve by digitalising their system?

C: Definitely enhancing household income of the very poorest. That being said, one of the things we are doing is that we are distributing some good products that our groups can sell if they don't have a natural need for a loan, we offer them that they can for instance buy Solarsack, which is a water purifying bag, that means you don't have to take down the trees to boil your water, you can just put it in the bag and leave it in the sun. So, it's a way for them to make money, but it's also something that has a sustainability increasing aspect. And we'll push more products like that but we will be very selective as to which products we are pushing.

N: What would you say is like are like factors that facilitate your entry into the market or your implementation of the app?

C: So, I guess the NGOs is one factor, right. We go through the NGOs. Denmark has really strong ties with various NGOs, a good representation and money with the NGOs. Of course having local people, local in the sense that they are Ethiopian people in our team is facilitating the entry.

N: And then in that same context, what would you say are like factors that maybe constrain your entry?

C: Well, one could be that if we stay within the financial space, anything that has to do with loans and money from investors and especially banks in Denmark, I do not believe they will touch us with a finger, because they are so afraid of corruption and AML money laundering, which is funny, because you are doing the AML. So, it's like, OK, I don't see that this is a bigger risk than a general risk, and you should just have good processes. But they don't want to be affiliated with it, so why take the risk, right. There is not a sense that, we have to also take risks, that is part of social mandate. They don't care if it's Africa, they stay away. And the same goes for a lot of investors. Africa? Oh no that's dangerous. So, investing is risky.

N: And then in terms of like legislation, where there any legislative challenges that you had to take into account?

C: Oh yes, so many! We would love to make a platform that would allow Danish people to, or people in Europe for instance, to actually give us the loans for the money, but that would require we have a really high license in Denmark. So, that's out of the picture, because then we have to partner with a bank to apply for that license, again we are back to a bank wanting to deal with a company that does business in Africa. Like, I'm amazed we haven't gotten kicked out of our bank yet, I think they kind of don't know that we are doing things in Africa. Then I think they will kick us out. (-Is it really that hostile an environment?) Yes, that's what my experience is. You can't get an account, a business account. If they understand that it's something to do with financing in Africa. It's not good.

N: But so, in Africa itself is there also like hostility on that side?

C: No, that's very different. But we still have the legislation. And so in Ethiopia specifically, they are lacking to have implemented tiered KYC, where you divide sort of, you put levels on how much check do you need to do on your customer depending on how much financial services you're providing them. So, if it's just a small savings account, less than 1000 dollars, don't even need a formal ID. That's implemented in Nigeria, I think that's really wonderful. It is not allowing people to whitewash money, you can do that in a million other systems, it's just a way to including people. So, it's really strong. And Ethiopia is implementing that right now, so let's see how fast that goes, but also they need to open up for agent banking, which essentially means that you have an agent that conducts banking-like activities, for financial inclusion to happen, I think anyone within that field knows that if this is going to happen, it is going to be digital, and it's going to be agent-based. So, about 80% of the population live in rural areas, so they are so scattered, that you would never be able to build affiliates that would cover all that. It doesn't make sense. So it needs to be people, maybe even people that are not full-time, so it's your local taxi driver, so when you take a taxi you can also do your financing. In order for it to be lucrative.

N: And so, especially in terms of that, what was like the timeline, or did it take a long time to implement it or to enter the market?

C: I can't even say yet! Because we are not at all there. You can do quite a lot without the registrations, when you are just on trial basis, so that is ok. So, it hasn't been a barrier yet, but we'll see. I'm expecting the process to take at least a year. I Think that's really optimistic if we can do it in a year. And again, this is something investors understand. This will really increase the value of the company, if and when you have that, these registrations and certificates. In Ethiopia it's called a certificate of a value-adding service, but whatever the legislation requires you to have, it's a really big deal if you get that. It's a big value to the company.

N: And what are for you like the next plans?

C: The next steps? The next step is we are going live in Ethiopia in about two weeks from today. With the digital platform, and testing that and getting some feedback. And if it runs smoothly it will be a soft launch, meaning that we are changing things, but it is running and being used at the same time. And then shortly after, a few months after, start giving out some loans in collaboration with a local company. So that's that, and then it's the applying for all of the, starting the partnership conversations with the banks. We already have the dialogue, but sort of zooming in how we can partner with the local banks, because that's step one in getting your licenses.

N: But then ultimately I understand the intention is to also expand in other countries?

C: Yes, but let's see where are in 5 years. I think what we will do is that we will probably also have some set-up in Ghana within maybe a year from today. Because it's just good for diversification of our risk, to be active in more than one country when it's an African context.

N: But then always kind of stay in the same kind of region?

C: Yes, things take time, right. So, it will take a lot more time. We are only doing also Ghana, of course because it's a big opportunity, but also because for risk diversification. If we could just do one country, I'd actually prefer that, it would take us at least 5 years before we are ready for the next country. I don't think this thing, you put an app and then it works, it's a financial product so you need all the licenses wherever you go and it's not a small deal. But who knows, maybe it goes so well that we need to kind of really releasing a CEO to come and take my place and expand into 20 countries at the same time. I at least wouldn't be able to handle that.

N: Do you partner at the moment with one NGO or more than one?

C: We have one like formal partnership with one NGO, and then we have partnership conversations with many other NGOs.

N: OK, so I assume that they also really welcome the opportunity?

C: Yes.

7. CARE Denmark

Interview with Line Gamrath Rasmussen, Programme Coordinator, 02/04/2019, Skype.

Nathalie Hemmen: So, I guess we can just start maybe by you just telling me a little bit more about the FinTech project that you currently have.

Line Gamrath Rasmussen: Yes. I don't remember did I send you a bit of info like on the project. Oh, maybe I should have. I could do that as we speak. I'm just going to send you the project document and then, and the presentation I should have thought of that earlier.

N: All right. Is it only the project that you have with HiveOnline? Because I've talked to them a little bit more about the technological parts of it.

L: That one you already know about. Yeah. So anyway for us at CARE we've been working for a number of years with something we call the Village Savings and Loan Associations which is a financial inclusion method you can say where mostly women in the village come together and save an amount every week and then they take turns taking out small loans to do business etc.. So, what we wanted to do was try to see if we could digitize the savings and loans and give them better access to credit from microfinance institutions and banks. So that's very briefly our point of departure. And then we we set up a corporation with something called this Copenhagen fintech lab. I don't know if you know them it's sort of a fintech incubator here in Copenhagen, but they have a global community of fintech startups. And we did a kind of challenge with them. So, we posted what are the challenges for financial inclusion in Niger. And then we got eight different solutions from different companies and in the end, we chose HiveOnliene as the one that we saw would fit our own, our purpose better. So that's how it came about. And that was last summer. So, it's not it's since August we've been working on this. Yeah. And then we brought them to Niger a couple of months later and to do a proof of concept to see if what they were proposing would actually fit the purpose. And then we found out that it was a very good solution and now we're working on on a pilot for a few months, we'll be ready with a demo app in June this year.

N: OK. So the challenge was then a bit more generally just for financial inclusion? It wasn't like a specific problem that you were aiming for a solution for right.

L: Yes, I mean in the village savings and loans groups functioned very well and they have a lot of positive benefits. But the one thing they don't have is that the cash amounts are quite small. And so if the women wants to invest in something bigger to grow their business it's not possible. And particularly in Niger, they don't have access to banks or microfinance institutes in the villages. Only 7 percent of Nigerians are banks. So you can you can tell that only very few people have access to banks so that's one of the main challenges we wanted to solve with this app. And it does so by creating a reputation system for the groups and the women so that via their behavior on the app banks can assist their credit worthiness. So, we can see that they took out this loan and they repaid it in three months et cetera. So, this kind of statistical data will help them access loans in the future. And that is something they don't have now. And many of them don't even have a piece of identity. So, by creating this app in their phone they can use that as their identity card you can say and proof of who they are and who they are in their community and what they've been doing. Because one of the advantages of this group is that they have a very low default rate compared to normal loans that you take in banks. Only 2 percent default rate which is something banks are really keen on. That's incredible for them. I don't know what the default rate is on a normal loan, it's probably 20 percent or even more. So, for banks if they can access these people in a cheap way and then in a way that's more secure it's actually a very good market for them.

N: OK. So to speak, the ultimate goal of it is to have these people get access to formal banks or financial services?

L: Yes, that's one aspect of it. Then in the second phase we will also give them access to markets so where they can sell their produce, pay vendors via the app et cetera. So, it's it's based on a kind of ecosystem approach. So, we're trying to link up both banks, telcos, merchants, marketplaces. In turn it can also be things like insurance, government transfer or even to pay your taxes or get your pension. I mean, there are endless possibilities of how you can link this to other services and markets and in the long run we're also looking at something like tokenization of assets. I don't know if you're familiar with the term, it means that for example if they have a cow they can put it on the blockchain and use it as collateral to have insurance or loans etc.. But that's that's more in the long term because that's still a very new technology and not something that is readily available.

N: Yeah but also in terms of technology. One thing I was wondering about is the people or the women's attitude towards this, which I could imagine could be an issue that they don't, especially when you use something like blockchain, that they don't understand the technology behind it, or more simple with the app.

L: Yeah well they don't need to understand, they would have no idea that it's blockchain behind it. They will just have a very simple app based on icons and this app will work on both smartphones and feature phones. Of course, they will need one smartphone in the group, so one in 30 people will need a smartphone. But that's possible as it is now there are people with smartphones not all of them but some of them have smartphones. So we're working on the assumption that one in the group will have a smartphone and then many of the rest will only have a feature phone. But they will still be able to interact and use the app with their feature phone. And for them it will look very simple and that's something that we in the development. The web design or the app designer, he was recently in Niger talking to the women, showing them exactly how it looks and we're quite confident that we will come up with a solution that will be acceptable to them. I mean many of them are already using WhatsApp. That's something that's really really gaining in popularity there and they also using mobile money so transferring money via their phone. So, a lot of these things are already catching on so we're trying to piggyback on that development and propose something that is acceptable to both of them and something they know. we will also be very careful to, have it look like their savings and loans association method. So, of course, they will not have a physical box, they will have a digital box but the icon will be the same and all the processes will be the same that they know already. So that way we're duplicating the analog Savings and Loans Association and making it digital in the expectation that that will help them you know see the advantage in and adopt it quite quickly. But of course there's always a risk when you do something like this. But our expectation is that the incentive for taking out loans will be so big for the women. There is also a security issue when they have their money box they always afraid that somebody will come and steal it. And it is a real risk there in Niger. So that's another you know incentive for them to do it in a different way that they will not have to be afraid of their money getting stolen and when they're going to market with cash they don't need to bring cash in the long run because they can pay the vendors directly on their phone et cetera. So there are a lot of incentives speaking for them to be able to adopt it.

N: OK. And then you mentioned that for now you're only focusing on Niger. And I just wanted to ask what were the main reasons that affected that decision?

L: Yeah first of all, savings and loans associations were invented in Niger. Like more than 25 years ago in 1991. So and it's become a very big movement. There are 600000 women organized in the VSLA. So it's a good place to start in that way because they're really ready to take it to the next level. Then it's also you can say well why Niger, it seems really not very wise to take the least developed country in the world with a lot of you know challenges like climate change and terrorism, conflict. But in fact what we experienced is that because nobody else is there nobody else is offering these kind of solutions to Niger. They have very, I mean we can get a head start and everybody's very keen to work with us both civil society, private companies, the government. So there's a lot of traction for what we're doing and people are ready to get it. Everybody's asking us "When can you start. We want this". So it's a very good, for example if we started in Kenya and East Africa where everybody is there would be 10 other providers doing something similar. So it would be difficult to get people on board. So in that way, Niger is really good possibility for leapfrogging. And then a third reason is that the government has actually declared their leadership in something called the Smart village Africa initiative. So they are already testing new digital solutions in the villages and this is like a Pan African initiative that aims to offer Internet access and a digital infrastructure in villages during the next 10 or 15 years. So in that way we're also piggybacking on something that is already ongoing or trying to hook up with that initiative. So yeah.

N: And then were there any like social structures or social norms that also affected the decision or not maybe not the decision but the way that you went about the implementation or the approaching the market?

L: You mean in Niger? (Yeah) We have we previously worked with mobile phones as a good way of helping women get access to markets and information that they're usually not you know allowed to access because it's a Muslim country and men and women are confined in their home where they're not allowed to go to the market on their own. We have found that giving them a mobile phone and teaching them how to use it is a very good way for them to access all kinds of information and for them not to be isolated in their home. So that was another consideration that we'd already experimented with this kind of digital solutions.

N: OK, so that you're always seeing the effect that it can have when women get mobile phones.

L: Exactly. Yeah exactly.

N: OK. Yeah. Because I'm focusing on my research more on MENA countries. And so I was wondering I mean obviously this project is only in Niger but if you also have like you as CARE you also present in MENA countries?

L: Yes I mean CARE Denmark is not working in Mena. But there's a big office in Egypt and in Morocco. Yeah. And what else. Yeah of course we work on Syria, Jordan, Lebanon. But that's more like humanitarian aid. I don't know. Are you looking at the you're probably not looking at countries like Syria.

N: No I'm just looking for that globally because there's no us. OK. Most of the FinTech solutions specifically focus on sub-Saharan Africa. And so I just wanted to. There's not really much going on in your area in MENA. And so that's what I wanted to focus on.

L: I know that they use Village Savings and Loan Associations in other countries in MENA but I'm not sure where and which countries so you would have to go to talks to somebody else about that but I don't think there's anything on digitising access or financial inclusion. I'm not that I'm aware of. Yeah. Right now it's only in. And I don't know their market for for example mobile money transfer and I wouldn't see it in those countries.

N: Yeah but do you know if there is any specific reason, I mean why you as CARE Denmark also are more focusing on Africa in that sense maybe?

L: I mean care Denmark has just never worked in MENA, it's not our priority country and we never had because we were focusing only on the poor segments and agriculture and things like that. So, I mean yeah it's for historical reasons, it's not a choice that we'd taken recently so it's not that we'd made the analysis of the whole world and then thought was it most needed. No, it's nothing like that it's more for historical reasons and CARE Denmark is quite small so we only work in 10 countries.

N: Okay, I was just wondering about that. Okay. And then something else I wanted to ask about is how do you specifically, now back to the fintech project. How do you then measure the impact that you're having, the social impact that you're having on the women?

L: Well, it's too early now to say but of course along the way, I mean this is only a 18 month pilot that we just started two months ago so it's too early to say. But what we do is that we implement this project in collaboration with our, if you can say normal projects. So, we have a women's empowerment project in Niger that deals with VSLA and several issues. So, you can say that's something we measure all the time and then we have indicators for that and of course we'll also look at that from this project. So, but it's just too early to you know to say anything about it.

N: Yeah. But normally for the VSLA? Is it mostly on the basis of the loans that you hand out, loans that are being handed out and end up being repaid?

L: Loans and a number of factors. I mean a lot of these women go into local politics and we made several reports on the social effects of VSLA and I can probably share them with you if you want. I don't know if they are in French, but I can yeah. And there have been several studies that document this. So that's well-known. I mean it's not something new.

N: OK. And then for the VSLA's, I mean generally again, how do you normally reach these women as you said it's especially in the Muslim context that they are not so much in the public sphere. How do you reach out to the women and kind of convince them to to go out into this group?

L: Well we always work through local organizations who are on the ground in the villages and then there is a village agent in each village who supports the groups in their formation etc. and I must say there's not much need to do marketing or anything. Some of the groups are just as you know forming spontaneously without even our help because it's something that you know they talk to each other and they say OK this is working we want this as well. So it's actually been hugely popular and just you know reproducing itself without even us making any kind of effort. But, of course, there is an issue of getting the women there in the first place. But it's through our local organizations where they're present and on the ground and speak the local language et cetera. So, it's not CARE people who do this.

N: Okay yeah because I can imagine that especially for men maybe there's a bit of pushback on that.

L: Well it's always women. I mean yeah.

N: Yeah. Okay. And then what have so far, I mean as you said you're still early on but what have so far been hurdles or challenges that you've faced in trying to implement a digital solution for that?

L: Well, there's the whole issue of course of connectivity which is very problematic in Niger in Niger so we have to just contrive a solution that is not always online. And then of course the whole adoption thing will be an issue. But we don't know yet how that will go because we need. I mean we need to develop the app before we can see how people use it etc. So, I think it's too early to say exactly what. Of course, we have some risk defined and then that is about adoption and also that in a society like Niger things take a long time usually. There could be something like even though the government is quite positive. You know we can very well experience delays in getting the licenses we need et cetera. That's something we know in a country like Niger can be difficult. So they can be a lot of stumbling blocks that it delays the process along the way.

N: But then ultimately the goal is to expand also into other countries.

L: Yes.

N: And so, for that do you envision that the app has to be adapted for each country and maybe the cultural or social characteristics or whether it be mostly the same kind of approach.

L: Yeah. That of course you have to do some adaptation especially on language because in Niger it's going to be in Haussa and maybe other local languages. So there's something there and we don't expect. I mean you can easily change small things in the app without changing the technology behind that we don't expect to have that we have to change the whole technology and then the programming behind but of course there are some adaptations that need to be made.

8. Al Majmoua

Interview with Youssef Fawaz, Executive Director, 09/04/2019, Skype.

Nathalie Hemmen: I have a few questions but I think it'd be great if you could just start by just explaining briefly what it is that you're doing specifically.

Youssef Fawaz: I manage Al Majmoua, which is a large microfinance NGO in Lebanon. We do this, I mean most of our work is obviously giving out microloans. And we do have a department where we give as well non-financial services. So in the form of financial education, you know, teaching women basic accounting basic bookkeeping basic budgeting anything to just help them better manage their household budget and their family budget and their finances in general. So. If you you know a few ideas but again just talking. You want me to talk about Lebanon or microfinance in the MENA region because these are quite different in a way

N: Well I mean if you can talk about it in the MENA region then that's fine too. But I guess because of the situation in Lebanon that's also alright.

Y: Yeah because the conditions are slightly different in different places right. But I mean one way where you can get a good overview for now most of the countries that aroud, we all have some sort of national network. So even in Lebanon we have something called the Lebanese microfinance Association which groups about nine microfinance practitioners of different legal legal form and in every country in Jordan and Palestine and Egypt you'll find similar that there are national networks. So, you can contact these to get more information about the specifics if you want in every in every context. And one other interlocutor you may want to talk to is I'm not sure you have come across it called Sanabel. So Sanabel is the regional network of all microfinance within the Middle East and North Africa. So most if any of the major players in this field are probably members of Sanabel. So that is one way or the other they can give you information about their activities. Anyway. So, if you want but back to Lebanon quickly. So, we're the largest we have around 68'000 active clients at Al Majmoua. We work in all areas. We have about 30 field offices within the country and we work with, this is particular to us, we work with Lebanese and non-Lebanese meaning from the beginning we were working with Palestinians. And since then we've expanded. We work with any non-Lebanese living legally or semi-legally in the country. So, we give loans to even older domestic migrant workers things like people from the Philippines or Bangladesh or Africa, Ethiopia, what not. All these will come as migrant workers to Lebanon if they apply for a loan they qualify. We usually accept to give them give them a loan as well.

N: OK. And do you focus on women, because before you mentioned women?

Y: Yes absolutely. When we started actually at Al Majmoua, we were exclusively woman I mean we did literally copy the Grameen Bank model of group lending. That's the name of our institution, Al Majmoua means the group in Arabic. So, we did the group practic for the first six seven years of our existence. We only gave woman and within groups and in 2002 we started opening the program to men. And since then at the beginning the men became the majority. So, we also consciously reversed our effort and refocused on getting more women in the program. So now we're at 58 percent women program clients.

N: Okay. And so, would you say then that it's since the majority was men that it's harder to reach out to women?

Y: Yes, yes. When we started what we observed then we started opening up. We opened the program to men. It becomes easier because the men are the ones who have the shops and they are visible on the street. There's your loan officers go down a neighbourhood. It's usually men in a shop that they talk to. Right. People who have these open businesses while women are typically, our clients in general are mostly women who work from home they not necessarily have the shop. So, they're a bit harder to reach and we rely on word of mouth. You know my one client telling about in her neighborhood that if you want a loan you can obtain something from Al Majmoua etc.

N: Okay. And so, do you think there's also like maybe social and cultural norms?

Y: Not in our context. I mean we encounter that a little every now and then we run into a woman who wants to take the money in secret from her husband because her husband she doesn't want her husband to know she works or she does anything but by and large no it is not it's not it's not a major thing here. Many women also actually, well, the reason why we opened the program to men, work with their husbands. So suppose that is small grocery shop or small, and both husband and wife usually alternate working in the shop itself. So but the man has more of a oversee these sorts of this sort of context obviously.

N: And do you see any differences in the behavior when they have the loan or in the return rate when they take out a loan between men and women in that context?

Y: No nothing significant. At the beginning we used to think that women were better at repaying than men and to some extent it is true but really marginally nothing significant. It's not like twice as many women pay back that loan when men don't. Or something like this. It's the comparison between the two in terms of performance of portfolio is fairly similar. We haven't seen major differences.

N: OK. And then what would you say are currently like the major challenges that microfinance faces?

Y: Plenty. I mean depending on, for us in the context of Lebanon all sorts of. One, we have a very shaky the time for the time being economic environment. So, the volatility of the political and economic environment are a constant threat. So, we don't know where this I mean how this will impact the sector but that is a significant potential. There is a significant potential of things going badly for everyone. I mean for the for the macro economic level and the level of microfinance providers. The second major challenge is actually the risk of over indebtedness and cross lending because we work in a relatively small market and there are too many players. The nine that I mentioned are already federated in the Lebanese microfinance association. But there are plenty others who give loans and who are not necessarily microfinance institutions. So, in a small market like this with everyone trying to keep a market share the risk of the clients being indebted to more than one institution increases significantly and with it a risk of being overindebted and then with the risk of being unable to repay his or her loans to the multiple institutions. So that is one major issue we're facing here. And third I would mention I mean it's not an issue as much as a lack because I understand this is your main topic of research on the FinTech side of thing is that this country seems to be very much behind the curve in terms of digital finance and regulation. So, to this day there is very limited regulatory framework that would allow digital transaction to happen over phones or over mobile. And that in a way is putting us as second room players in this field for the time being.

N: Okay. Yeah. That was also one of my questions, the legislative context.

Y: Practically non-existent. For example, we still don't have virtual wallets that are allowed. The telcos because of the specific context in which they function in Lebanon are not heavy investors that feel like they would be in a different country with the owners of the sector and they can develop and sell additional services. In Lebanon the telcos are literally just managing the network on behalf of the state so they get the management fee in return for running the 3G network so they have no incentive to either invest or look for additional products or become a bit more creative in terms of the financial and digital finance space.

N: So is that if I understand correctly then you're saying that you would, or your organization would move more towards like Digital Finance if that was...

Y: Oh yes certainly I mean this is something easy, I mean let's say important and on our agenda it would certainly help us significantly reduce our transaction costs and it would make a hell of a difference if we are able to send the transfer, disperse a loan from phone to phone to our clients and be able to collect from them over the phone. Today they, you know, it's a much more elaborate process they have to go either to the bank or to one of our agents, partners.

N: Okay. And like in order for women to get a loan what are the requirements that they have?

Y: Depends. I mean when we're talking a group loan, fairly little. At the beginning we used to insist that she has a job, not a job, an activity that is income generating. With time, now we allow within the same group of five women let's say at least that one of them can be a start-up or someone who wants to begin an activity but otherwise we simply rely on the group guarantee that they pledge they are in solidarity with each other within the group so that that's the only collateral we require from woman within the group I think. If they apply for individual loans again depending on the amount and the complexity but up to an amount of roughly 2000 dollars typically we just ask for a co-signer to come with the person and the co-signer could be anyone could be the mother in the house could be the brother could be the son if he's above 18. So, it's much more of a moral collateral than a significant one. It's not like we don't pledge assets that we to get any fixed anything in return for the loan.

N: Okay. And then in terms of identification do they need formal identification for it?

Y: Yeah. But again, this being in this country that is it's there is not one single I.D. that is universal that everyone has. So, we accept different forms of I.D. depending on what document could get produced. But we do require yes at least some sort of I.D. showing. Either a birth certificate or because not everyone has a national I.D. even though there are national I.D.s but not everyone has applied, and everyone has one. Or a passport or in the case of Palestinians some residency permit. So, the same applies for Filipinos or Ethiopian woman or whatever applies then they need to show at least one either passport or a local residency permit.

N: Okay. And then what would you say is like the main goal? Or like the main social impact that you are trying to achieve by giving these loans to women?

Y: Well our main purpose is the same as microfinance anywhere. I mean is like is providing capital, access to capital to the unbanked segment of society, the poor and the ones who have usually are living outside the formal banking and financial sector. And the ultimate goal is to reach as many and convert as much of the need as we can within the country itself.

N: And so how do you measure the social impact? Is it just in terms of the loans that you pay out or the ones that you get back?

Y: No, no, no, no. This is one dimension, obviously, but we subscribe to a number of additional measures and we monitor a number of ratios, gender being one of them. How many women we give, how many within the refugee population, how many within the non-Lebanese, how many in different socio-economic profile, how many are poor, how many are ultra-poor. We look at how many youths, people below 30, do we provide loans to. So, it's not just one dimension. It's certainly not simply the question of repayment even though it's important. But we do we do monitor and make sure that we're on target on a number of what we call social performance measurements.

N: OK. And then in terms of the non-financial services that you mentioned; I was just curious about how that works. Is that something that they have to participate or can participate in on the side of the loan?

Y: It's an additional program that we provide actually free of free of charge and we provide the non-financial services not only to our clients, but we give it in the community anyway. Suppose we have we give a vocational training on something and women sign up to take it in a certain village whether they're clients or not they're welcome to attend the course. And we don't make it as a requirement that they need to take a loan at the end. So, we don't push down anyone's throat the loan just because they took a class on, I don't know chocolate making or weaving or hat dressing or something like this. So, I've actually, about 70 percent of the beneficiaries of the non-financial services are non-client typically.

N: Okay. So, it's more like a skill-based training in a sense?

Y: It's a combination of things. We have a whole range of courses that we can deliver and they go from as I said at the beginning from the very basic financial education and all the way to a more sophisticated, like mentoring, coaching, helping them write the business plan if they are at the level of SME or if they have employees with their business or a loan of a significant size. We also I mean help in quality control if they do food processing and whatnot. And in addition, we give a few vocational training and not a lot but a few topics but we feel we can help people establish new businesses that are outside the regular norm.

N: Okay. And do you see again the question do you see with that a higher percentage of women or men participating?

Y: Yes significantly. Actually, we tried to target much more women in this program than that. I think, not I think, around 90 percent of the beneficiaries of the non-financial services are typically are usually woman.

N: Okay, but is that because you target them or because there's naturally a lot of women?

We target them. This is, we, I mean identified as being the most vulnerable and of all disfranchised segment within the segment.

N: But so how do you target them then because before you said that it's mostly about word of mouth but isn't that very difficult because we don't have that much control over it?

Y: The word of mouth. Yes, word of mouth is one tool, but it is it's not only that I mean we have I would loan officers and they go from neighbourhood to neighbourhood, from street to street. So we're very, very much present in the community and word of mouth was at the really beginning and maybe 10 15 years ago but today things are, I mean we have name recognition and identification in the community, we have 30 officers that put us visible in communities so, people are a bit more aware of our presence. When it comes to the non-financial services usually it is always an implementation of a program or a grant that you obtained from donors could it be could be the EU could be U.S. aid could we any of these activities. So, these programs actually what you have is a very specific targeted community, it is written in the terms of reference. So, what we go for are clearly identified segments that the training should go to. So, we don't rely on a necessarily word of mouth in getting beneficiaries to or people to apply to attend not financial course.

N: Okay. Okay. One more question just for the loans for the duration of the loans or for that whole process is it then also the loan officers that you said that are, or agents, that are in the different areas that keep track on the beneficiaries in that sense?

Y: Yes.

N: Okay. So, you're always in contact, in touch with them?

Y: Yes totally. Yes. That's part of the secret recipe to make Microfinance work reasonably well, is that your loan officer is in practically weekly contact with the client because they live in the same neighbourhood they see each other they, I mean even if he doesn't go to visit at least you know passing by the street there is visual contact that this is a client.

N: OK. But then when you say that's a big part of it, that could then also be like something that Fintech is maybe, one downside of it?

Y: That's. That's a good question. Absolutely. I mean one of the, not doubts, what scepticism about fintech, about this ability to give loans and completely bypassed the human dimension is to us in microfinance to me in particular seems to be a bit unrealistic. At the end of the day I think that human contact between us and the client remains key. I mean we know everything about their family, about their history, about their kids and what their schools are, about their illness or what these things in ways that the FinTech simply just adds (). I do agree they may write fancy algorithms and they can decide whether this or that person is credit worthy and send them money via mobile. But at the end of the day I really think that the human relationship we have with our clients is key to what we have been able to establish so far. We'll see, fintech as at the beginning so we'll see if that pans out like they're saying.

N: Yeah but it also I mean I don't know, now specifically how it is in Lebano,n but especially poor people normally don't have the same access to technology. So, I think it might also be that they are very sceptical about having something that is solely digital.

Y: True! So, we don't have it here but for example I've heard of colleagues from Jordan where they have the more advanced regulatory framework and digital finance is allowed and they can send money to clients via phones by now, there are mobile wallets. I hear from them the feedback is that many of the clients do not like this. They still like to feel the money, the people, in their hands, when they get the payment. The whole concept of getting money over the phone seems to be... But it's a question of practice. I think as confidence grows these things will disappear. But for the time being it seems there is a reluctance and I heard from the Jordanian that many of their clients still prefer to have their cash physically than get loans over the phone.

9. FINCA

Interview with Joseph Larsen, Strategic Communication Specialist, 17/04/2019, Skype.

Nathalie Hemmen: I think maybe you can, you can just start by just explaining what exactly it is that you do in terms of fintech and financial inclusion specifically for the three countries then in that area.

Joseph Larsen: Yeah. OK. Sure. So, in Afghanistan, Pakistan and Jordan. So, there are the three countries that we operate in. We've been in Jordan since 2007, in Pakistan since 2013, and then in Afghanistan since 2003. And in all three countries we operate as a microfinance institution. So, in Pakistan we are actually a licensed to bank, licensed to take deposits. And then in the other two countries we're are a microfinance institution, so we don't take deposits, we offer loans and then some other financial products. But we don't take deposits and in all three countries, I mean, we're a for profit institution we're not a non-profit. So, our activities are intended to earn a profit that we can then reinvest in new products and new delivery channels that expand financial inclusion. So, in a big part of that is recognizing that in these three countries especially gender equality in access to finance is a gender inequality in access to finance is a very, very big issue. And so, we target quite a bit of our financial services to female clients especially borrowers. So, in Afghanistan about 60 percent of our clients are women. In Jordan it's about 90 percent, in Pakistan it's a lot lower. And that reflects the conditions in the market in Pakistan. So, there are not, not as many women in Pakistan have use cases for financial services because of cultural and social reasons. And we are, we're working on tailoring our products to women borrowers. But right now, our percentage of women clients in Pakistan is pretty low which reflects the fact that women are, they tend to be very financially excluded as men and women in Pakistan both are. But the gender gap is very high. And the gender gap has actually worsened, well the gender gap has actually gotten larger in Pakistan over the past three years. The gender gap in account ownership but also the gender gap in mobile account ownership.

N: OK. And then when you say that you specifically target women. How do you do that? What is like the specificity in that? Or like the factors that you need to take into account when you specifically want to reach out to women in this region?

J: Sure. So, let me just provide a reference point for that. So, I can speak about in Afghanistan. One thing that we're doing is we have a women-only bank branch, so the branch serves exclusively women clients and then the employees are all women as well. So that's everyone working there from the branch manager down to the security. And this is intended to, this reflects the fact that in Afghanistan because of cultural reasons it's not viewed as very acceptable for women and men to interact in a professional setting. But if we by having in the branch served by, staffed by women, this helps us get around that issue. So, a lot of women clients they're more comfortable going to a bank when they know that they're going to be served by a woman loan officer or woman branch manager. And we launched this branch about a year ago in Afghanistan and we had, let me pull up the data. So, we have, let me see how many clients we have there now. I believe it's about thirty-two thousand clients. No sorry. I mean our loan portfolio is about 32 million Afghanis, our number of clients it's about 1000. So, it's not terribly large proportion when you consider that we have about twenty five thousand clients in Afghanistan. So, it's about one in twenty-five go to this branch. But 60 percent of our clients in Afghanistan are women and we market our financial products to women as well.

N: Okay. So then is like the main difference between for example Afghanistan and Pakistan in reaching the women? So, in getting them and getting the message to them and getting them to come? Because then I assume in Afghanistan like the women that do come to the branch like, that's not the issue is to reach out to them and get them to come there. Once you have a female branch for example.

J: Yes, that's true. I mean we've also found that in Afghanistan it's easier to I mean there are more women who find a use case for financial services in Afghanistan than in Pakistan. Yeah and so we're developing a women loan product in Pakistan, but we haven't rolled it out so that that would be a special loan exclusively for women borrowers. And we do have a women loan product in Jordan which was what I was going to get to next. So, in Jordan more than 90 percent of our clients are women. So nearly all of them and we primarily reach women clients in Jordan through a women group loan so women, women business owners they form credit groups to qualify for this loan. But one one issue that we have in Jordan is while the vast majority of our clients are women many of the larger scale borrowers, so the borrowers who own larger businesses tend to be men and this is a problem across the Middle East region that as you move up the scale to larger businesses, the borrowers they become more and more likely to be men. So, for banks that operate with a profit motive and they want to extend larger loans, it's, it becomes more difficult to identify creditworthy women borrowers who own larger businesses.

N: Okay. And then. But then you also use fintech to deliver those services.

J: Well in Afghanistan and Jordan not so much. So, we just recently, we just launched a pilot of a e-wallet in Jordan but in Afghanistan we're not using, I mean we don't employ mobile banking in Afghanistan. In those two countries Afghanistan and Jordan we're not using mobile banking while in Jordan we just launched a pilot of it. So, if I'm looking at the Middle East, so we're developing digital field automation in all three of those countries that we've discussed but we haven't rolled it out yet. So basically, tablet banking that would allow our clients to apply for loans using a tablet. So, our field officers would use a tablet. And we have mobile banking in Pakistan through an e-wallet that we have.

N: And do you see with that any disparity between men and women using it?

J: Well so far, it's a little bit early to say so we launched that e-wallet in Pakistan in late 2017 so it's difficult to say at this point whether it's being taken up more quickly by men than by women. But I mean in the long term what I mean, in the short term it hasn't really had an effect on closing the gender gap. Now in the long term it might but it's too early to say. But in the short term it hasn't had, it hasn't helped close the gender gap and actually in general what we see in particular in Pakistan, fintech innovations like mobile banking tend to actually in the short term make the gender gap wider because men are more likely to own a mobile phone and more likely to do banking in the first place. So, when that when mobile banking app becomes available men are more likely to take it up.

N: But generally, would you say that the reception of it has been positive in that, or is there any like, maybe scepticism from the people or any issues regarding technological literacy in that regard?

J: Well so do you mean sceptical, you mean scepticism in the sense that there isn't necessarily a use case or that many of the people we're trying to reach are not, they don't have the tools to benefit from mobile banking?

N: No, I mean more in a sense that they might not trust the system enough to use mobile banking. Because I read, one thing I read is that a lot of these societies are still very cash based. So, people don't really have that sense of trust when they don't have that cash that they're dealing with or they don't know the person that they're dealing with directly because it's over technology.

J: Yeah, I understand. So that's an issue. So, we do have the uptake for our mobile banking apps in Pakistan has been pretty rapid. So, we have more than 3000 users now and that's more than one third of our total client base in Pakistan. So, the uptake has been pretty rapid. But I would put that out by saying that the users of this, they are people who already have a mobile phone and actually already have a smartphone. So, the customer base for our mobile banking app in Pakistan is, it's people that are already financially included to a certain degree. So, I mean the product is not actually, it's not reaching out, for example it's not a USSD based app that can reach out to your rural people who have never had a bank account before.

N: Yeah. So, it's just like a supplement in that way?

J: Yes. So yeah. So, it's a way to basically allow people to move up to the financial inclusion value chain but it's not necessarily expanding financial inclusion in a way that would reach the people who are the most excluded.

N: All right. And then when you mentioned for Pakistan with the gender gap and it's difficult to reach the women and so I just want to see what are for you the most, the major social or cultural norms that play into that, into women accessing your services?

J: Well the most significant issue is the lack of a use case and the reason for that, so in countries where the gender gap is closing more rapidly especially where is the, where digital financial services are helping close the gender gap. It's countries where women historically play an important role in managing household finances. So, for example when women manage the family's savings budget or when they pay bills on behalf of the household in particular this is in sub-Saharan Africa, and in the Middle East especially in Pakistan this tends not to be the case. So, because of cultural reasons women tend to be excluded from financial, from household finance altogether. So, the biggest problem in including women is is that the issue of the use case. Yeah. So, I mean we, attitudes need to change in order for the situation to really move in a direction where women are more included. So, financial service providers are developing and offering better financial services and financial services that are available to women. But what we're seeing is that when the when women tend to be excluded from just even managing basic household finances because of cultural problems, it's difficult for them to be receptive for these services. Yeah but let me speak about one thing that we're doing in Pakistan. So, Sim Sim which is our mobile e-wallet. We have a partnership with Garpa, which is a professional home beauty service. So basically, what we have a corporate partnership with them. So, what Garpa, it's a person to person beauty service. So, the company sends beauticians to households in Lahore and in Islamabad or in Lahore and in Karachi I mean. And so, they go to, they go to the households of beauticians, they go to the households of clients. And we provided our e-wallet Sim Sim to Garpa and so the beauticians who work there can receive payments using the app rather than through cash and then by equipping all of their employees with this app, they can also use that app for personal financial purposes as well. Yeah. So, the partnership is relatively new and it, we can't assess the impact so soon but through more and more partnerships like this we hope to be able to reach more women that way as well.

N: Yeah. So, it's also like an incentive for the customers to use the mobile wallet as well?

J: Exactly yeah. So, they now have the e-wallet which they use for commercial purposes basically to receive payments and then transfer payments to their employer but then they can also use it for personal use. And then we haven't gotten here yet, but we also offer a payroll solution and we're not using, so Garpa is not using our payroll solution yet but we're working on partnering with them for them to adopt that as well. And that would mean that they would disperse salaries to the to their employees using our e-wallet.

N: OK. So, would you then say that partnerships like that are a big part of reaching the women or doing marketing in that sense for you?

J: Yes definitely. It's very important. So, for our e-wallet in Pakistan our corporate partnerships are very important to expanding. People are primarily doing that, are our corporate partnerships are mostly about using it as a payroll solution or using it to receive payments from clients but once the once the company distributes the once the app is distributed to all of the employees of the company then the app can be used by the employee for personal financial use. So, it's kind of a, there's a multiplier effect to doing that.

N: OK. That's interesting. And then you mentioned in the beginning that in those three countries, in one of them you take deposits and the other ones not. Is that linked to the legislation or the regulation in the countries or what impact has the regulation or legislations of a country on your implementation or how you operate?

J: Exactly. So, it's a regulatory issue. So, in general we prefer to be a deposit taking institution. So, we operate in 20 different countries and we we accept deposits in twelve of them. And in the countries where we don't accept deposits it tends to be because of this, because of regulatory issues. So, in Pakistan we are a licensed bank. So, the legal name of our entity is FINCA Microfinance Bank Ltd. And it's a bank because it has its license to take deposits but in Afghanistan, we're FINCA Afghanistan and we're a microfinance institution. So, we don't have a license to take deposits and because of the regulatory environment is is less favourable to allowing microfinance institutions to get that license to accept deposits. And in Jordan it's the same. So, in Jordan we're actually the first, 2017 we got a license, we actually received the first full microfinance license from the government of Jordan under the current legislation. But the regulators in Jordan don't currently allow microfinance institutions to get a license to become a deposit taking bank.

N: Okay but so does then legislation also have an impact on the digital services that you have for example on the mobile banking that you have?

J: Yes, it does. But I can't speak specifically about about those issues, I would have to refer that to our people on the ground to actually give you more valuable insights about how the legislation impacts mobile and digital banking.

N: OK that's fine. And then what are the characteristics, what are the factors that impact your decision when you go into the market when you decide for country?

J: So, I would, well I mean the first thing the first issue is so there are kind of two components to our business. So, we are a for profit institute. So, do you mean when we decided to enter a new market?

N: Yes.

J: OK. So, we haven't entered a new market in a little bit. 2014 was the last time that we we opened a new bank new institution in a new country and that was in Nigeria. So, I would preface by saying there's really two sides of our business and that's why we call ourselves a double bottom line organization. So, we are a for profit institution but we have a social purpose. So we are, our majority shareholder is FINCA International which is a not for profit. And they were one of the first large international microfinance institutions and we spun off of them and now they're our majority shareholder and we share the same mission that, the same sort of social mission that they have. But we are a for profit institution. So, when we decide to enter a new market it does have to be profitable for us. But we also have to see that our business model can actually, that the market is, that there's a need for the kind of responsible finance that we provide. So, we operate only in developing countries and only where we see that there is a need for greater financial inclusion.

N: OK. And then you said that your mission is a social one. So how do you then measure the social impact in that sense that you're having?

J: Sure. So, we operate according to pretty strict customer protection standards. So, are you familiar with the smart campaign?

N: No.

J: OK. So, the smart campaign was launched by the Center for Financial Inclusion at Accion. And what the smart campaign is, it's a set of standards for client protection. And it was basically, this was established for financial institutions that primarily operate in developing countries. And we were a founding member of the smart campaign and we adhere to their client protection principles in all the countries where we operate. So, kind of the the short answer is that our client protection standards are a lot higher than what a commercial bank would adhere to. But when I think you mean more specifically how do we measure how impactful our services are in terms of, here let me actually share this campaign with you. But I think in particular you mean you know when someone borrows money from us how do we assess what that money does for them. Right?

N: Yeah, more like the social aspect of it.

J: So. We do have data, so we collect data on how many of the household size of our borrowers so how many people they're supporting. And then on their businesses. So how many employees they're able to hire. So, we're able to assess impact that way. So, if we give someone a loan and then that loan goes into their business, we're able to assess the impact by how many people are, how they're well being supported by that their livelihood supported by that loan. So that's one way in which we do it. But it really depends on the context, it depends on the specific financial product.

N: And then, do you also or how does the aspect of training in that sense feature into it? Is that something that you also take into account or in terms of financial literacy?

J: Yeah. Financial literacy on the part of our clients, how we support that. Yes. Yes yes. So, we do we provide financial literacy training and in all the different countries where we operate, and we provide financial literacy training as well not only to our clients but also to other people in the local communities where we work. Yeah. And this is something that I mean I know that every financial institution talks about this, but this is really a priority.

N: And do you see that that is mostly received well or is it easy to convince people to take part in these trainings?

J: Yeah. The reception tends to be pretty high for financial literacy training and especially when you have people, because we primarily with our roots as a microfinance institution we primarily provide credit to entrepreneurs and business owners so that credit doesn't go to consumption. At least we at least we prioritize the credit going to business development. So primarily our clients are entrepreneurs and they have a direct incentive to receive more financial literacy but also business development training. So, the reception of this tends to be pretty high. So, it's an issue in microfinance of course that there's always a lot of the credit even when it's intended to go for starting or growing a business it does sometimes go to consumption. So that's always an issue although that typically isn't the intention. But that's that's part of it.

N: Yeah. Okay. And then maybe could you also talk a bit about the main difference in the operations that you see between the Middle East region and sub-Saharan Africa?

J: Yes, I mean that's a pretty broad question. So, let me I mean if we're primarily speaking about gender equality and finance and fintech and in that sense sub-Saharan Africa socially tends to be more egalitarian in the gender sense. So, pursuing financial inclusion, women becoming financial included tends to be a little bit of an easier sell than in than in South Asia specifically. And I mean as I mentioned in sub-Saharan Africa in many countries women primarily play the important role managing household finances. So that is for a woman who already let's say maintains the savings for our household for her to then get a bank account or open an e-wallet it isn't a big leap. Whereas a woman in Pakistan who for cultural reasons has really never handled money or at least not managed the household finances for her to get a bank account it's a much bigger leap.

N: Okay so in that sense it's also easier to reach out to women or to like, get them to use the services in sub-Saharan Africa?

J: Yes, I mean there tends to be a bigger use case. Yeah definitely. So yeah, they use cases are stronger. Now, I'm sure that you're familiar with the Findex data, right? Yeah, I mean you can look at it country by country, the gender gap in account ownership by country, and Pakistan's is very high, and Pakistan's is actually gotten, the gender gap has actually gotten worse over the past 3 years, even though more women are included, men are taking up financial services at a faster rate than women are, so the gender gap is actually widening, even though overall financial inclusion for women is moving forward, just not as quickly as we want it to.

N: Would you then also say that it's also a problem that comes from the men in those societies? That they don't want their wives or their female family members to have access to financial services?

J: Yes, absolutely! I mean this is primarily a cultural problem. So, in countries that have a large gender gap, it's primarily about attitudes towards women's participation in the economy. So, the actual financial products and services, I mean, we've developed them, they exist, but the issue is getting them to women and getting them to women in a way that they can actually use and that they actually have a use case for. And the reason that the use case often isn't there tends to be because of cultural reasons, patriarchal societies where women are not, where women are discouraged or in some cases, you know, more directly prevented from participating in the economy.

N: So, that's then also something that in that sense is different in sub-Saharan Africa that men are more, that the attitude of men is more open to women?

J: Yes, comparatively more open. Patriarchy is still an issue there too, but it's comparatively more open. And then, in the other region where we operate, in the other two regions we are also in Eurasia and Latin America, and those, the societies where we operate in those two regions tend to be more egalitarian in terms of women's participation in the economy, so it's less of an issue there. Although it still is an issue.

N: So, you would say that the Middle East area is the hardest in that sense to operate in?

J: Yes, I would say that. The gender issue is the most complicated and the most difficult in that region.

N: And then just one more question, what would you say are the biggest lessons that you've learned so far in terms of introducing digital solutions?

J: I would say that one issue is that accessibility is not the same as financial inclusion. So, there is a problem where, so a fintech solution, let's say an e-wallet, and a lot of people, men and women, take it up pretty quickly, but they don't use it very much. So, inactive accounts tends to be an issue. And really what this means is that the use case has to be strong for that product. And financial service providers, ourselves included, need to do a better job of making sure that the products that we develop are much better tailored to the needs of the people that we are trying to reach.

N: So, then in the development of the product you also take, very strongly I assume, into account the context in which they are used, or like the social context for every country?

J: Yes, absolutely, and our products are developed on the ground by our teams in each country. So, at the global level, we have an innovation lab that operates at the global level. But our teams operate on the ground in all 20 countries. So, we develop our products specifically in the local context. And the e-wallet that we developed in Pakistan, Sim Sim, we developed it in partnership with a Pakistan-based fintech company.