



# THE USE OF DIGITAL FINANCING TO PROMOTE SMALL AND MEDIUM ENTERPRISES GROWTH AND WOMEN ECONOMIC EMPOWERMENT IN AGRICULTURE

#### **BRIEFING DOCUMENT**

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### **ABBREVIATIONS**

CRB | Credit Reference Bureau

DFS Digital Financial Services

FAO Food and Agriculture Organization

FISP Farmers Input Support Programme

MNOs Mobile Network Operators

MOU Memorandum of Understanding

SDGs Sustainable Development Goals

SMEs Small and Medium Enterprises



#### 1.0 INTRODUCTION

Technological advancements through digital financing have revolutionized the financial sector by extending finances to the previously underserved/unserved Small and Medium Enterprises (SMEs) and rural women (particularly female smallholder farmers). This has been perceived as a game changer for both SMEs and female farmers as they face numerous challenges, some of which include an unanticipated financial mismatch between their income and expenses to support their growth. Digital finance entails financial services being delivered through mobile phones, the internet or cards linked to a reliable financial system. It includes all products, services, technology and/or infrastructure that permits individuals and firms to access payments, savings and credit facilities through the internet without the need to visit a bank branch or deal directly with the financial service provider. To succinctly appreciate this technological drive, this work unpacks the use of digital financing to promote SMEs growth and women's economic empowerment with a particular focus on how it mitigates SME financial constraints as well as those faced by women in agriculture.

<sup>1.</sup> Y. Huang and Z. Huang, "The development of China's digital finance: present and future," Economics (Quarterly), vol. 17, no. 4, pp. 1489–1502, 2018



# 2.0 FINANCIAL CONSTRAINTS OF SMALL AND MEDIUM ENTERPRISE (SMEs)

In Zambia and many other developing countries, SMEs are the backbone of the economy. They account for approximately 90% of businesses and provide livelihood and income to a significant segment of the labour force. Despite this realized importance, SMEs often need help accessing the finances necessary to start, sustain and grow their business.

Recent literature on businesses shows that SMEs save a significant share of their earnings to build up internal funds and cover costs associated with financial constraints instead of directing those funds to enhance productivity through investing in labour and fixed assets<sup>2</sup>. This, in turn affects their productivity, growth and economic development at macroeconomic level<sup>3</sup>.

This briefing document seeks to highlight the challenges in SME financing by exploring the supply and demand side while offering digital financing as a viable option to address some eminent challenges.

To begin with, financial institutions consider the SME subsector as profitable and are willing to provide the much-needed assistance in terms of finances<sup>4</sup>. However, in trying to do so, they face a magnitude of challenges. These include, firstly, transaction costs that emanate from carrying out credit assessments, processing and monitoring of the loan and asset liquidation in case of a default, which are more or less fixed, making smaller enterprises more cost-intensive per dollar loaned<sup>5</sup>.

<sup>2.</sup> Beck, T., Homanen, M., & Uras, B. R. (2019). Finance and demand for skill: Evidence from Uganda. ThJournal of Development Studies, 55(12), 2495-2512. doi:10.1080/00220388.2018.153947

Washington, D.C.: World Bank Group, Retrieved from http://documents.worldbank.org/curateld/en/318871533711048308/pdf/129283-WP-PUBLICImprovingaccess-to-finance-for-SMEs.pdf
5. Ardia: I., Heléndez, M., & Shucchi, R. (2014). Partial credit glucrantees and firm performance: Evidence More Colombia, Small Business Economics, 4(3), 711-724. doi:10.1007/s11187-7014-95584-4

Secondly, SMEs' opaqueness constrains banks from issuing credits even to loanable SMEs. Most SMEs cannot provide credit history or audited financial statements, leading to issues of asymmetric information and adverse selection<sup>6</sup>. This contributes to banks recording higher default rates in SMEs advancing and charging high-risk premiums<sup>7</sup>.

Thirdly, for security purposes, banks require collateral (land or buildings) before issuing a credit facility. However, most SMEs are not in possession of such or cannot use them as collateral due to the unavailability of ownership certificates<sup>8</sup>.

Fourthly, banks face challenges extending financial aid to SMEs in instances where the legal framework does not adequately provide creditor protection in bankruptcy or has difficult compliance regulations that push the cost of servicing SMEs up<sup>9</sup>.

Lastly, lack of competition in the financial space affects the availability of finances for SMEs in that banks take away their loan portfolio from the risk tagged SMES<sup>10</sup>. On the demand side, high cost of finance, internal constraints, legislation and crowding out by the Government are some of the major financial impediments. To begin with, costs associated with lending SMEs such as higher transactions costs and default rates are passed onto the borrowing SMEs in form of interest rates and high fees. Further, the time and costs associated with credit appreciation processes and the specific information requirements by traditional financial institutions discourage SMEs from seeking financial aid. Another hindrance springs from the lack of financial awareness and knowledge about alternative financing solutions or due to poor strategic visions for the business. In some instances, SMEs do not even dare to apply for financing due to their negative attitude about the likelihood of success<sup>12</sup>. Other constraints emanate from the avoidance of external financing due to the fear of inheriting the firms' debts due to insufficient bankruptcy frameworks and crowding out effects<sup>13</sup>.

## 3.0. THE ROLE OF DIGITAL FINANCING IN MITIGATING SMES FINANCIAL **CONSTRAINTS**

Small and Medium Enterprises are a mainstay and promote sustained growth of the economy, and financial activities by providing an indelible stimulus to the growth of

<sup>6.</sup> OECD, (2017). Enhancing the contributions of SME in a global and diglidised economy. Pail: Author/Referend from https://www.oecd.org/mcm/documents/C-MIN 2017-8-EN.pdf
7. Sect., I. & Dermigo, Kuri A., (2004). Small ord mindminuse enflances. Access to finance as a government. Journal of Sonsing & Favres. 20(1), 2731-2783. doi: 10.1016/j.poeston.2004.05.509
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7. Sect. (2017). Enhancing the contribution of sonsing access defining ac

these businesses<sup>14</sup>. In reality, the irrational financing framework and the disparity between the supply and demand have constrained the provision of finances and the efficiency of financial institutions in serving SMEs. However, innovations in the financial space are transforming the provision of finances and extending it to the previously underserved/unserved SMFs

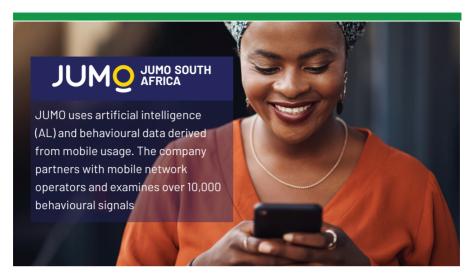
Digitalization of financing addresses, to a varying degree, all the SME finance constraints. To begin with, it makes available opportunities to ease transactional costs at each level of the lending process. That is, from credit assessment to the monitoring of loans<sup>15</sup>. Additionally, the automation of information collection for credit evaluation and monitoring including internal processes enhances efficiency and therefore permits banks to aid more SMEs<sup>16</sup>, mitigating associated opaqueness and asymmetric information problems. The improved screening tools for credit assessment not only ease access to finance but also allow the lowering of default and risk rates, thus facilitating more affordable loans. Further, it alleviates securitisation as collateral does not form part of digital financing. On credit history, mobile money services, for example, facilitates for a transaction history build-up, which gives access to small short time credits from the same digital finance service provider.

On the borrower side, digital financing mitigates the financial impediments through reducing costs, improving the customer experience and scaling up accessibility and inclusiveness. It also minimizes the time and finances required during loan application procedures and is easily accessible with any internet-supporting device, unlike the burdensome, lengthy hour procedures at traditional banks<sup>17</sup>. Additionally, the improved customer experience also encourages the previously discouraged SMEs to apply for loan assistance

#### 4.0 SMEs FINANCE DIGITALIZATION TRENDSETTERS

The following section presents some key financial technologies reshaping the financial landscape and reducing the SMEs financing gaps.

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#### 4.1 JUMO South Africa

JUMO is a South African financial technology company founded in 2015. It uses Artificial Intelligence (AL) and behavioural data derived from mobile usage to create financial identities for SMEs who do not have access to formal financing and to provide other financial services to SMEs. The company partners with mobile network operators and examines over 10,000 behavioural signals to evaluate creditworthiness and provide timely, customized loans and savings products to SMEs through their mobile phones<sup>18</sup>.

#### 4.2 MYBANK China

MyBank was founded in June, 2015 with the prima focus of serving SMEs and farmers. The bank uses an AL-powered risk management system, which includes over 1000 predictive models, 3000 risk profiles and 100,000 metrics. As part of its core foundation, the bank offers loans to SMEs who previously had no access to formal financing. Currently, it has provided about \$290 billion to approximately 16 million SMEs<sup>19</sup>.

#### 4.3 KABBAGE United States

Kabbage is among the largest online SME credit providers in the United States. The fintech uses Artificial intelligence (AL) to process a wide variety of data points from digital payment transactions and bank accounts to provide short-term financing to

<sup>18.</sup> Technow. "JMAD Celebrates Milestone of 15 Million Customers" (Technova Bog, November 15, 2019), https://fechnovagh.com/2019/11/05/jumo-celebrates-milestone-of-15-million-customers/ 18 Blaamberg, "Jack Mar \$ \$290 Billion Loan Machine's Changing Chinese-Banking" (Bloomberg News, July 29, 2019), https://www.bloomberg.com/news/articles/2019-07-28/jack-mas-290-billion-loan-machine-is-changing-chinese-banking.

SMEs. These include, credit card receivables financing and custom loans that range from three to 45 days<sup>20</sup>. Further, it offers flexible repayment facilities such as paying the full amount at the end of the term or splitting the payment using a portion of the business' revenue from invoices.

#### 4.4 Amazon Lending

Amazon Lending is a platform created by the e-commerce giant Amazon to provide small businesses with cheaper credit opportunities. The e-commerce provider analyses the sellers (small business) transaction volume and velocity on its Amazon platform to assess creditworthiness. There is no bureaucratic application process involved. Amazon offers the seller what they are willing to lend, and he/she will either agree or decline depending on the amount they would want within their pre-agreed limits set by Amazon. Thereafter, the interactive calculator calculates the interest payable based on the repayment terms selected before crediting the account within1-2 days of acceptance<sup>21</sup>.



#### 5.0 LESSONS FOR ZAMBIA

The technological landscape has undergone drastic transformation in Zambia since the introduction of the now non-operational Celpay. **The country's use case has grown from first generation services such as person-to-person to second-generation** 

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 https://smallbusinessloansaustralia.com/amazon-lendina

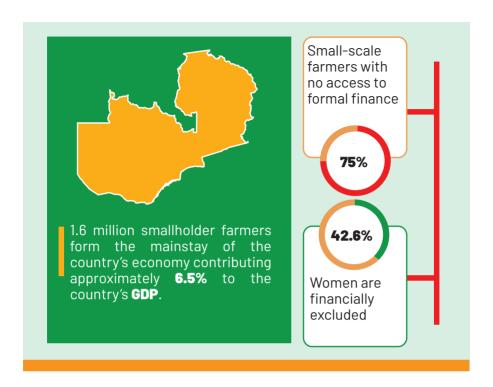
services together with merchants and bill payments, microloans, micro-savings and micro insurance. The industry is also trying out new business frameworks by building partnerships between conventional financial institutions and non-financial Institutions, together with Mobile Network Operators (MNOs) and Financial Technology Companies (FinTech's). However, on the digital financing front, especially for SME financing, the country is still lagging behind, and lessons can be drawn from the above-expended FinTech's disrupting the narrative on SMEs financing. Firstly, there's need for the country to invest more in digital transformation structures. This is premised on the fact that despite the country hitting some progress, as earlier highlighted, lastmile connectivity is still a challenge and is hindering greater use of digital systems in sparsely populated areas with limited access to services and markets and where digital systems could help reduce transaction costs associated with serving smaller populations. Other factors limiting citizen and business connectivity uptake emanate from the connectivity cost seemingly higher for low-income earners. Addressing these factors can be a game changer for the county's digital SME financing front in that FinTech's leverage on demand and have scored tremendous progress in first economy countries where network connectivity and service demand culmination is top-notch for instance, in the case of Amazon, lending which is available in countries like the United States of America, Canada, Japan and the United Kingdom, among others. Besides this, establishing indigenous lending platforms like MYBANK and KABBAGE with a specific focus on SME digital financing will be vital in scaling up the extension of finances to these underserved/unserved segments, thus reducing the SME financing gap.



#### 6.0 DIGITAL FINANCING AND WOMEN EMPOWERMENT IN AGRICULTURE

In Zambia, 1.6 million smallholder farmers form the mainstay of the country's economy, contributing approximately 6.5% to the country's GDP. Despite their role in ensuring food security and contributing to the employment of about 54% of Zambia's population, smallholder farmers remain the most financially excluded segment within the agriculture sector<sup>22</sup>. For instance, of those with no access to formal finance, 75% and more are small–scale farmers. On the gendered front, the difficulty is seemingly high for women, who account for 42.6% compared to 38.8% of financially excluded men.

<sup>22.</sup> https://www.iapri.org.zm/agricultural-finance-in-zambia-how-can-smallholder-inclusion-be-deepened



#### 6.1 Challenges faced by Women in the Agriculture Sector

One of the major challenges women face in the agriculture sector is low productivity and poor yields due to factors such as limited rainfall in remote areas without irrigation services<sup>23</sup>. These challenges differ from one geographical location to another because of soil conditions and the unpredictable characteristics of climate change. This results from declining soil fertility and erratic rains leading to poor harvests. Further challenges include, but are not limited to:

- Difficult procedures in accessing financial products and services, such as bank loans and other lending institutions.
- A lack of access to high-value and stable markets.
- Poor agronomy skills and a lack of education.
- Poor road and transportation infrastructures.
- A lack of knowledge on digital financing and its importance in gender inclusion mechanisms.

23. FAO (2021), Realizing Women's Rights to Land in the Law - A Guide for Reporting on SDG Indicator 5.a.2, FAO, Rome

- Delayed, inconsistent access to inputs through the Farmer Input Support Programme (FISP).
- A Lack of access to extension service networks
- Inadequate access to agribusiness models and out-grower schemes.

#### 6.2 Benefits of Digital Financial Services to Women in the Agricultural Sector

Digital financial services present numerous prospective benefits concerning women's financial inclusion in the agricultural sector. These services have the potential to help accelerate communication, information sharing and financial transactions for women in the agricultural sector. From functions of communication, transaction, sourcing and analysing data, digital financial services have introduced new channels of service delivery to ease women's burden of conducting their agricultural processes.

Some of the benefits of digital financial services include the following:

- They are a convenient way of saving money.
- Ease of access to financing and loans.
- They are a convenient way of making and receiving payments.

#### 6.3 Best Practice for Provision of Digital Financial Services to Women

Accessing financial services in emerging markets in the agricultural sector has proven to be challenging. This is due to the weak or non-existent linkages amongst actors within agro-value chains coupled with insufficient investment. In recent years, however, digital solutions have been developed in Africa that allow farmers access to the necessary items to increase productivity and ensure smart agriculture practices. The platforms discussed below have proved to be essential in aiding and empowering women in the agricultural sector.

#### 6.3.1 West and East Africa

In west Africa, myAgro platform has been developed as a layaway savings program that enable smallholder farmers to save for agricultural inputs such as seeds, fertilizers, and tools to improve their productivity using a prepaid scratch card model. Further, the platform assists farmers with agro-information and advice.



IMAGE: copyrights @myAGR0

It provides a way to pay in instalments for input packages using scratch cards or mobile devices and coordinates input package delivery. Additionally, it acts as a savings mechanism to help farmers repay their loans. The My Agro programme can be found in Senegal, Mali, Tanzania and other parts of west Africa.

Other platforms like Tulaa are better placed to help women lower the costs of doing business in the sector. The Tulaa platform aims to reduce the risks and costs of doing business by connecting agro-input suppliers, financial service providers and commodity buyers to farmers using mobile technology and agent networks. Another use of the application is to provide finances to farmers to purchase agro-input and coordinate their delivery. It also offers farmers credit to pay for inputs in Kenya and Ghana. Some farmers have large pieces of land but are unable to utilize all of it due to a lack of capital and machinery.

#### 6.3.2 East and Southern Africa

Saving money is one of the major challenges farmers face, especially in remote areas where formal financial services do not exist or are inadequate. Therefore, Tigo Rwanda mobile money service was developed specifically to provide subscribers with e-wallet accounts that enable access to various financial services, including payments, savings, credit and other services in Rwanda.

300 250 Southern Africa 200 Western Africa 150 100 Eastern Africa 100 Central Africa 50 2011 2012 2013 2014 2015 2016

Figure 1: The rapid rise of mobile money in Africa

Source: Chat adpted from "the Mobile Economy Sub-saharan Africa 2017"

Access to market information is critical for the advancement of women in the sector. Market information helps farmers decide which products to grow at the onset of the farming season in order to produce what the market demands. Knowing the market visibility of agricultural products is important for farmers before harvesting and taking their products to the market.

AgUnity is another digital information and e-commerce platform that provides farmers and farming cooperatives with access to on-farm production advice, trading markets, payments and banking/financial services. This platform helps farmers plan, trade and track their transactions, and it is available in Kenya, Indonesia and Papua New Guinea. From a global perspective aWhere platform is used to provide businesses with agronomic and weather intelligence for agricultural decision-making worldwide. It helps fill the gaps by supplementing poor weather station infrastructure.

Female farmers often lack access to credit and agronomic information, especially smallholder farmers with less value chains. Apollo agriculture provides farmers with access to credit and agronomic information through digital lending platforms in Kenya. Accessing insurance should be every farmer's aim in the agricultural sector. Eco farmer is one of the few mobile farming platforms offering funeral insurance and addressing information and financial gaps limiting productivity. It also provides agro-information and advice to farmers in Zimbabwe.

Safaricom's Digifarm is another platform that allows smallholder farmers to access agroinformation, pricing and market linkage services. The platform also provides farmers in Kenya access to services such as weather, best farming practices, quality inputs and financial services. The company offers various services, including mobile telephones, mobile money, e-commerce, and cloud computing. It is most well-known for launching M-PESA, a digital finance service. Besides the digital solutions discussed above, TruTrade is a mobile e-commerce platform that offers access to digital information services for better management of businesses and the completion of payments in Uganda and Kenya.

In addition to the programmes highlighted above, MasterCard Farmer Network provides farmers with access to connect with buyers, sell crops and track other activities such as purchasing farming items. It is currently in use in Uganda, Kenya and Tanzania. The platform aims to allow more direct relationships between farmers and buyers and develop digital profiles.

#### 6.3.3 Summary of Lessons

Zambia and many other developing countries have much to learn from Kenya in the successful digitization of the agriculture sector. M-Pesa mobile money has had a significant contribution to this success. In addition to Kenya, Nigeria is crowded with platforms like Farmcrowdy and Thrive Agric, which connects farm sponsors with farmers to eliminate food value chain deficiencies. These digital financial services have enhanced productivity in the sector and will continue to impact it positively, according to statistics emanating from countries endowed with such technology.

The total number of farmers using mobile money services in Rwanda has increased tremendously as they are able to save and access loans. Before the invention of Tigo Rwanda, smallholder farmers experienced cash management issues that led to delayed crop payments. Despite low literacy levels in the country, formal systems like Tigo Rwanda mobile money have contributed to financial inclusion. On the other hand, myAgro has scored some success in the west and east Africa. The platform currently serves more than 115 000 farmers, growing approximately 78% more food than non-myAgro farmers. Through its saving function, myAgro is user-friendly, and as a result, 60% of its clients are women.

In its first year of operation, Tulaa had approximately 9000 farmers using its platform in some parts of the west and east Africa. The platform partnered with Acre Africa to provide weather index insurance loans to farmers. In Kenya, Tulaa requires all participating lenders on the platform to register for a corporate account affiliated with M-Pesa, deriving its success from one of the successful mobile money operators. Beyond inputs accessibility and prioritization, Tulaa expects to expand service provision to other parts of Africa. Hello Tractor has been regarded as a digital technology capable of serving tractor manufacturers, dealers and fleet owners. In one particular season in Nigeria, Hello Tractor had approximately 10000 farmers requesting for its services in a single month.



#### 7.0 CONCLUSION

In Zambia and many other developing countries, Small and Medium Enterprises (SMEs) and Small holder farmers are mainstays of economic development as they employ and provide income to a diverse population segment. Despite this recognised importance and access to finance as an indelible stimulus to their growth, access to it remains elusive. This is attributed to several factors, including SMEs experiencing incommensurate institutional and market failures, which sprung to market imperfections

and inadequacies; and moral hazard and adverse selection causing distortions in the financial space, leading to micro and smaller enterprises becoming barred from external finance as a result of their opaqueness. Additionally, traditional financial institutions hesitate to issue credits to smaller enterprises that fail to produce financial statements, credit bureau information and collateral, which can either be building or land. Other factors include transaction costs associated with creditworthiness and successive processes as well as monitoring of the issued credit constituting additional or less fixed costs, making smaller enterprises more cost-intensive per dollar loaned. Similarly, for smallholder farmers, mainly rural female farmers, poor road and transportation infrastructure hinder market access, resulting in high transportation costs and difficult procedures in accessing financial products and services such as loans from banks and other lending institutions. Further, a lack of knowledge on digital financing and its importance in gender inclusion mechanisms suppressed productivity due to delays and inconsistencies in accessing inputs through the Farmer Input Support Programme (FISP), inadequate access to agribusiness models and out-grower schemes for rural women, among others impedes their agricultural output and subsequently their quest for finances.

Nevertheless, technological advancements through the introduction of digital financing transform these narratives by extending finances to SMEs and rural female farmers. For instance, the digitalization of finances effectively reduces the information asymmetry between enterprises and financial lenders, widens the sources of funds, reduces the degree of credit distortion in the financial market and optimize the rational allocation of funds. Further, it facilitates the building up of credit history. Extending it to rural female farmers, digitalization of finance promotes positive growth in the agriculture sector through increased productivity. This is achieved through access to various financial services such as payments, savings, and credit/loans. Thus, cutting costs associated with bureaucracy and poor roads, among others.



#### 8.0 RECOMMENDATIONS

- A. PMRC urges digital lending institutions and the Credit Reference Bureau (CRB) systems to strengthen linkages which easily connect banks and other lending institutions to potential borrowers to provide and collect credit information. These linkages will act as Memorandum of Understanding (MOUs) and reassure financial lending institutions that they will realize their investments/inputs.
- B. Stakeholders in the provision of financial services are urged to design tailor-made digital financing services and strengthen value chain linkages for Small and Medium Enterprises (SMEs) and women in the agriculture sector, which addresses challenges such as access to financial services, and access to markets and assets. Further, the platforms should be able to provide smart advisory services on weather information, pest and disease management, product verification and record keeping.
- C. The Government, through the Ministry of Small and Medium Enterprises, Ministry of Agriculture and Ministry of Technology and Science, is urged to provide financial literacy through capacity building to SMEs and women, especially those in remote rural areas, on how to access digital financing services for easier transactions and accessibility of other services.

- D. Digital financial service providers are urged to understand the business cases for targeting women as customers and encouraging public-private partnerships in the agriculture sector to allow stakeholder engagement in the formulation of products which require contributions from different institutions.
- E. PMRC urges the Government to pursue more industrial policies aimed at inspiring the development of digital technology.

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