

## FINANCIAL INCLUSION FIT TO SIZE: CUSTOMIZING DIGITAL CREDIT FOR SMALLHOLDER FARMERS IN TANZANIA

### EXECUTIVE SUMMARY

**Digital credit products represent an important financial inclusion opportunity for smallholder farmers in Tanzania, where close to 80% of the workforce is engaged in farming.**<sup>1</sup> Uptake of these products by smallholder farmers, however, remains limited. A partnership between the Initiative for Smallholder Finance – which is incubated by the Global Development Incubator – and Dalberg’s Design Impact Group (DIG), with funding from the Bill & Melinda Gates Foundation recently explored the causes of this low uptake in order to develop concrete product solutions that can jump-start adoption of digital credit products by smallholders. Working in three regions of Tanzania, the DIG team used a human-centered design (HCD) approach to produce behavioral insights around smallholder farmers’ interaction with, and demand for, digital credit products. This approach involved:

- A behavioral segmentation of the smallholder farmers based on several criteria including their credit and savings needs, productive activities, level of comfort with technology, and aspirations
- The identification of opportunities along smallholder farmers’ customer journey where product improvements tailored to their needs and behaviors could improve their uptake of digital credit

**Based on these insights, DIG designed and prototyped a new digital credit product for smallholder farmers and evaluated their response to it.** This idealized digital credit product builds on existing products available in the Tanzanian market, but has five new components, each with multiple differentiated features, that meet the unique credit needs and behaviors of smallholders. These new components include:

- Design enhancements to the core product to make loan sizes and repayment terms more relevant and manageable for smallholder farmers
- Supporting features to improve customer engagement with the product
- Ideas to increase the effectiveness of marketing, customer training, agent support, and other functions that drive product adoption and usage

Two factors – increasing competition and innovation in Tanzania’s urban digital credit market, along with the emergence of mobile network operators (MNOs) providing improved network coverage to rural areas – are creating auspicious conditions for smallholder farmer uptake of digital credit. The DIG team designed this idealized product to encourage Tanzania’s leading MNOs to customize their existing digital credit products to better meet the credit needs and behaviors of smallholder farmers. MNOs, financial service providers, and fintech companies that do not currently offer digital credit products can also adopt the new product’s features as they enter this space.

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### ABOUT THIS BRIEFING

*This briefing note reflects learnings that emerged from a recent project for Vodacom and Airtel in Tanzania, supported by the Bill & Melinda Gates Foundation and delivered by Dalberg’s Design Impact Group in conjunction with the Global Development Incubator (GDI), which incubates the Initiative for Smallholder Finance. It was inspired by the realization that the digital credit market in Tanzania – while showing potential in its ability to serve smallholder farmers – is still nascent and could urgently benefit from acceleration. Our hope is that digital credit providers – whether MNO or otherwise, in Tanzania or elsewhere – will find inspiration for their own product innovation efforts through the insights and ideas presented here.*

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<sup>1</sup> IFAD. “Investing in Rural People in the United Republic of Tanzania”. May 2014.

## TRENDS IN TANZANIA'S DIGITAL CREDIT LANDSCAPE AND IMPLICATIONS FOR SMALLHOLDER FARMERS

Tanzania's three principal MNOs currently provide digital credit products, but smallholders' uptake of these products remains low—particularly when compared to the success of similar products in Kenya which had a head start.<sup>2</sup> However, increasing competition in the country's digital credit market and the arrival of new players in the broader credit ecosystem could soon have positive spillover effects for farmers. Vodacom and Airtel pioneered the digital credit market in Tanzania with their products M-Pawa and Timiza respectively, but Tigo's recent entry with Nivushe has resulted in head-to-head competition among the big three MNOs. While this increased competition still focuses on urban customers, it could push MNOs to develop tailored products for rural clients as a way to expand their customer base and national market share.

This competition among the principal MNOs—to provide financial services to urban clients—is also driving commercial banks toward rural customers and smaller MNOs to provide improved network coverage in rural areas. The boxes below detail those efforts.

Neither Halotel nor CRDB Bank has yet to provide a digital credit product. However, Halotel's strong uptake among rural clients and CRDB Bank's complete rural financial packages mean both are well-positioned to provide digital credit products to smallholders or to negotiate partnerships that would allow them to do so. Meanwhile, the larger loan sizes being offered by startups like Branch represent another promising development.

If Branch's product offering is successful in Tanzania, more established competitors could feel pressure to also raise their starting loan limits, which would increase the relevance of their products for smallholder farmers.

## APPLYING A HUMAN-CENTERED DESIGN APPROACH TO THE PROBLEM OF SMALLHOLDER FARMERS' LOW UPTAKE OF DIGITAL CREDIT

**Adopting digital credit products requires that smallholder farmers change their credit and savings behaviors. They must become comfortable borrowing and saving over digital platforms and often under terms and conditions that are unfamiliar to them and difficult for them to meet.**

These considerations are important to note because uptake of digital financial services is often low due to shortcomings at multiple points across the customer journey with that product (see Box 2 on following page). Recognizing that the ability and willingness of farmers to change their behaviors in order to access these products is often limited, the DIG team used a human-centered design (HCD) approach to understand farmers' low uptake of digital credit. HCD methodologies are well-suited to this task because they:

- Seek to deeply understand the needs, behaviors, and fundamental motivations of a product's end users
- Suggest answers as to why client engagement with a product is lacking and how it can be improved
- Rapidly and iteratively prototype potential improvements across the complete customer journey and product experience

### Box 1: Examples of FSP efforts for improved network coverage in rural areas

#### COMMERCIAL BANKS

CRDB Bank recently launched a microfinance bank targeting rural consumers. Coupled with their micro-insurance product, Fahari Huduma and SimBanking services, CRDB Bank can provide a package attractive to rural dwellers.

#### MNOs

Halotel, a MNO, has been winning rural customers at unprecedented rates. Despite not offering digital credit, it boasts guaranteed 2G/3G network coverage in areas where the big three only provide intermittent coverage.

#### STARTUPS

Branch is a digital microcredit startup that was first successful in Kenya. It offers clients larger loan sizes than its competitors now offers unsecured lo

<sup>2</sup> DIG researchers confirmed this during interviews with representatives of Airtel and Vodacom.

## BOX 2: WHAT IS A “CUSTOMER JOURNEY”?<sup>3</sup>

The customer journey refers to the phases or steps that a customer passes through when engaging with a company. That journey usually begins with some form of marketing, through which the customer becomes aware of a company and its products or services, and if successful, its final stage is the establishment of customer loyalty to that company. Customer loyalty can be defined as a customer’s sustained use of that company’s products or his decision to make product upgrades. Companies often map these “journeys” to better understand their customers’ experience with their product or service, and to identify more precisely where improvements can be made.

Based on the resulting findings, the DIG team:

- Made a range of design enhancements to the core digital credit products
- Added new supporting features to improve customer engagement with the product
- Suggested ideas to increase the effectiveness of marketing, customer training, agent support, and other functions that drive product adoption and usage

## USING HCD TO SEGMENT THE SMALLHOLDER MARKET AND UNDERSTAND FARMERS’ CUSTOMER JOURNEY

**Using an HCD approach, the DIG team focused on two key issues that furthered their understanding of the low uptake of existing digital credit products:**

- How smallholder farmers’ credit and savings needs and behaviors match up with the features of current digital credit products
- Where along smallholder farmer’s customer journey with existing products can innovations promote increased uptake and engagement

To explore these issues, DIG conducted immersive research in multiple locations in Tanzania to understand farmers’ behaviors,

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3 Richardson, Adam. “Using Customer Journey Maps to Improve Customer Experience”. Harvard Business Review. Nov 24th, 2010.

needs, and motivations. After synthesizing the insights from this research, the team identified a number of factors that could influence farmers’ financing needs, as well as their ability and willingness to change behaviors in order to access digital credit. These factors included:

- Need for and exposure to credit, as well as access to alternative sources of credit
- Comfort with technology
- Proximity to MNO agents
- Levels of education and income
- Nature of their dreams and aspirations
- Motivation and determination to achieve those goals

**These criteria allowed the DIG team to segment smallholder farmers in Tanzania into five distinct personas<sup>4</sup>: the Emerging Striver, the Burdened Breadwinner, the Community Activator, the Enterprising Hustler, and the Diversified Achiever.** These five personas represent composites of individual farmers that DIG researchers interviewed. Certain dimensions of those individuals were deliberately exaggerated when creating the personas in order to accentuate differences between them and ensure the personas were effective tools during the product ideation and design process.

**The Emerging Striver** is young, unmarried, and does not own her own land. She makes her living farming staples on the family plot, laboring part-time on others’ land for cash, and registering new SIM cards for airtime clients. Comfortable with technology, she has used mobile money to send and receive cash, and saves with a mobile wallet. She also uses M-Pawa and Timiza, but only for emergency needs, such as travel and airtime. The Emerging Striver aspires to save enough to buy her own plot, start a family, and start a business as the owner and driver of a boda boda (a small taxi). Access to digital credit products could help her purchase land or a boda boda, while a savings instruments with restrictions on withdrawals would provide her

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4 Used frequently in marketing and human-centered design, a “persona” is a fictional character that represents the goals and behaviors of a group of similar individuals. Companies and market researchers use personas to segment and better understand their customers. To create the personas in this study, the DIG team used a qualitative segmentation approach that emphasizes differences in the needs and behaviors of smallholder farmers. This approach is better suited for product innovation than one that uses more traditional criteria, such as demographic or socioeconomic factors, because it focuses on factors that are more closely linked to smallholder farmers’ uptake of digital credit products.

with the discipline needed to reach her goals. For her, banks are too inconvenient, but mobile wallets are too liquid.

**The Burdened Breadwinner** is an older woman who farms her small plot of land for subsistence, and sells maandazi (a fried dough food) at the village or town center. The earnings from those sales go toward education, medicine, and agricultural inputs. Her principal aspiration is to see her grandchildren graduate high school. In order to pay for their school supplies and acquire improved agricultural inputs, she needs access to flexible credit and savings products that do not require regular contributions—she quit her VICOBA because she struggled to keep up with her weekly contributions. Although curious about the credit products she hears about on the radio, the Burdened Breadwinner does not know who to ask for more details.

**The Community Activator** is an older leader in the community who farms cassava and maize with his family on a six-acre plot. He has some familiarity and comfort with mobile money, but has never tried M-Pawa or Timiza and always empties his mobile wallet. His goal is to be able to rent a tractor, as he is currently able to till only a third of his land, and to purchase the inputs necessary to improve yields. For this, he needs access to larger loans. He would also benefit from having a convenient and liquid savings instrument for emergencies and a more efficient way to access subsidized agricultural inputs

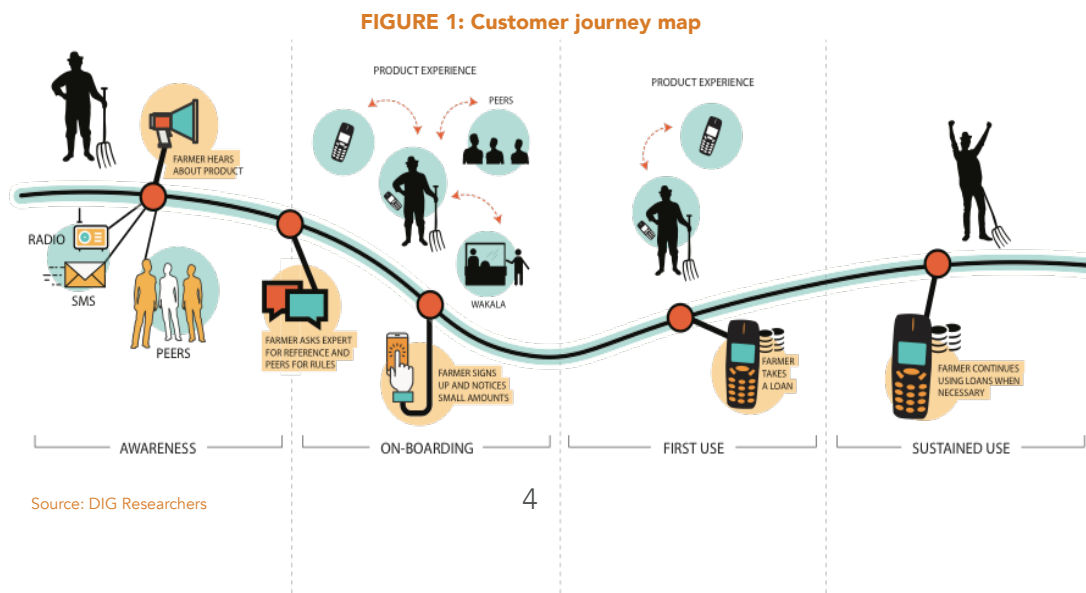
**The Enterprising Hustler** is a younger woman with her own family who engages in a number of enterprises. In addition to farming a small plot, she manages a palm tree farm and sells the oil in nearby markets, while her husband runs a small grocery store. Comfortable with technology and close to wakalas (airtime agents in Tanzania), the Enterprising Hustler saves most of her income on M-Pawa, but has yet to use digital

credit products because of their low starting loan limits. Her dream is to expand her palm oil business, finish building her house, and send her children to university. To expand her palm oil business and reach better markets, she needs access to larger loans and a credit facility with lenient repayment terms (microfinance institutions usually require weekly payments). She would also benefit from reliable savings tools to cover educational and emergency expenses for his children.

**The Diversified Achiever** is also married with children, but he is several years older and more established economically than the Enterprising Hustler. He engages in a combination of subsistence and commercial farming, for which he hires laborers. He also has other businesses outside of farming, and his wife is a salaried employee with a bank account. Very comfortable with technology and close to wakalas, he uses M-Pesa and Airtel money for remittances. He also has larger credit lines with Timiza and M-Pawa. His goal is to own cattle as a long-term savings instrument and to buy a motorcycle to help with his business operations. He would benefit from access to a credit facility with flexible repayment terms and improved options for withdrawing money from wakalas. Wakalas rarely have sufficient float for his needs, and the fee structures for cashing-out loans with them are too high.

### MAPPING SMALLHOLDER FARMERS' EXPERIENCE WITH DIGITAL CREDIT PRODUCTS

After developing an understanding of the diverse credit and savings needs of smallholder farmers, DIG mapped those farmers' customer journeys into four distinct phases: awareness, onboarding, first use, and sustained use. The researchers then observed how the different personas experience each phase of that journey, identifying points



along the way where farmers encounter difficulties in understanding and using digital credit products or simply decide to stop using them. The graphic and text on the previous page describe that journey and the challenges that smallholders face at each phase.

**Awareness:** Smallholder farmers' customer journeys begin when they first hear about digital credit products on the radio, through SMS ads, or via peers. The possibility of taking out a loan and accruing savings is exciting to them, as they see how it could help them meet the costs of an emergency or save up for a specific goal or a rainy day.

**Onboarding:** During the second phase of the journey, farmers inquire about the product and registration with either a peer or a local agent, who may also sign the farmer up for the service. However, regardless of who handles the sign-up, farmers find that process to be very difficult. Registration marks the point in the journey where farmers start to feel confused and frustrated with digital credit.

**First use:** This occurs when a farmer takes out his first loan, after having navigating the application process by himself or with the help of an agent. When he goes to an agent to cash out the loan, for support with the process or to begin saving, the farmer's confusion and frustration with the process deepens. This frustration only lessens once the farmer has managed to receive the money from the loan or has successfully started using his savings account.

**Sustained use:** A farmer arrives at the final stage of the customer journey when he continues to take out and repay loans, as well as use the product's saving instruments.

As farmers begin to feel more comfortable with digital credit products, earn interest, and see their credit limit increase, they begin to feel satisfied with using the service. Currently, however, few farmers make it to this stage.

## INTRODUCING A NEW DIGITAL CREDIT PRODUCT FOR SMALLHOLDER FARMERS

**DIG used the insights from on-the-ground research and prototyping to develop an idealized digital credit product that can meet the credit and savings needs of smallholder farmers. It builds on the current M-Pawa and Timiza products, but with five new features that customize those products to better support the behaviors of smallholder farmers.**

The team described and presented these five features independently so that Vodacom and Airtel could focus on any or all of them in a way that aligned with their business priorities and product roadmaps. The team also worked closely with both MNOs to ensure that these ideas did not move forward in isolation, but with close consideration for the complete, end-to-end product experience.

The following section explains these new features and shows how they address the product shortcomings that currently limit uptake of digital credit by smallholder farmers

### FIRST COMPONENT: FLEXIBLE CREDIT

**The loan sizes, repayment periods, and repayment terms of current digital credit products do not meet the credit needs of smallholder farmers.**

FIGURE 2: The five components



Source: DIG Researchers

Most existing products were designed for urban consumers, whose finance needs differ significantly from smallholders' needs in several respects:

- 1. The starting loan sizes of existing products – which range from 2,000 Tanzanian shillings (Tsh) to 5,000 Tsh – are too low to attract significant interest from smallholders.** Complicating matters further, rural farmers often have to assume travel costs simply to reach the nearest agent who can cash out loans for them, which effectively reduces their starting loan size. As a result, farmers who have accessed digital loans have typically used them to purchase airtime credit, small household items, or medicines, rather than using them for productive purposes.
- 2. Repayment periods are too short to be aligned with actual crop cycles,** which is when most farmers earn the majority of their income. This misalignment between repayment terms and the cash flow cycles of farmers can increase the likelihood of default.
- 3. Repayment terms do not provide the flexibility or enforcement mechanisms that smallholders are accustomed to receiving with loans from Savings and Credit Cooperatives Societies (SACCOs), microfinance institutions, or informal credit sources.** These financial institutions, for example, tend to offer grace periods on principal payments, and also allow borrowers to make regular, installment payments on loans.

**The mismatch between the loan sizes and repayment terms of existing products and the credit needs of smallholder farmers is one of the principal causes of smallholders' low uptake of digital credit products.**

The new digital credit product suggested by DIG researchers addresses this mismatch head-on. It meets the unique credit needs of smallholders through a combination of larger starting loan sizes with repayment periods that align with their income cycles. Key features include:

- 1. Increased starting loan sizes:** Farmers will be able to qualify for a 20,000 Tsh loan within two weeks of signing up. To protect the financial service provider and to familiarize farmers with how digital loans work, farmers will start off with two smaller "test" loans that

must each be repaid within two weeks. They will receive SMS notifications clearly explaining that their credit limit will be raised once they have fully repaid these two 10,000 Tsh loans.

- 2. Tiered repayment periods:** Repayment periods will be aligned with loan size. Larger loans, which would probably go toward productive investments, will have longer repayment periods but with varying interest rates. This adjustment will allow farmers to align their loan repayments with their income cycles.
- 3. Incentives for regular payments:** Farmers will have the option to make smaller, regular installment payments on their loans, as opposed to paying them back in one lump sum. Farmers who choose installment plans will qualify for reduced interest rates.

**Value and impact:** The higher starting loan sizes will allow four of the five smallholder personas to access the credit they need to improve and expand their productive activities—only the Diversified Achiever already has access to larger loans. Additionally, the flexible repayment options will particularly benefit the Burdened Breadwinner, who faces the tightest financial situation.

## **SECOND COMPONENT: INTEGRATED SAVINGS**

**Most farmers choose to save through their livestock and crops, selling them only when a need arises. Fluctuating market prices for these items, however, make them risky savings instruments.** If a farmer has to sell livestock or stored crops when markets are over-supplied and prices are low, he is often unable to get the best value for his capital. Meanwhile, younger farmers often face a different challenge: they struggle to save because they can tap their savings accounts too easily.

Despite their need for safer and less liquid savings instruments, smallholders tend to under-use the savings features in existing credit products. Research on the ground found that one likely cause of under-use is farmers' unfamiliarity with the features of formal savings products; the value of those products is not immediately apparent to them. For example, farmers are unable to relate to formal financial terms such as "interest." To farmers, the ability to accrue interest does not imply a savings vehicle. They view mobile wallets and digital savings accounts as savings instruments because those instruments store money in a less accessible form. In other words, farmers

consider mobile wallets and digital savings accounts to be savings vehicles because they enforce discipline on savers. Additionally, smallholder farmers struggle to see the value of formal savings products when the payout is often so little and takes a long time to appear. To be persuaded to use formal savings products, farmers need to see tangible benefits.

**The new digital credit product encourages farmers to use its savings options by linking users' savings activity to improved access to credit while also making the benefits of saving more tangible.** The new product can include a "regular" and a "locked" savings account, both of which will supply digital credit providers with a rich source of customer information that will aid them in determining customer creditworthiness. Digital credit providers can also use this data to help farmers consciously build their credit scores. Farmers who save regularly, for example, could be rewarded with improved loan terms, and those that use the locked savings feature would be able to access a wider range of benefits, which are explained below:

- **The locked savings feature allows users to lock-up their savings for periods of 3, 6 or 12 months.** Locked accounts would offer higher interest rates, and the completion of a term would result in several types of benefits for users, including lower interest rates on their next loan or grace periods for late loan payments. In the case of emergencies, however, users will be allowed to withdraw from their locked savings accounts once without penalty.
- **This new digital credit product will also deliver the benefits of saving,** such as interest payments, in a way that makes them more tangible for smallholders. Interest accruals will be called "bonuses" and disbursed on a bi-monthly basis. User testing showed that this generates interest among farmers in the savings product and could encourage them to use it regularly.

**Value and impact:** the locked savings feature is expected to have a high impact on both the Emerging Striver and the Enterprising Hustler. It will encourage the former to set aside some of his earnings and also provide him with the discipline to avoid touching those savings. Meanwhile, it will offer the Enterprising Hustler a more secure savings instrument for his children's education.

### THIRD COMPONENT: CONNECTING FARMERS TO AN IMPROVED CUSTOMER SUPPORT NETWORK

**As most rural communities in Tanzania are disconnected from official representatives of MNOs, wakalas are usually the first point of contact smallholder farmers have with new and existing products from MNOs (see Box 3).** Despite essentially being the face of MNOs in rural communities, wakalas receive no financial incentives to upsell products to clients and have no training materials or support resources to help them serve their many customers. As a result, wakalas often find themselves in the time-consuming position of trying to explain products to prospective customers without having a solid understanding of those products themselves.

Complicating matters further, the marketing materials that wakalas receive are often out-of-date, which can lead to distrust among customers who walk away confused about a product or skeptical of why, for example, the interest rate information the wakala provided does not match the interest rate chart found on out-of-date marketing materials in the wakala's shop.

Recognizing the central role wakalas play in connecting farmers to MNOs, the new digital credit product provides them with performance incentives and a range of support services that are designed to help them drive customer uptake. A commission-based system will provide financial incentives for wakalas to sign up new clients and upsell products to existing customers.

#### BOX 3: WAKALAS, AN UNDER-UTILIZED "BRIDGE" BETWEEN DIGITAL CREDIT AND FARMERS<sup>5</sup>

Wakala is the term used in Tanzania for branchless banking agents—often referred to simply as "agents." Although not employed directly by the MNO, whose products they sell, agents are the principal point of contact that branchless banking customers have with MNOs. They verify the identity of customers during signup and later transactions, and handle cash or electronic deposits and withdrawals for them. Wakalas also help customers understand how to use products, provide them with opinions on new ones, and solve related problems for their customers. As a result, they are well positioned to "bridge the gap between a high-tech service and low-literacy clients."

5 Flaming, Mark, et. al., "Agent Management Toolkit". CGAP, 2011: vii

To confirm their support of a customer sign-up or transaction and to claim the corresponding commission, wakalas will send the user's phone number to the MNO. To help them drive sales and sign-ups, wakalas will also receive training guides to assist them in explaining digital credit products to their customers and up-to-date marketing materials to display in their stores.

**In addition to the financial incentives and support services that will be available to all wakalas, high-performing agents will be rewarded with access to a set of specialized services, including:**

1. Business and technical training
2. A dedicated and well-staffed phone line they can call to ask for support on specific questions
3. Banners that indicate their status, as well as rewards (such as T-shirts or hats) that they can give to loyal customers

**Value and impact:** Improved support services for wakalas can create a more streamlined customer experience with digital credit for the Emerging Striver and the Burdened Breader, who are both located far from urban areas and have limited familiarity with technology.



*Mr. Isaac of Matendo village had never heard of Timiza. He was shown a Timiza poster and asked what he understood Timiza to mean, to which he replied, "Timiza means to accomplish or meet loan eligibility requirements."*

*Source: DIG Researchers*

## FOURTH COMPONENT: END-TO-END MARKETING

**Interviews with farmers revealed that many had heard of digital credit products like M-Pawa and Timiza, either from friends, SMS messages, or radio advertisements.**

Few farmers, however, understood the direct relevance of these products for themselves, and those that did were often unsure of how to get to the next step of signing up. These barriers are largely marketing problems that could be resolved with customized marketing approaches that include clearer instructions during the sign-up process and regular reminders to users of the long-term benefits of the digital credit.

Current marketing materials tend to use imagery that reflects the lifestyles and credit needs of urban users, and their messaging lacks the personal touch that farmers value. To attract interest from farmers at every phase of their customer journey, the new digital credit product uses a simple and direct communication style, and incorporates language and imagery that is relevant for farmers. Advertisements will incorporate keywords that farmers recognize, such as "mkopo" for loan, and will use images of farmers planting crops or purchasing inputs like fertilizer over their mobile phone. Two additional sub-features, which are described below, will help bridge the gap between the awareness and onboarding phases and also drive sustained use of digital credit by farmers:

- **Clear calls to action:** Posters and radio ads for the product will include clear instructions on the next steps a farmer must take to sign up. For example, promotional posters would include the number to call to apply for a loan, and explicitly state that signing up for one is free. The app itself will also provide clear step-by-step instructions to guide farmers through the sign-up process.
- **Aspirational messaging:** Radio advertisements and app messaging will be complemented by stories of farmers who have successfully used the digital credit product to achieve their goals. This messaging will inspire farmers to set financial goals for themselves and use the digital credit product to reach those goals.

**Value and impact:** Marketing that is customized to farmers will help drive usage at every stage of the customer journey and should have a high impact on almost all types of smallholders. It can also create a positive feedback mechanism. For example, once the Community Activator understands the relevance of the product, he will be able to provide information on the product to his fellow community members.



## FIFTH COMPONENT: RESPONSIVE USSD APPLICATION

**Observing farmers interact with existing digital credit applications for the first time, the DIG team realized farmers are often confused by how to use the product’s mobile interface itself. This was due to design issues with the USSD application, which is the text-based, menu-driven interface commonly used for many feature phone services.**

Many farmers report that the sign-up process on the USSD app is confusing and lacks transparency, unlike the standard P2P mobile payments USSD app sign-up process which was considered easier. In particular, they are unable to find the terms and conditions anywhere on the app before signing up.

Most of this confusion results from the lack of proper feedback mechanisms on the applications for current digital credit products. For example, neither Timiza nor M-Pawa currently sends users confirmation messages after they have successfully carried out their desired action or warning messages if users are about to miss a payment deadline. Smallholder farmers report that the lack of confirmation messages often leaves them uncertain of whether they accomplished their intended goals on the app. For farmers who are using a USSD platform for the first time, this absence of communication can lead to significant confusion and frustration. Meanwhile, the lack of warning messages, combined with the severe punishments that some farmers have experienced or seen befall longtime users of digital credit for missing even one payment, can also act as deterrent to signing up for many farmers. These punishments that can come without warning and the lack of incentives to reward loyal digital credit customers makes a number of smallholders reluctant to try using digital credit.

**To improve clarity and ensure transparency, the DIG team re-designed the USSD application, adding a number of new sub-features:**

- 1. Required but simplified terms and conditions:** The initial signup process will include a mandatory “tutorial” that provides an abbreviated version of the terms and conditions. This tutorial will always be available on the main menu, and users will also be instructed to call customer care for any additional details.
- 2. Confirmation of actions:** Users will receive SMS notifications confirming that they have successfully carried out their desired action.

- 3. Urgent notifications:** To prevent customers from inadvertently making critical mistakes, the USSD application itself has been programmed to provide them with warnings of the consequences of incorrect actions, such as missing an installment payment. The app can also send SMS messages for similar purposes. For example, to remind a loyal customer that she is about to miss a repayment deadline that could result in her credit limit being reduced. Eventually, notifications could also be used to congratulate users on important milestones, such as their one-year customer anniversary, and perhaps to provide tangible rewards to users for their loyalty.

**Value and impact:** The updates to the USSD application will reduce or eliminate much of the confusion and uncertainty farmers tend to experience as they use the app. It will also help them avoid missing payments or other infractions that can result in penalties. The tutorials and signposts will be particularly beneficial for the Burdened Breadwinner, who has had little experience with USSD applications.

## CONCLUSION

**The Gates Foundation, the Initiative for Smallholder Finance, and the Design Impact Group undertook this project to help drive the uptake of digital credit by smallholder farmers in Tanzania.** In line with that goal, the features of this new idealized digital credit product are available to any financial service provider, MNO, or fintech player operating in Tanzania or other countries. They can use the features to design and roll out a new digital credit product or to customize their current product offering to better meet the credit and savings needs of smallholder farmers. Given the increasing competition in Tanzania among digital credit providers for urban customers, the largely untapped smallholder farmer market represents a major business opportunity. By adopting some or all of the features designed by the DIG team, MNOs, financial service providers, or fintech players can take advantage of that opportunity quickly while also saving on product development costs.

**There are also significant opportunities for MNOs and financial institutions to adopt this product or develop similar products in other countries, particularly those where smallholders’ uptake of digital credit products remains low.** The degree to which specific product features are transferable might depend on a number of factors related to the digital

credit market, rural network coverage, and smallholder farmer population in each country. However, the process that DIG’s researchers used to understand the causes behind smallholders’ low uptake of digital credit products in Tanzania is transferable, as is the process by which they designed product solutions to improve uptake. As new players seek to develop these types of products, it is critical that they segment their smallholder customer bases into distinct personas and map their customer journeys with existing digital credit products. Those two components allowed the DIG team to understand how and when current digital current products fail to meet the credit needs and behaviors of smallholder farmers in Tanzania, and have the potential to bring important customer insights to light elsewhere as well.

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## APPENDIX: METHODOLOGY

The DIG team carried out immersive research in three regions of Tanzania—Kigoma, Mwanza, and Morogoro—so as to provide a geographically disperse sample of smallholder farmers. In total, researchers interviewed 46 farmers and 9 wakalas across 22 villages. Of the farmers interviewed, 24 had used digital credit products while 21 had not. Researchers employed a variety of HCD research methods to understand farmers’ challenges, aspirations, needs, financial behaviors, and preferences, including:

- **Contextual interviews** involved observing and carefully documenting smallholder attitudes and behaviors in the context in which the product will be used.
- **Participatory design sessions** engaged participants in dialogue around crafted digital credit product prototypes to help them convey their needs, expectations and ideas.
- **Small group interviews** with 3-5 representative end users, supplemented with light participatory activities to better understand their credit needs, preferences, and expectations.
- **Intercept interviews** leveraged immersion in a specific context to rapidly engage with individuals and groups for quick supplemental insights.

## ABOUT THE INTIATIVE FOR SMALLHOLDER FINANCE

**The Initiative for Smallholder Finance (ISF) is a multidonor and investor platform for the development of financial services for the smallholder farmer market.**

It was launched in May 2013 with the intention of making marked progress toward closing the gap between the over \$200 billion in smallholder financing need and the current \$50 billion supply in Latin America, sub-Saharan Africa, and South and Southeast Asia. The ISF’s primary role is to act as a “design catalyst.” The emphasis is on mobilizing additional financing for smallholders and seeding replication of innovative models in new markets.

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