DIGITAL FINANCIAL SERVICES ECOSYSTEM IN BIDIBIDI REFUGEE SETTLEMENT

CONTENTS

CHAPTER 1: INTRODUCTION

1.1 Project Background

This document consists of a mapping of the six pillars of the DFS ecosystem in Bidibidi Refugee Settlement and Host Community.

World Food Programme (WFP) and the United Nations High Commission for Refugees (UNHCR) have made a strategic decision to transition from material aid support to refugees to cash based transfers. This is driven by the increasing cost of delivering food and material aid. Close to US$12,000,000 is spent monthly on food distribution. The decision is supported by research that shows that beneficiaries make smart spending decisions that mitigate against food insecurity.

It is upon this background that implementing partners DanChurchAid (DCA), Mercy Corps (MC) and World Vision (WV) are actively pursuing payments digitization implementation.

This document consists of a mapping of the six pillars of the DFS ecosystem in Bidibidi Refugee Settlement and Host Community. The objectives of the Digital Financial Services (DFS) mapping in Bidibidi were as follows.

1.2 Research Objectives

- To establish the financial lives of refugees and host community: what is their cash mobility ecosystem like and what are their financial coping mechanisms like?
- To establish if there are there financial products and services that would accelerate transition to sustainable livelihoods/income generation.
- To establish if there is a trust in the existing delivery of DFS by Financial Service Providers (FSPs). Are FSPs delivering the right products to the community? And what are the opportunities that exist for the private sector either as providers of financial services, produce off takers and other services.
- To establish the key barriers to accessing financial services channels at affordable costs and link them to broader financial services. Also, establish if any additional research and data is needed in the country to address the key barriers to financial services.
- To establish the type of capacity building at the regulatory level that is needed to engage with the policymakers to address the barriers.
- To establish the type of payment and financial infrastructure is needed to support digital payment innovation in Bidibidi Settlement and surrounding host community.
- To identify projects that can piloted to enhance digital payments.

Research Objectives

1.3 Research Methodology

The approach used was data centric with data being collected from all stakeholders in the digital financial services ecosystem. In addition to primary data collected from the field, we also tapped into expert opinion. Overall, the research process involved questionnaire formulation, data collection, analysis and documentation.

A total of six questionnaires (Focus groups, Policy & Regulation, Customer, Providers, Developmental Agencies, and Distribution) were designed for data collection.

- **Policy & Regulation:** Main target were institutions such as Uganda Communications Commission (UCC); Ministry of Finance, Planning and Economic Development (MoFPED); Bank of Uganda and Financial Sector Deepening Uganda (FSDU).
- **Customers**: Main target were refugees and the host community.
- **Providers:** Main target were providers of digital financial services operating in Bidibidi.
- **Development Agencies**: Target were developmental agencies operating within Bidibidi.
- **Distribution:** For the distribution pillar, the target were mobile money agents.
- **Focus Groups:** Main target were saving groups.

Number of Respondents

A sample of 815 customers were interviewed during the survey.
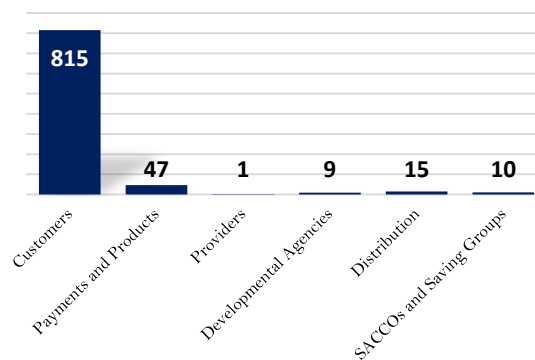
The data collection process took 11 days in Bidibidi Refugee settlement and host community. Additionally, data was collected from key policy and regulation stakeholders over a period of one week. Below is a summary of total responses collected from different stakeholders.

1.4   Current State of DFS Development in Uganda

Digital Financial Services (DFS) refers to the use of digital channels such as mobile phones, cards, computers, and tablets to deliver financial services. In Uganda, the term mobile money is widely associated with DFS because of wide usage of mobile phones to access different financial services.

Mobile phone usage across the African continent has evolved from being merely a communication platform to include service delivery. The ability of mobile network operators and other stakeholders to innovatively find new uses for mobile phones has greatly changed the way people use mobile phones. Several digital financial services such as payments, credit, savings and insurance have been made possible due to innovations in mobile phone functionality.

Digital financial transactions carried out in Uganda are, among other platforms, carried out on the mobile money platform. Based on data from the Bank of Uganda Annual Supervision Report the number of registered mobile money accounts and value of transactions have been on an upward trajectory since mobile money was introduced in Uganda.

Growth in Mobile Money transactions has been on an upward trajectory since service inception.

Number of Registered Mobile Money Accounts

State of Financial Inclusion in Uganda

Number of Mobile Money Transactions in Millions

Value of Mobile Money Transations in Trillion UGX

Source: Bank of Uganda
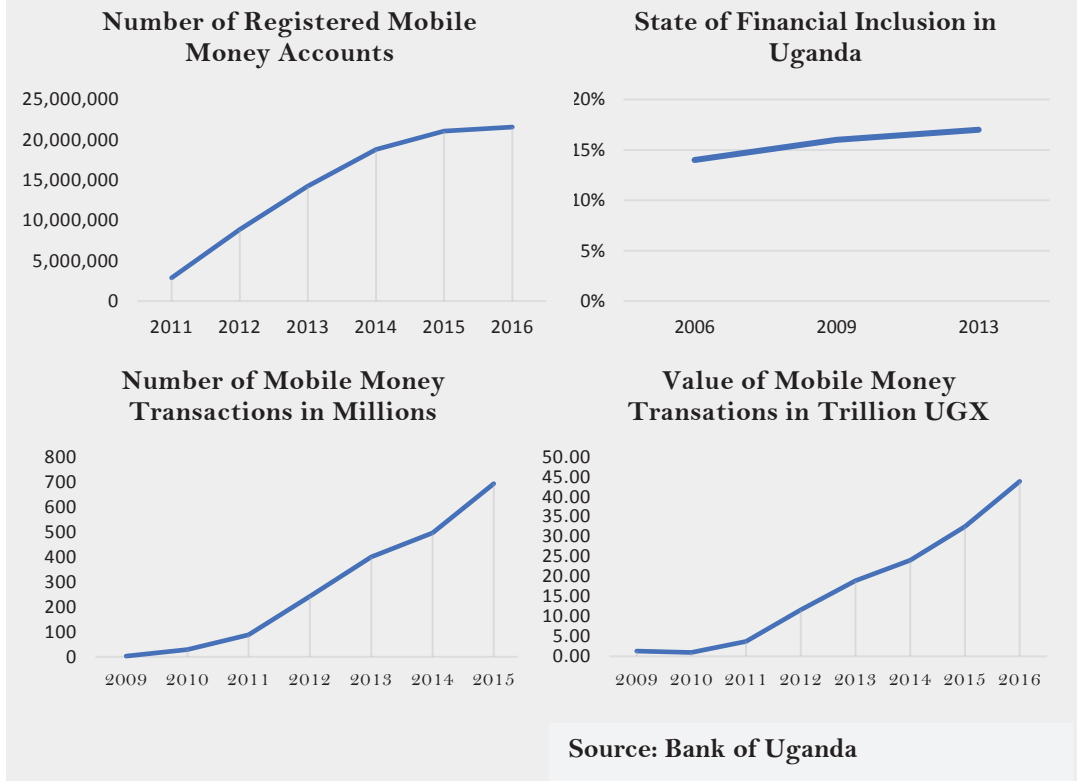
CHAPTER 2: CUSTOMERS

As identified by UNCDF's MM4P Programme, Customers are a key pillar of a Digital Financial Services ecosystem. This chapter consists of an analysis of Users and Non-users of DFS within Bidibidi Refugee Settlement and Host Community. It analyses the livelihood of customers, their financial coping mechanisms, adoption and usage of DFS and barriers to accessing DFS.

KEY CUSTOMER CHARACTERISTICS IN BIDIBIDI REFUGEE SETTLEMENT

As part of the process of mapping out the DFS ecosystem in Bidibidi, key research objectives included establishing the financial lives of customers, their financial coping mechanisms, attitudes towards DFS delivery challenges and barriers faced when using DFS.

CUSTOMER PROFILING

50%
Have primary level as the highest qualification

25%
Of Women are into farming. A further 24% run small businesses

72%
Have a monthly income of less than UGX 50,000 per month

38%
Of Women not engaged in any profession versus 20% for men

FINANCIAL COPING MECHANISMS

68%
Have no money left after paying for expenses

45%
Of social payments recipients use it for school fees. 30% use it for food

38%
Use cash-to-MM account to make social transfers

49%
Are in saving groups. 64% of those who join do so to get loans

DFS ADOPTION AND USE & CUSTOMER EXPERIENCES

19%
Use mobile money as a saving method. 36% own a cash box

47%
Adopted mobile money in-order to be able to receive money

25%
Use their mobile device for financial transactions

33%
Charge personal fees after cash-in transactions against guidelines

ATTITUDES TOWARDS DELIVERY OF DFS & BARRIERS TO ACCESSING FINANCIAL SERVICES

75%
Obtain assistance from MM agents in case of MM issues

50%
Don't own a mobile phone

72%
Of women don't own a mobile phone Vs 28% of men

52%
Are not registered with MM due to lack of registration docs

35%
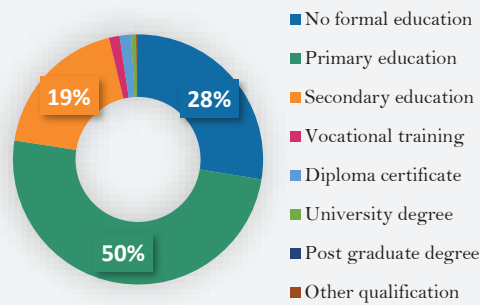Experience network outage problems

2.1   Customer Profiling

Half of surveyed customers have a primary level education as the highest qualification.
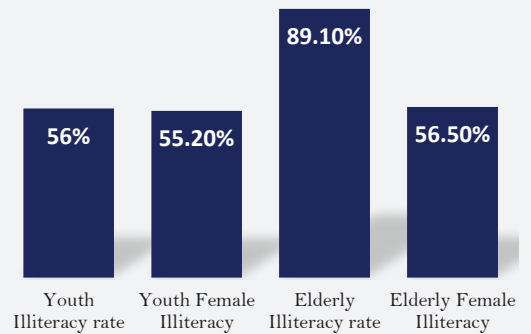
Education Level: Majority of customers have low levels of formal education. Half of survey respondents have primary level of education as the highest qualification, another 19% have a secondary level education and 28% do not have any formal education.

Customer Literacy: Since there is no data on the level of literacy among customers of Bidibidi, the literacy level of South Sudan is used as proxy because most of the refugees in Bidibidi are South Sudanese. Based on data from the World Data Atlas, 56% of the youth in South Sudan are illiterate. Similarly, 89.10% of the elderly are illiterate. Additionally, customers are not completely knowledgeable when it comes to using DFS. For example, up to 46% of customers go to an agent to perform a basic activity such as buying airtime from their mobile money account.

Education Level

- No formal education
- Primary education
- Secondary education
- Vocational training
- Diploma certificate
- University degree
- Post graduate degree
- Other qualification

28%
19%
50%

Customer Literacy

		89.10%	
56%	55.20%		56.50%
Youth Illiteracy rate	Youth Female Illiteracy	Elderly Illiteracy rate	Elderly Female Illiteracy

Monthly Income

- Less than 50,000
- 50,000 - 100,000
- 100,000 - 150,000
- 150,000 - 200,000
- 200,000 - 250,000
- Above 250,0000

5%
14%
72%

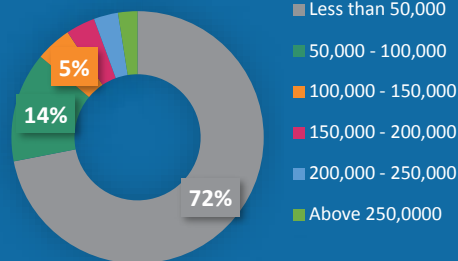*72% of surveyed customers earn less than UGX 50,000 a month.*

Income Levels: Income levels in Bidibidi are mostly low with 72% of surveyed customers earning less than UGX 50,000 and another 14% earning between UGX 50,000 to 100,000 a month. Overall, a combined 86% of surveyed customers earn less than UGX100,000 a month.
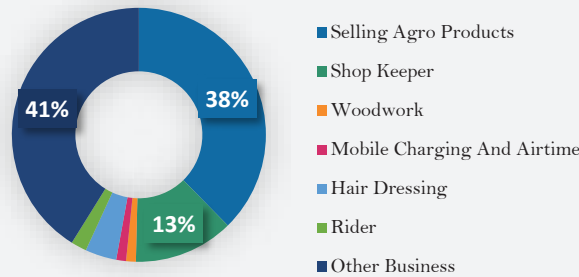
2.2 Employment

Predominant Economic Activities: Customers in the region are primarily engaged in small businesses (21%). There are a diverse range of small business-related occupations in which customers in Bidibidi are involved. Of these, selling agro-products is one of the most predominant with up to 38% of surveyed customers saying they engage in the activity. Similarly, subsistence farming is a common activity.

As can be seen by the chart below, there are also other economic activities that 49% of surveyed customers engage in. Of these, the most predominant include building & construction work, brewing and selling alcohol, and tailoring.

Farming is equally an important economic activity with up to 24% of surveyed customers stating that they engage in farming. The most grown crop by farmers in the area is maize (19%), followed by cassava (17%).

38% of surveyed small business owners sell agro products.

Small Business Related Occupation

- Selling Agro Products
- Shop Keeper
- Woodwork
- Mobile Charging And Airtime
- Hair Dressing
- Rider
- Other Business

38% · 41% · 13%

Crops Grown By Farmers

- Maize
- Millet
- Sorghum
- Cassava
- Sweet Potatoes
- Beans
- Other

19% · 21% · 12% · 17% · 15%
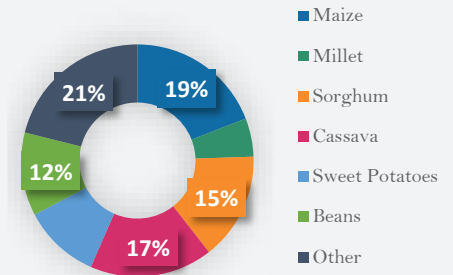
Profession by Gender: Professions by gender do not differ greatly. However, more men are engaged in economic activities than women.

More men are engaged in work when compared to women.

Female Profession
- Not engaged in any..: 221
- Other Profession: 65
- Technician
- Casual worker
- Business man/woman: 139
- Farmer: 149

Male Profession
- Not engaged in..: 44
- Other Profession: 62
- Technician
- Casual worker: 30
- Business..: 30
- Farmer: 45

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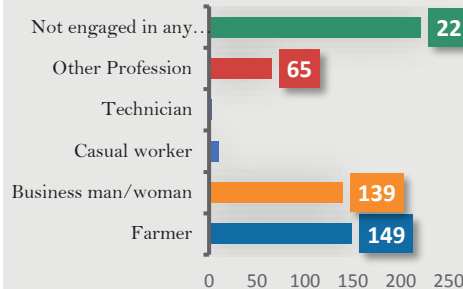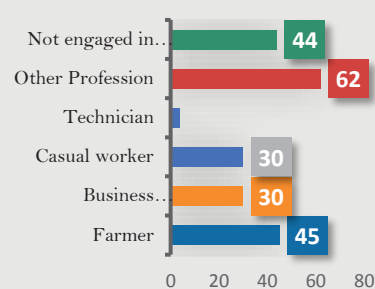
CASE STUDY: *CUSTOMER USE OF MOBILE MONEY FOR BUSINESS PURPOSES*

Business Transactions Using MM

- Payment receipt
- Making payments
- Investment
- Business bill payment
- Payments for agricultural
- Sending money to employ purchases

12%
4%
7%
12%
44%
21%
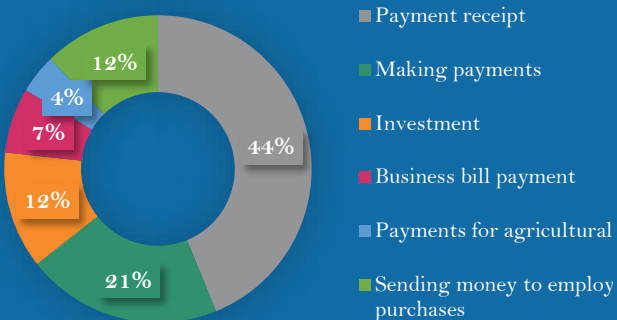
Most customers do not use Mobile Money or digital financial solutions for business transactions. Those that use Mobile Money for business transactions use it to receive payments from customers or distributors, to make payments to employees or suppliers and for business investments in equipment or expansion.

Farmer in Zone 1

One of the farmers interviewed uses mobile money for purchasing inputs. This farmer works with an established network of suppliers and prefers to pay using mobile money. The farmer is equally a truck driver and picks up inputs from suppliers from time to time. From the farmer's point of view…... "using mobile money is safe and secure, I do not have to worry about travelling with large amounts of cash because of insecurities…."

Farmer in Zone 2

Another farmer in zone 2 uses mobile money because it is reliable. For this farmer, it is convenient to send a payment in advance before picking up the supplies rather than waiting for a time when he is ready to pick up supplies. Initially, the farmer would go to pick up supplies only to find stock done. The farmer now closely collaborates with suppliers so that he is informed in advance when supplies arrive. The farmer is quoted saying "I would rather send money and secure my supplies instead of going there to buy and there is nothing in stock.

Insights from farmers

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2.3   Financial Coping Mechanisms

Proportion of Income Saved

Legend:
- Less than 10%
- 10% – 20%
- 20% – 30%
- 30% – 40%
- 40% – 50%
- Above 50%
- No savings

Values shown: 32%, 30%, 15%, 9%, 9%

32% of surveyed customers who save do so with than 10% of their income.

Savings: Despite the low levels of income earned by most customers, there is a moderate savings culture in the region with 50% of customers indicating that they save. Of the customers who save, 32% of customers save less than 10% of their income and a third save 10% to 20% of their income.

Motivations for saving are mainly to cover basic needs ranging from medical needs, to education, and being able to cover emergency expenses.

Uses of Cash Remittance

Legend:
- Business investment
- Purchasing food/ change of diet
- Purchasing basic needs
- School fees
- Farming/Buying animals

Values shown: 6%, 3%, 30%, 45%, 12%

45% of customers who receive social remittances use it for paying school fees.

Social Remittances: Furthermore, 40% of customers receive social remittances.

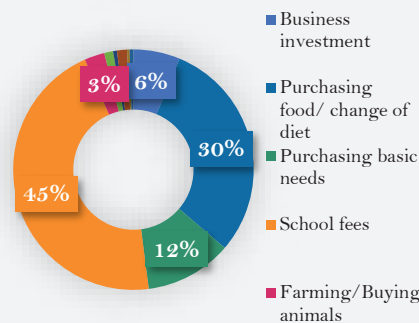Forms of social transfers include cash, food, sanitary pads, soap, farming tools and seeds. Customers use social transfers for several purposes. 45% of recipients of social payments use the cash for school fees, other uses include; purchasing food (30%) and covering other basic needs (12%).

Use of SACCO Account

Legend:
- Send or receive remittances to/from other people
- Buy insurance, make payments, receive claims on insurance
- Take loans, borrow money

Values shown: 4%, 30%, 64%

Loans from SACCOs: 51% of customers of are not in savings groups. Of those that are, the main service used is borrowing followed by sending or receiving remittances. It is important to note that though most people use their saving groups to borrow, the main activity of such groups is saving.

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2.4 DFS Adoption and Use

The most common usage of mobile phones is making voice calls followed by making financial transactions.

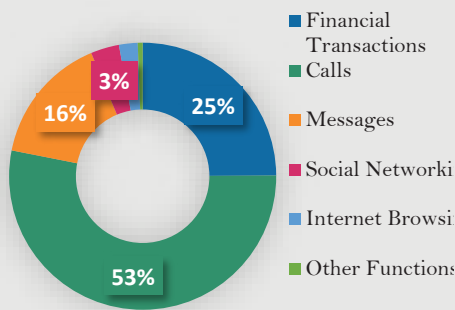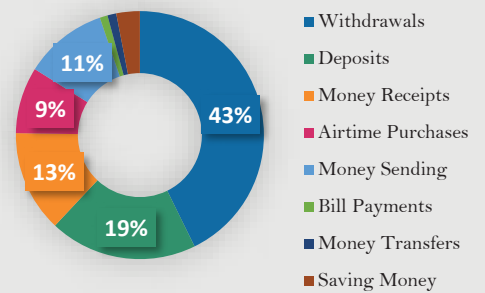**Usage of Mobile Phones**: Mobile phones in the area are predominantly used for making phone calls. The second most used function is financial transactions, followed by sending messages. The main financial transactions conducted by customers are cash in cash out transactions, 43% of customers indicated that they had conducted cash out transactions and 19% have conducted cash in transactions.

Use of Mobile Phone

- Financial Transactions
- Calls
- Messages
- Social Networki
- Internet Browsi
- Other Functions

25%
3%
16%
53%

MM and DFS Utilized Before

- Withdrawals
- Deposits
- Money Receipts
- Airtime Purchases
- Money Sending
- Bill Payments
- Money Transfers
- Saving Money

11%
9%
13%
19%
43%

47% of customers use mobile money to receive money.

Usage of Mobile Money: 47% of customers are motivated to use mobile money to receive money. Other key drivers of adoption of Mobile Money include desire to start saving and to ensure safety of the money.

A significant proportion (45%) of customers within the refugee settlement have not used mobile money services before. A large majority of customers in Zone 1 have used mobile money services, however experience with mobile money in other zones is not as prevalent. As expected, experience with mobile money in the host community is also high. Experiences with mobile money are more prevalent in zone 1 because zone 1 is the first zone that was setup and has had the opportunity to develop faster.

Reasons for Adoption of MM

- Desire to start saving
- Safety of the money
- Receiving Money
- Sending Money
- Agency requested for account signing up
- Other Reasons For Use
- Saw others use

5% 9%
4%
8%
17%
7%
47%
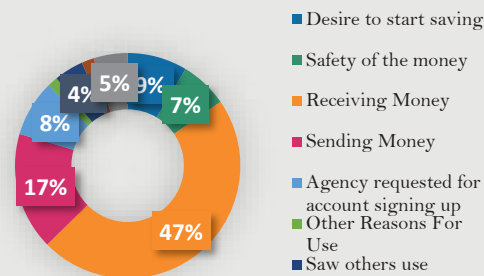
Experience Using Mobile Money

■ Yes ■ No

Number of Responses

Zone	Yes	No
Zone 1	98	36
Zone 2	90	70
Zone 3	49	81
Zone 4	8	23
Zone 5	27	16
Host…	74	37

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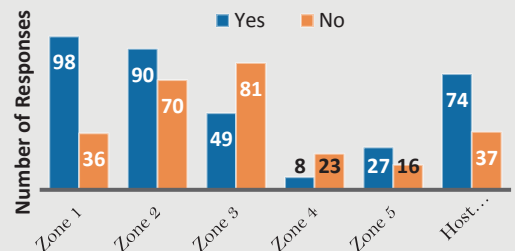
2.5 Customer Attitudes Towards Delivery and Familiarity with DFS

Surveyed customers are least familiar with conducting bill payments from their mobile money accounts.

Familiarity with Transactions

Familiarity with Mobile Money: A lot of customers (59%) are not able to conduct transactions on their own and enlist the help of Mobile Money agents or a relative to transact using mobile money. Customers are most familiar with airtime purchase transactions and least familiar with bill payments. This can be explained but the fact the practice of paying bills using mobile money is not widely adopted in Bidibidi refugee settlement and host community.

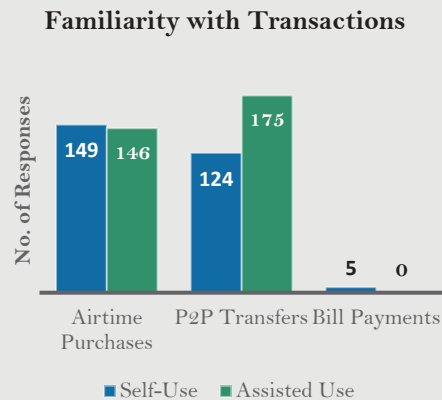**Extra Fees Charged by Agents:** Despite mobile money guidelines indicating that agents should not charge any fees directly to customers, 33% of customers in Bidibidi have experienced agents asking for payment after cash-in transactions.

Primary Source of Help for Use of Mobile Money: Many customers in the area require assistance from agents to conduct transactions due to low literacy and phone literacy levels. Customers in the region typically do not make complaints or seek assistance from MNO customer service. Instead most customers (75%) seek assistance from mobile money agents. There is therefore need for agents in the region to have adequate training to deal with customer queries.

75% of surveyed customers rely on Mobile Money agents for Mobile Money related assistance.

Trust in DFS: Focus group discussions revealed that customers in the area generally trust Digital Financial Services. However, due to registration issues, some people resort to using Ugandan Nationals' ID's which creates uncertainty with ownership of funds on mobile money accounts.

Challenges with Using DFS: Some of the problems experienced by customers include: technical issues with the service including network failures and service interruptions, failure to receive SMS receipt, sending money to wrong number and not being able to recover it, lack of knowledge on use of service, forgetting PIN, and insufficient funds at the agent's location.

Extract of Customer Attitudes Towards DFS Delivery in Bidibidi

CASE STUDY: *SAVING GROUPS AND ATTITUDES TOWARDS MOBILE MONEY*

36% of customers use a savings group. Focus group discussions with savings groups revealed that savings groups also use informal saving methods like cash boxes. Annual savings in savings and lending groups ranges from UGX 150,000 to 1.6 Million.

Based on focus group discussions held with Village Savings and Loan Associations (VSLAs), cooperatives and other groups, funds are kept with a treasurer or in a safe box. Transactions are recorded using a mostly manual record keeping system. For example, the High Mission saving and loans group in zone 3 uses a stem marking approach. With this approach, if someone brings UGX 2,000 the stems are marked once, if UGX 4,000 is brought, the stems are marked twice.

Majority of savings and lending groups are however willing to adopt the use of mobile phones for their group activities but are limited by cost of mobile phones and access to agents. Mobile phones and features tailored to these groups are cited as changes that could increase adoption and use of mobile money. For example, during one of the interviews held, one of the group members asserted that if a product that showed an individual's saving balance on their mobile phone was available, members would be willing to use digital solutions.

Further, one of the key things that stood out in the focus group discussions was a statement saying, "no matter the mechanism of saving used, most people understand why it is important to save." Below is a summary of other insights gathered from a few of the groups interviewed using focus group discussions.

Iveta Longun, Female Saving Group in Zone 1

- Record books are kept of deposits made and credit issued.
- Only 30% of members own mobile phones, the rest of the membership is waiting for cheap phones from Nethope.
- When asked on what could prompt the group to use mobile money, a member said, "more group combination products should be made."

Iveta Longun, Saving Group in Zone 2

- The group manages savings process through a record book and a security mechanism that involves dual control of the money box key and constantly changing the custodian of the money box.
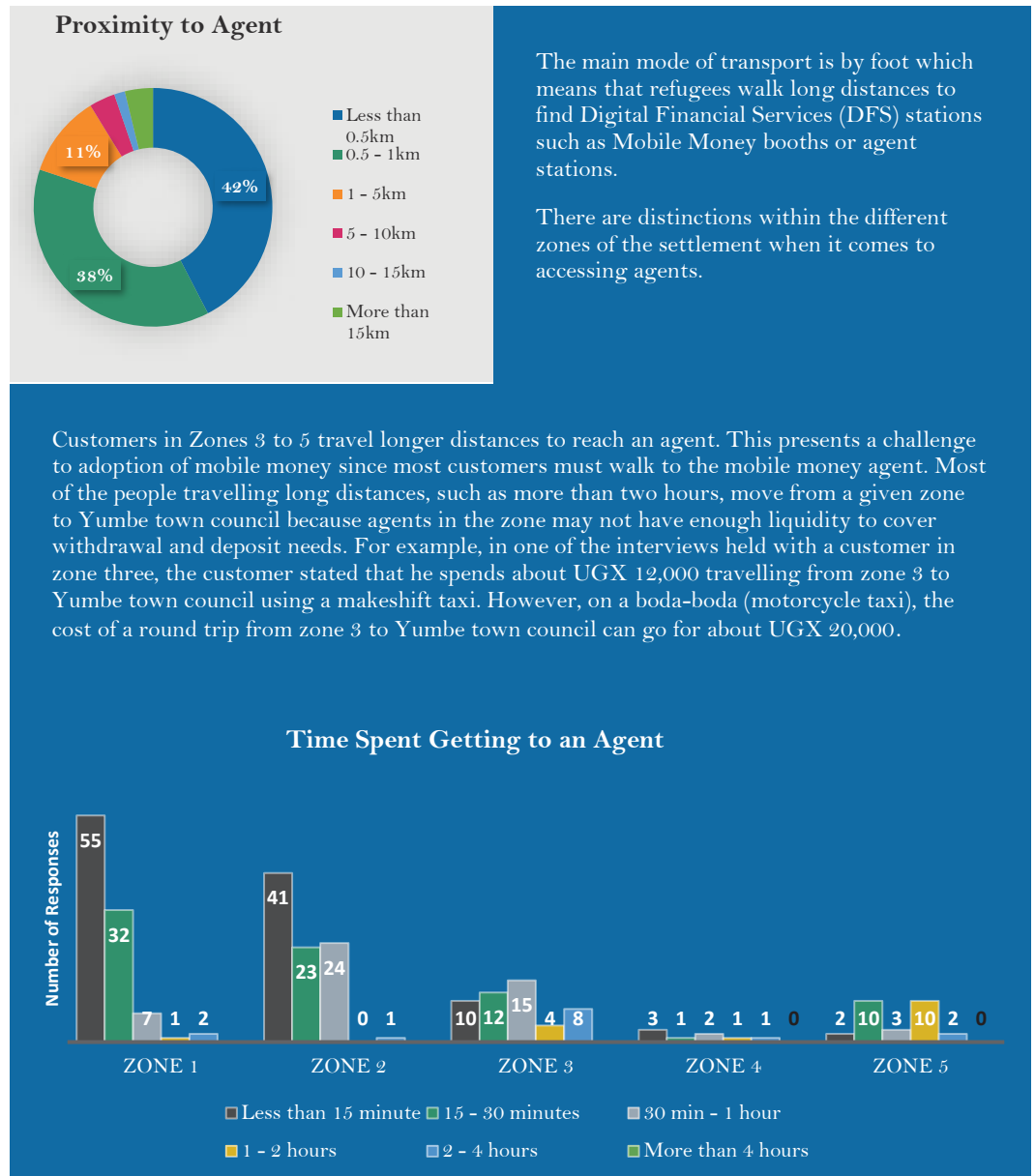
Grace Farmers Saving Group in zone 2

- The treasurer keeps funds along with the record book.
- "The ability for the members to see their cash balances on the phone" was quoted by a member as a reason that would encourage the group to use a digital wallet for group savings.
- Access to mobile phones would increase uptake and se of mobile money services.

Insights from saving groups

2.6 Barriers to Accessing Digital Financial Services

2.6.1 Agent Proximity

Proximity to Agent

- Less than 0.5km
- 0.5 – 1km
- 1 – 5km
- 5 – 10km
- 10 – 15km
- More than 15km

42%
38%
11%

The main mode of transport is by foot which means that refugees walk long distances to find Digital Financial Services (DFS) stations such as Mobile Money booths or agent stations.

There are distinctions within the different zones of the settlement when it comes to accessing agents.

Customers in Zones 3 to 5 travel longer distances to reach an agent. This presents a challenge to adoption of mobile money since most customers must walk to the mobile money agent. Most of the people travelling long distances, such as more than two hours, move from a given zone to Yumbe town council because agents in the zone may not have enough liquidity to cover withdrawal and deposit needs. For example, in one of the interviews held with a customer in zone three, the customer stated that he spends about UGX 12,000 travelling from zone 3 to Yumbe town council using a makeshift taxi. However, on a boda-boda (motorcycle taxi), the cost of a round trip from zone 3 to Yumbe town council can go for about UGX 20,000.

Customers in zone 1 find it easier to access Mobile Money agents when compared to customers in other zones.

Time Spent Getting to an Agent

Number of Responses

ZONE 1: 55, 32, 7, 1, 2
ZONE 2: 41, 23, 24, 0, 1
ZONE 3: 10, 12, 15, 4, 8
ZONE 4: 3, 1, 2, 1, 1, 0
ZONE 5: 2, 10, 3, 10, 2, 0

- Less than 15 minute
- 15 – 30 minutes
- 30 min – 1 hour
- 1 – 2 hours
- 2 – 4 hours
- More than 4 hours

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2.6.2   Phone Ownership

Phone ownership is higher among the male population when compared to female population.

Mobile phone penetration in the area is still low. Many customers in the Bidibidi (52%) do not own mobile phones, however a majority of those without phones still use mobile money services through an agent, relative, friend or neighbor's phone. There is a wide gender disparit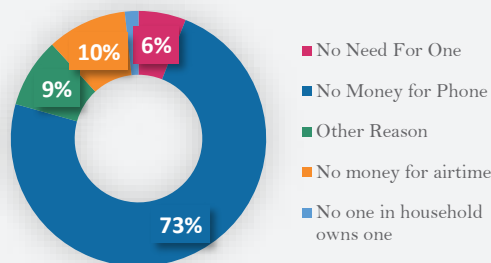y in phone ownership. For example, 56% of women do not own phones as compared to 28% of men. The primary reason for low mobile phone penetration is due to lack of enough money to afford a phone.
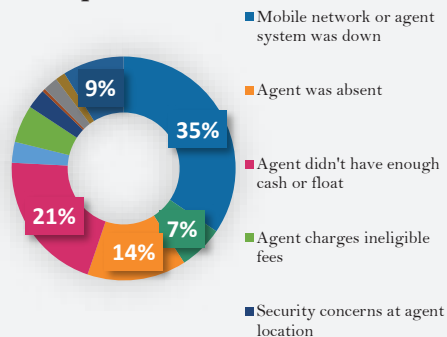
Phone Ownership by Gender

44% Own Phone
56% Do Not Own Phone
72% Own Phone
28% Do Not Own Phone

FEMALE   MALE
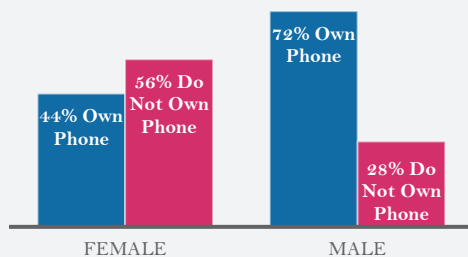
Barriers to Phone Ownership

6%
10%
9%
73%

- No Need For One
- No Money for Phone
- Other Reason
- No money for airtime
- No one in household owns one

2.6.3   Other Challenges

Other challenges faced with usage of DFS include network outages, absence of agents at Mobile Money location and agent liquidity constraints.

Mobile Money/DFS Experiences

9%
35%
21%
14%
7%

- Mobile network or agent system was down
- Agent was absent
- Agent didn't have enough cash or float
- Agent charges ineligible fees
- Security concerns at agent location
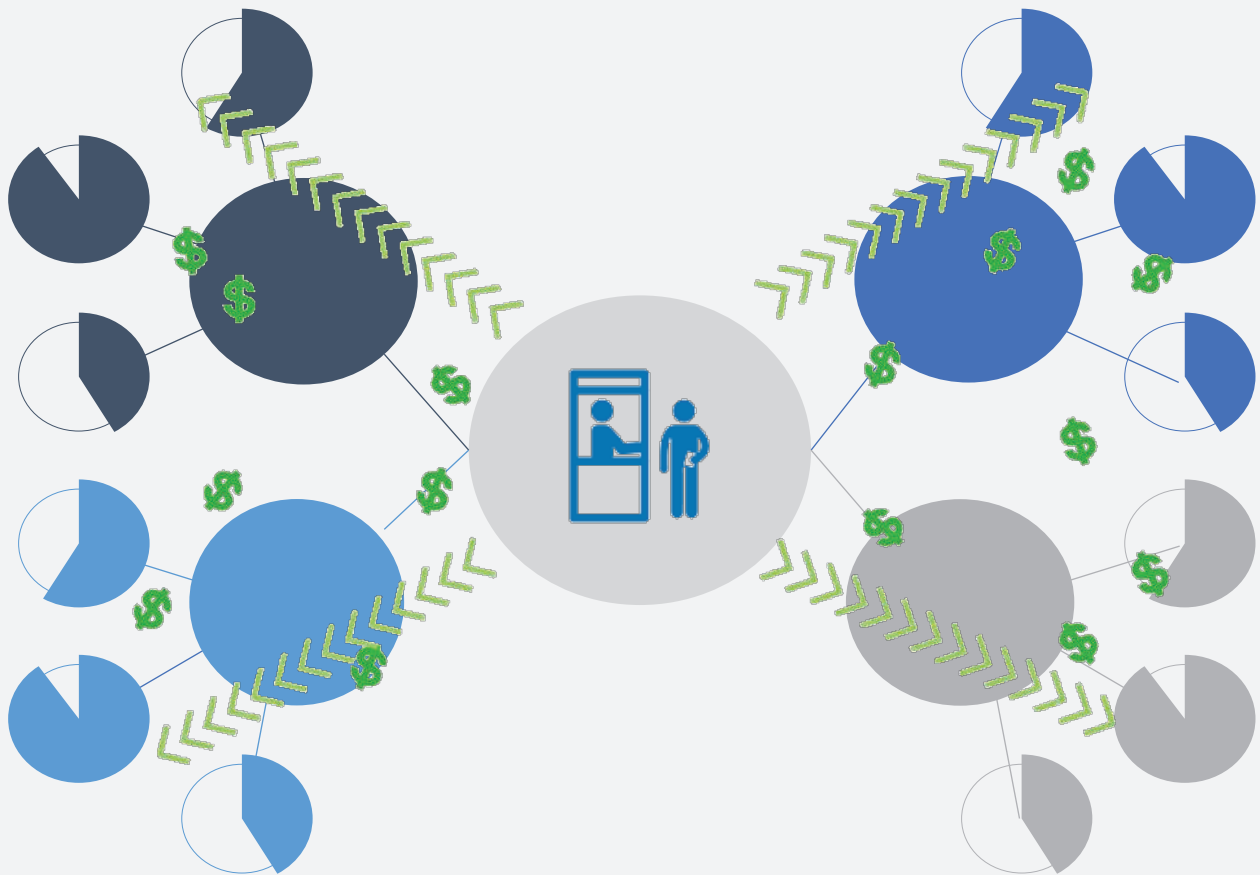
Other challenges faced include network issues whereby the network or agent's system is down and lack of sufficient float or cash to perform transactions. Agents typically close shop if they run out of cash or float.

CHAPTER 3: DISTRIBUTION

As identified by UNCDF's MM4P Programme, Distribution is a key pillar of a Digital Financial Services ecosystem. This chapter consists of an analysis of distributors within Bidibidi Refugee Settlement and Host Community. It analyses and profiles distributors, float and Liquity management, commissions, and distribution constraints and barriers.

KEY DISTRIBUTION CHARACTERISTICS IN BIDIBIDI REFUGEE SETTLEMENT

DISTRIBUTOR PROFILING

60%
Mobile Money agents are in 18 -25 age group

67%
Of agents use capital of less than UGX 2M (EUR 440) to start up the business

82%
Of mobile money agents receive training prior to commencing work

27%
Of mobile money agents are women

FLOAT AND LIQUIDITY MANAGEMENT

37%
Of agents start off the day with UGX 300,000 to UGX 500,000 (EUR 66 to EUR 110) in float

55%
Of agents start off the day with UGX 1M to UGX 5M (EUR 220 to EUR 1100) in cash

55%
Of agents rebalance float at least once a day

37%
Of agents use fellow agents for float replenishment

MOBILE MONEY TRANSACTIONS AND COMMISSIONS

53%
Mobile Money transactions are most frequent during morning hours

40%
Of mobile money services offered are P2P transfer & easy load

60%
Average monthly commission is between UGX 100,000 to UGX 300,000 (EUR 22 to EUR 66)

70%
Of agents have seen a positive change in commissions from start-up

AGENCY BANKING, DISTRIBUTION CONSTRAINTS AND BARRIERS

33%
Of mobile money agents have bank accounts

21%
Of agents run out of float regularly

28%
Of agents face network outage problems

73%
Of agents face language barrier problems

3.1 Distributor Profiling

Within Bidibidi refugee settlement and surrounding areas, the mobile money agent business is dominated by the young generation with up to 60% of agents being in the $18 - 25$ age group and only a minority 7% being above 45 years. Furthermore, most of the people working as agents have an Ordinary Level certificate or lower and combined 66% of agents have either a primary level or O' Level certificate.

Closely allied with the ongoing discussion on agent profiles, up to 73% of surveyed agents are male while 27% are female. Most of these agents (47%) have been operating as agents for a period of one year, another 33% have been in the business for 2years, the entire duration over which Bidibidi refugee camp has been open.

60% of agents are in the 18 to 25 age group.

Reasons some agents gave for finding it easy to set up MM business

- Process of setting up is mostly fast especially if an agent has all the requirements.
- It was fast and easy to set up.
- Relatively easy for one to become an agent even if they don't own the business. Super-agent model makes it possible for this to happen.
- Presence of MNO dealers such as Nilecom who go to the settlement to recruit and train agents.

Reasons some agents gave for finding it hard to set up MM business

- Not enough capital.
- Hard to get a convenient place.
- Low customer base.
- Low volume of transactions.
- Difficulties with card processing

- Need to generate money to meet family obligations e.g. school fees.
- Employment and income generating opportunity.
- There is a scarcity of agents in the area. Becoming an agent thus presents a business opportunity in an unsaturated market.

Reasons given for becoming mobile money agents

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3.2 Process of Becoming an Agent

It is common practice for prospective agents to start the working using an existing agent's transaction line.

Ease of Setting up Business: Overall, 47% of surveyed mobile money agents find it neither hard nor easy to set up a mobile money business, 33% find it hard and 20% find it easy.

Start Up Capital: Most people who start up a mobile money agent business do so with very little start-up capital. Of the surveyed agents, none started the business with capital above UGX 4M. Instead, up to 67% started with capital of less than UGX 2M while 33% started up with capital of UGX 2M to 4M. All surveyed agents quoted personal savings as the source of capital for starting up the mobile money business.

Besides the normal process of registering with a mobile money agent network, certain agents merely purchase an existing agent line from another agent and commence business. Below are general requirements

According to the Yumbe General Manager of REFASU a refugee card can act as a substitute for a national ID card when recruiting agents.

- Four passport photos.
- Handwritten Local Council (LC) letter.
- A national identification card or refugee card.
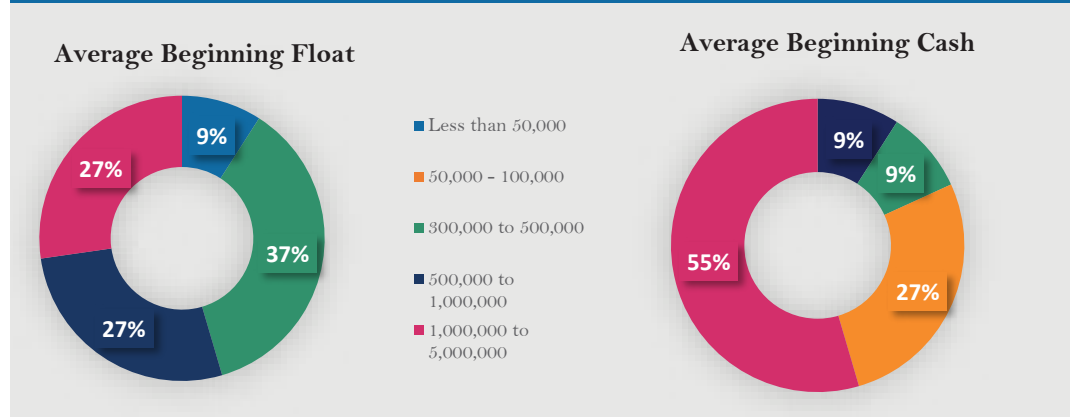- Acknowledgement form.

Requirements for becoming an Airtel money agent according to the REFASU (Airtel Distributor) General Manager in Yumbe

Additionally, prospective agents are usually given training with up to 87% of surveyed agents saying they received training prior to becoming an agent. Overall, the training is sufficient with up to 92% of trained agents saying the training received was adequate. However, up to 53% of surveyed agents are not monitored by mobile network operators. Based with interactions with these agents, only Airtel currently does the monitoring. With the nature of monitoring work done being as follows: assess progress of agent's business, assess whether services are being provided, ask if there are any issues and check records.

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3.3 Agent Capacity

Greater demand for cash out transactions prompts agents to start the business day with more in cash than float.

Mobile money agents in Bidibidi and the host community operate at very low capacities when relative to agents in bigger towns. Overall, 37% of surveyed agents start off the day with UGX 300,000 to UGX 500,000 in float and 55% start off the day with UGX 1,000,000 to UGX 5,000,000 in cash. Agents start off the day with higher cash than float because as previously explained, cash out transactions are more popular than cash in transactions.
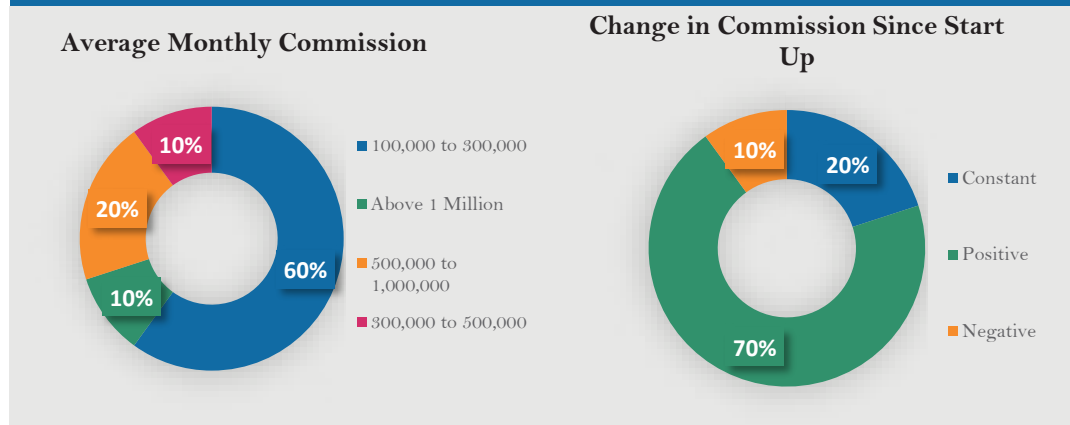
Average Beginning Float

- 9%
- 27%
- 37%
- 27%

■ Less than 50,000
■ 50,000 – 100,000
■ 300,000 to 500,000
■ 500,000 to 1,000,000
■ 1,000,000 to 5,000,000

Average Beginning Cash

- 9%
- 9%
- 27%
- 55%

3.4 Commissions

60% of surveyed agents earn a monthly commission of UGX 100, 000 to UGX 300,000.

70% of surveyed mobile money agents asserted that since they started their business, commissions have been positive and improving. The main reason for this is the fact that transactions have been increasing.

Average Monthly Commission

- 10%
- 20%
- 10%
- 60%

■ 100,000 to 300,000
■ Above 1 Million
■ 500,000 to 1,000,000
■ 300,000 to 500,000

Change in Commission Since Start Up

- 10%
- 20%
- 70%

■ Constant
■ Positive
■ Negative

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3.6 Liquidity Management

Most agents replenish float from fellow agents.

Channel for Float Replenishment

- ■ Fellow Agent
- ■ REFASU or other MNO representative
- ■ Other

37% 36% 27%

Channel for Rebalancing Float:
Mobile Money agents replenish float through fellow agents, dealers and distributors working on behalf of MNOs other ways. The other ways in which float rebalancing is done is through letting float and cash transactions naturally balance out. For example, if an agent has cash and no float, they will only do deposits.

55% of surveyed agents find it necessary to replenish float daily.

Frequency of Float Replenishment

- ■ Daily
- ■ Weekly
- ■ Monthly
- ■ Bi Weekly

55% 27% 9% 9%

Frequency of Rebalancing Float:
Furthermore, since agents operate at very low capacities, they tend to rebalance float very regularly, from the survey, up to 55% of surveyed agents asserted that they replenish float daily. For Airtel, REFASU agents are supposed to deliver float to mobile money agents while for the case of MTN float rebalancing is mostly through inter agent transfers and last mile delivery by dealers such as Nilecom.

- 50% find the process more on the hard side – ie.10% very hard, 40% hard,
- 30% find the process more on the moderate side -30% moderate
- 20% find the process more on the easy side. From the dat10% easy, 10% very easy

Bidibidi agent perceptions on the float rebalancing process

Ease of Rebalancing Float: To make the float rebalancing process much easier, agents in Bidibidi refugee settlement and the host community feel setting up bank branches or rebalancing centers would help.

To the left are agent perceptions on the float rebalancing process.

3.7 Mobile Money Services Offered

Mobile Money Services Offered

- Person to Person Tranfer & Easy Load — 40%
- Bill payments, Person to Person Transfer & Easy Load — 13%
- Bill Payments, Person to Person Transfer, Easy Load & Other — 13%
- Person to Person Transfer, Easy Load & Other — 7%
- 27%

P2P and easy load are the most sought-after services from agent points.
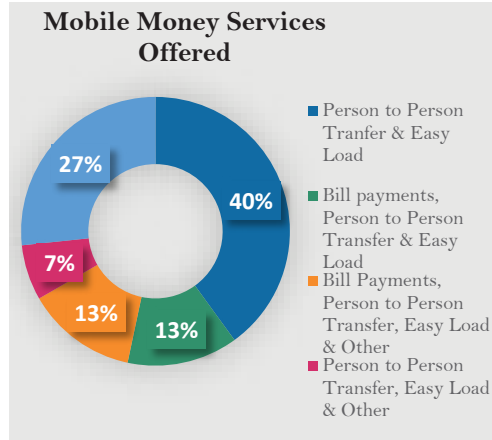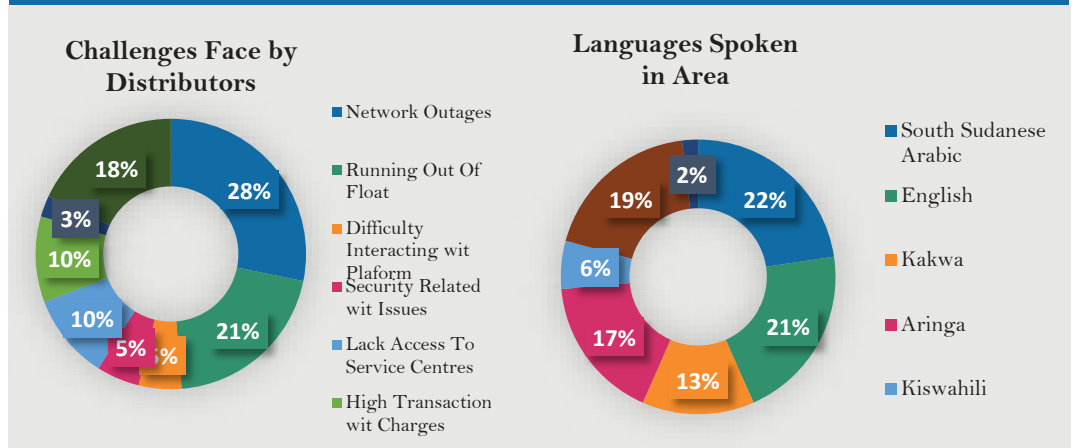
Mobile money agents within Bidibidi refugee settlement and the host community offer all mobile money services. The most popular combination of transactions offered is person to person transfer and easy load (40%). A key thing to note is that all agents offer person to person transactions.

3.8 Distribution Constraints and Barriers

There are several challenges faced by agents. The most predominant of which are network outages (28%) followed by running out of float (21%). Language barrier is another key challenge faced by mobile money agents with up to 73% of surveyed mobile money agents stating that they face language barriers. The language barrier is mostly caused by the fact that Yumbe District in which Bidibidi refugee camp is located is a diverse community with several languages being spoken by both the host community and refugees.

Also, the language barrier is made worse by the fact that refugees speak a language which the host community who make up the agent network do not speak.

Running out of float and network outages are the most common challenges faced by agents.

Challenges Face by Distributors

- Network Outages — 28%
- Running Out Of Float — 21%
- Difficulty Interacting wit Plaform
- Security Related wit Issues — 5%
- Lack Access To Service Centres — 10%
- High Transaction wit Charges — 10%
- 3%
- 18%

Languages Spoken in Area

- South Sudanese Arabic — 22%
- English — 21%
- Kakwa — 13%
- Aringa — 17%
- Kiswahili — 6%
- 19%
- 2%

CHAPTER 4: PRODUCTS AND PAYMENTS

As identified by UNCDF's MM4P Programme, Products and Payments are a key pillar of a Digital Financial Services ecosystem. This chapter consists of an analysis of products and payments within Bidibidi Refugee Settlement and Host Community. It examines the different products most commonly used and looks at the most predominant types of payments: person to person, business to person, person to business and developmental agency to person.

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KEY STATISTICS OF DFS PRODUCTS AND PAYMENTS IN BIDIDBIDI

PRODUCTS

All
Service providers provide airtime purchase and money transactions

All
Service providers provide bill & utility payments and ATM banking

MTN
Provides paying fees and taxes, Mo Kash and MoMoPay

Airtel
Provides Airtel Weza which is a group wallet

DEVELOPMENTAL AGENCY TO PERSON (D2P) AND GOVERNMENT TO PERSON (G2P) PAYMENTS

62.5%
Of agencies are unable to meet demand for social payments

72%
Of social payments are made by cash

31%
Of residents lack mobile phones hence cash is used

25%
Of network disruptions affect digital solutions

PERSON TO BUSINESS (P2B) AND PERSON TO PERSON (P2P) PAYMENTS

77%
Of businesses prefer to receive cash payments for goods and services

80%
Of P2P transactions are cash out transactions

60%
Of cash in transactions are for saving

40%
Of cash out transactions are between UGX 200,000 to UGX 400,000 (EUR 44 to EUR 88)

BUSINESS PAYMENTS, PAYMENT AND FINANCIAL INFRASTRUCTURE NEEDED TO SUPPORT DFS

67%
Of businesses do not use mobile money to make payments

43%
Of businesses earn income of less than UGX 200,000 (EUR 44) monthly

79%
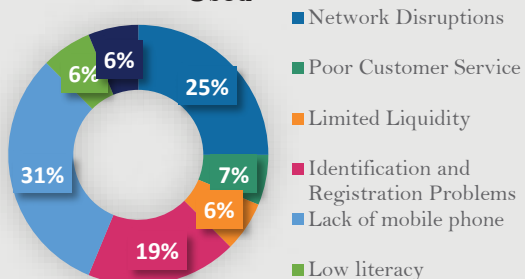Of businesses trust mobile money and e-wallets

67%
Of businesses feel an increase in number of agents would increase usage of DFS

CASE STUDY: *DEVELOPMENT AGENCY TO PERSON PAYMENTS*

Currently, there are several development agencies operating in Bidibidi refugee settlement. Development programs have an average duration of 1 year. Renewal is dependent on effectiveness of the program and needs of the community. 72% of surveyed developmental agencies making social payments currently do so using cash while 28% use mobile money. Below is a summary of the technical cash working group cash activities in Bidibidi refugee settlement for select period.

Organisation	Purpose	Type of activity	Cycle	Start date	End date
Action Against Hunger	Cash vouchers for seeds	e-Voucher	One off	Feb-18	Apr-18
Save the Children	Cash for work	Conditional cash transfer	One off	Nov-17	Dec-17
Save the Children	Microbusiness cash injection	Conditional cash transfer	One off	Jan-18	Jan-18
Norwegian Refugee Council	Cash transfers to PSNs to access food and basic household needs	Emergency Cash transfers to PSNs	Quarterly	Jan-18	Mar-18
Norwegian Refugee Council	Cash grants to small scale business groups	Cash grants transfer to small scale business groups/IGAs	One-Off	Jan-17	Mar-18
DanChurchAid	Asset protection grant for farmers	Asset protection grant	Monthly	Jan-18	Dec-18
DanChurchAid	Cash voucher for Food	e-Voucher	Monthly	Jan-18	Dec-18
DanChurchAid	Income generating Activities	Startup capital	One off	Jan-18	Dec-18
DanChurchAid	Agric inputs support to farmers	Seed and Tool Vouchers	Seasonal		
DanChurchAid	Capacity Building of NGO staff on CTP	Trainings on CTP	One off	Jan-18	Feb-18
International Rescue Committee	Cash for Basic Needs and Business grants	Digital Cash transfer	Monthly	Jan-18	May-18
International Rescue Committee	Cash for Basic Needs	Digital Cash Transfer	Monthly	Mar-17	Jul-17
Mercy Corps	Cash voucher for ag-inputs	e-Voucher	One off	May-17	Nov-18
Mercy Corps	Cash voucher for tillage, ag-inputs, PHH materials	e-Voucher	One off	Jul-17	Apr-18
Samaritan's Purse International Relief	Micro Enterprise development	Cash for work	One off	Jun-17	Mar-18

Reasons Digital Solutions are Not Used

- Network Disruptions
- Poor Customer Service
- Limited Liquidity
- Identification and Registration Problems
- Lack of mobile phone
- Low literacy

Development agencies who do not use digital solutions to make social payments are limited by the following reasons: network disruptions (25%) and lack of registration requirements (31%) for beneficiaries.

4.1 Products

The following table shows a summary of the main products offered by providers.

Product	Features	Provider
Airtime Purchase (Easy Load)	Purchase airtime for self or someone else	All
Sending or Receiving Money	Send or receive money	All
Bill & Utility Payments	Pay for utilities, fees, fuel etc.	All
ATM Banking	Withdraw Mobile Money from particular bank's ATM	All
Fees and taxes	Pay KCCA fees and taxes	MTN
MoKash	Loans and saving	MTN
MoMo Pay	Allows customers to pay merchants at no cost to customer but at a fee to the merchant.	MTN
Airtel Weza	Group wallet	Airtel

An example of a product that can be used by saving groups in Airtel Weza

4.2 Payments

	Payees			
Payers	Person	Government	Business	Developmental Agencies
Development Bodies	D2P	D2G	D2B	D2D
Government	G2P	G2G	G2B	G2D
Business	B2P	B2G	B2B	B2D
Persons	P2P	P2G	P2B	P2D

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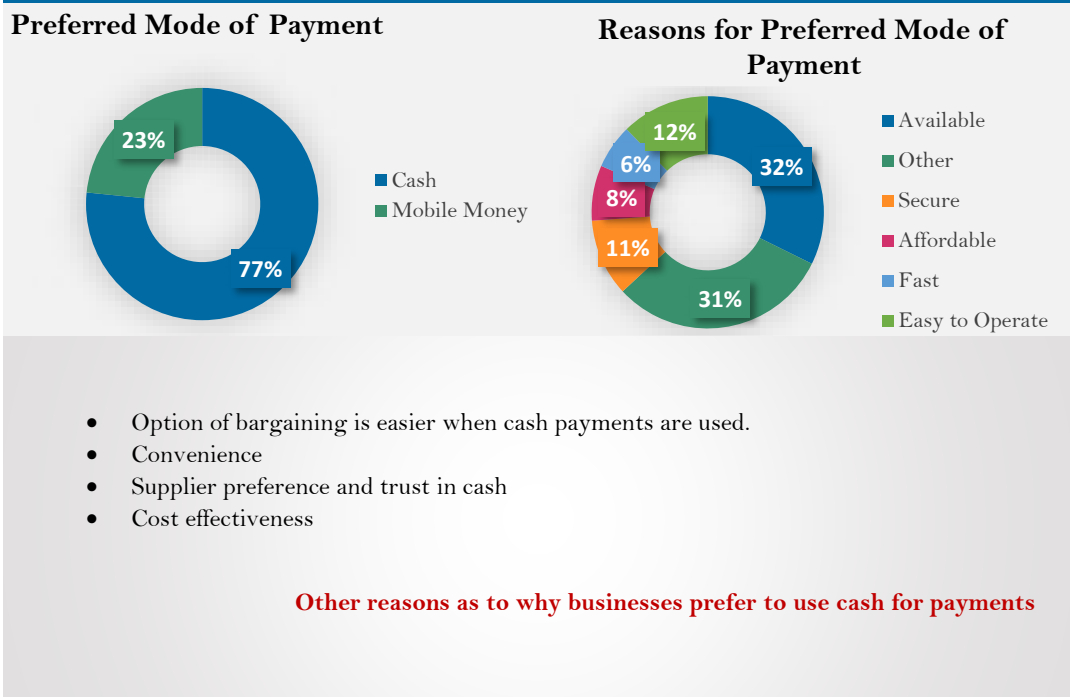UN CDF | MM4P MOBILE MONEY FOR THE POOR

4.2.2   Government to Person Payments

The Government of Uganda supported by Department for International Development and Irish Aid implements Senior Citizen Grant through the SAGE (Social Assistance through Grants for Empowerment) scheme. Under this scheme, beneficiaries receive UGX 50,000 every two months. Payments to beneficiaries are made through MTN Mobile Money.
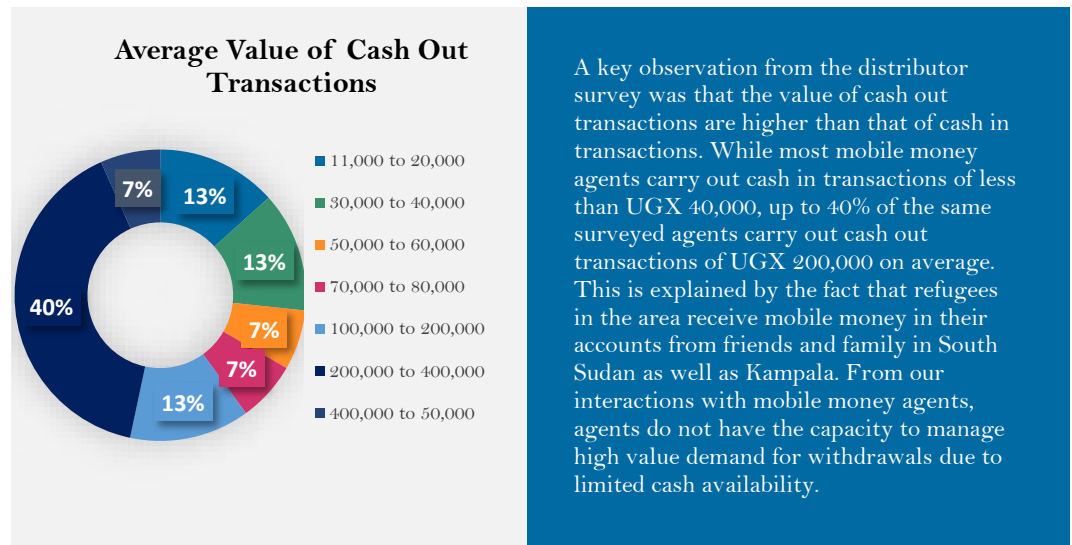
4.2.3   Person to Business Payments

Most businesses prefer to receive cash payments for their goods or services. This is driven primarily by availability of cash.

77% of surveyed businesses prefer to be paid using cash.

Preferred Mode of Payment

23%

77%

- Cash
- Mobile Money

Reasons for Preferred Mode of Payment

12%

6%

32%

8%

11%

31%

- Available
- Other
- Secure
- Affordable
- Fast
- Easy to Operate

- Option of bargaining is easier when cash payments are used.
- Convenience
- Supplier preference and trust in cash
- Cost effectiveness

Other reasons as to why businesses prefer to use cash for payments

4.2.4   Person to Person Payments: Cash out Transactions

Average Value of Cash Out Transactions

- 11,000 to 20,000
- 30,000 to 40,000
- 50,000 to 60,000
- 70,000 to 80,000
- 100,000 to 200,000
- 200,000 to 400,000
- 400,000 to 50,000

7% 13% 13% 7% 7% 13% 40%

A key observation from the distributor survey was that the value of cash out transactions are higher than that of cash in transactions. While most mobile money agents carry out cash in transactions of less than UGX 40,000, up to 40% of the same surveyed agents carry out cash out transactions of UGX 200,000 on average. This is explained by the fact that refugees in the area receive mobile money in their accounts from friends and family in South Sudan as well as Kampala. From our interactions with mobile money agents, agents do not have the capacity to manage high value demand for withdrawals due to limited cash availability.

4.2.5   Person to Person Payments: Cash in Transactions

Up to 80% of mobile money agents conduct more cash out transactions when compared to cash in transactions.

Cash in Transactions: Up to 60% of cash in transactions are for saving while 40% are for purposes of sending cash. Overall, the volumes of cash in transactions are low with none of the surveyed agents transacting more than UGX 200,000 on average. 27% of surveyed mobile money agents transact an average of UGX 10,000 – UGX 20, 000 and 20% transact an average of UGX 30,000 to UGX 40,000.
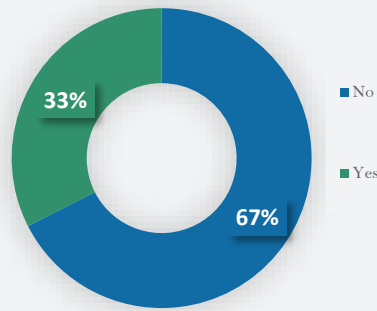
80% of surveyed agents conduct more cash out than cash in transactions.

Reasons for Cash In Transactions

- Saving
- Money Transfer

40% 60%

Average Value of Cash in Transactions

- 10,000 to 20,000
- 30,000 to 40,000
- 50,000 to 60,000
- 70,000 to 80,000
- 90,000 to 100,000
- 100,000 to 200,000
- 500,000 to 1,000,000

7% 13% 7% 13% 13% 27% 20%
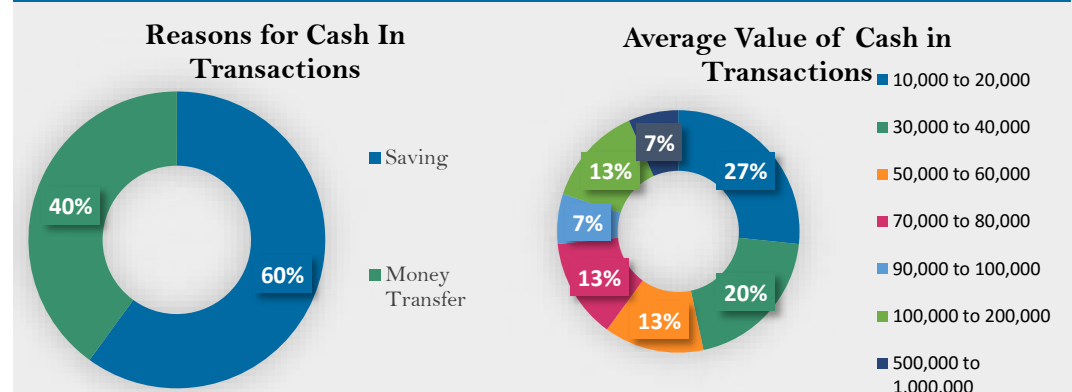
4.2.6   Business Payments

Most businesses do not make payments using mobile money (67%). This is due to high transaction costs associated with making payments through mobile money among others
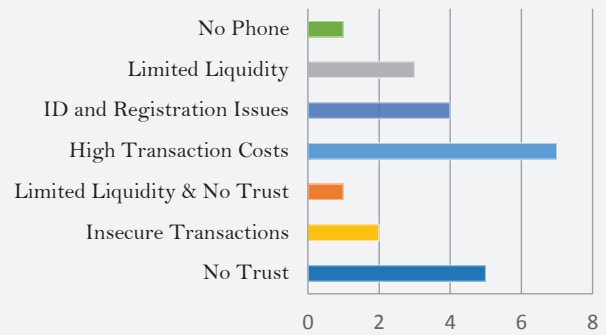
For those that do make business payments through mobile money, it is mainly to Businesses (58%) as opposed to Business to Person transactions (42%).

67% of surveyed businesses do not use Mobile Money to make payments.
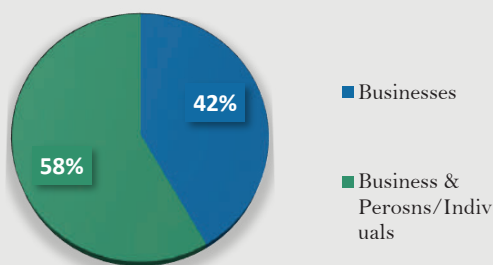
Usage of Mobile Money

33%

67%

■ No

■ Yes

Reasons Mobile Money Is not Used

No Phone
Limited Liquidity
ID and Registration Issues
High Transaction Costs
Limited Liquidity & No Trust
Insecure Transactions
No Trust

0   2   4   6   8

4.2.6.2   Use of Digital Solutions for Business Payments

Destination of Payments: Overall, businesses in Bidibidi are aware of mobile money services with 67% of surveyed business owners using mobile money services. The use of mobile money services is usually for business related activities or personal use. Overall, 58% of business owners use mobile money services for both business and personal reasons while 42% of business owners use mobile money exclusively for business reasons.
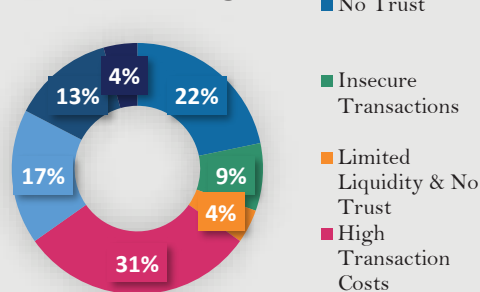
Reason Some Businesses do not use mobile money: Of the surveyed business owners who do not use mobile money and other digital financial services to make payments, 31% do not use digital solutions because of transaction costs, 17% are limited due to identification and registration issues while 4% allude their non-usage due to liquidity issues in the area.

31% of businesses do not use digital solutions because of high transaction costs.

Destination of Payments

- 42% Businesses
- 58% Business & Perosns/Indivuals

Reasons Mobile Money Is not Used

- 4%
- 22%
- 13%
- 9%
- 17%
- 4%
- 31%

- No Trust
- Insecure Transactions
- Limited Liquidity & No Trust
- High Transaction Costs

Potential for Mobile money being used for digital payments: Overall, business owners would be able to use mobile money and digital solutions because for the most part, they do have mobile phones. From the survey, 89% of business owners asserted that they do have mobile phones and a 75% are registered to both MTN and Airtel.

Closely allied to the ongoing discussion on possibility of digitalizing business-based transactions, it can be asserted that 79% of business owners do trust mobile money and E-wallet solutions.

A minority 19% of business owners do not trust digital financial services while 2% trust though not entirely. Some of the key reasons for this lack of trust include network disruptions, limited mobile money points, mobile money being expensive for small sums, lack of knowledge about mobile money and sim card issues.

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4.2.6.4   Business Profiling

Business Ownership by gender: Within the Bidibidi Refugee settlement, 68% of business are owned by males and 85% of businesses are young stage i.e. they have been in operation for about 0 to 2years.

Business Type: Additionally, there is a diverse range of businesses operating within the camp and host community. While 13% of business are market vendors, the biggest percentage, i.e. 79% are diverse.
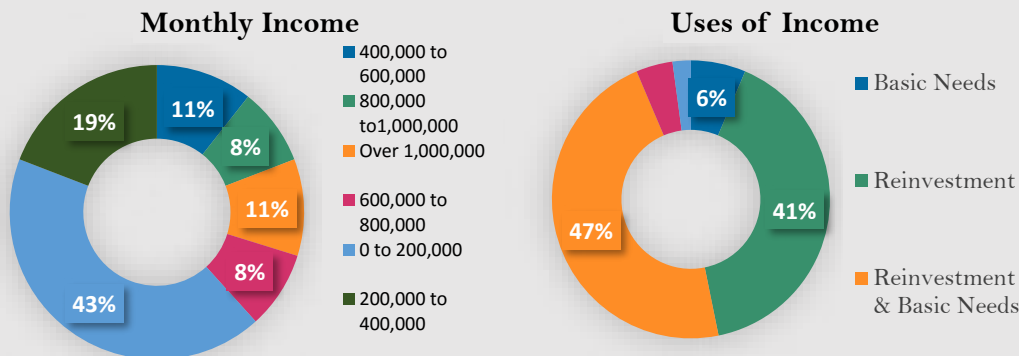
- Grains dealer
- Shopkeeper
- Drug shop
- Clothes vendor
- Veterinary shop
- Grain milling
- Charcoal trader

- Wholesale shop
- Grain miller
- Grinding mill
- Drug shop
- Shop keeper
- Wholesalers

- Bar business
- Variety supplies shop
- Soap making venture
- Bar and soap business
- Restaurant

Due to the financial status of refugees, up to 87% of businesses are financed by loans. Similarly, it is not easy to get financing for businesses with up to 59% of surveyed business owners saying it is hard to get a loan to finance a business. An additional 19% find it very hard and a further 22% find it fairly easy.

Furthermore, most of the businesses operating in Bidibidi are relatively small with 43% of businesses in the area generating monthly income of less than UGX 200,000 and 19% of businesses generating between UGX 200,000 to 400,000. This means a combined 62% of businesses earn UGX 400, 000 or less a month.

The use of income earned is mostly distributed between reinvestment and personal needs. The level of reinvestment is mostly high with 41% of business owners reinvesting their income back into the business. An additional 47% of business owners use their income for satisfying basic needs and reinvestments

43% of the business community earn income of less than Ugx 200,000.

Monthly Income

- 400,000 to 600,000
- 800,000 to 1,000,000
- Over 1,000,000
- 600,000 to 800,000
- 0 to 200,000
- 200,000 to 400,000

11% · 8% · 11% · 8% · 43% · 19%

Uses of Income

- Basic Needs
- Reinvestment
- Reinvestment & Basic Needs

6% · 41% · 47%

CHAPTER 5: INFRASTRUCTURE

As identified by UNCDF's MM4P Programme, Infrastructure is a key pillar of a Digital Financial Services ecosystem. This chapter consists of an analysis of DFS infrastructure within Bidibidi Refugee Settlement and Host Community. It analyses network coverage, mobile money infrastructure and mobility infrastructure.

DFS INFRASTRUCTURE IN BIDIDBIDI REFUGEE SETTLEMENT AND HOST COMMUNITY

ANALYSIS OF EXISTING INFRASTRUCTURE

Africell has set up another mobile tower in Imvepi, a location within proximity to zone 5

Airtel has about seven permanent sites which provide connectivity to the settlement

MTN was able to replace a mobile tower in Bidibidi with a permanent tower to provide mobile phone connectivity. MTN currently has two permanent sites providing connectivity to the settlement

3G network can be accessed within the settlement

Last mile delivery of float and cash to agent locations is made hard and costly due to the poor road network

KEY STATISTICAL HIGHLIGHTS

28% of surveyed mobile money agents quoted network outages as the biggest challenge faced

53% of mobile money agents do not face any challenges when navigating through the mobile money infrastructure

33% of agents find it hard to understand mobile money notifications. These are sent by the MNO in English; a language most rural people can't read

DEVELOPMENTS NEEDED TO SUPPORT DFS INFRASTRUCTURE

There is need for more network towers to be put up in zone five. This is the largest zone most recent one to be set up

There is need to improve the road network in order to enhance last mile delivery of cash and float to agent locations
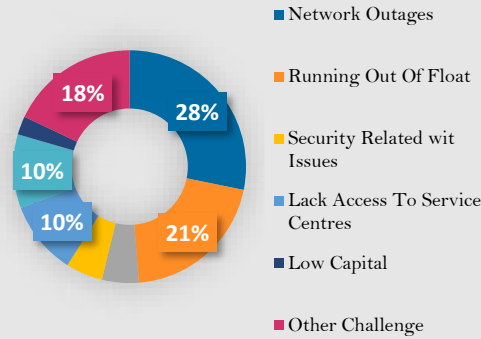
There is need for grid connections to encourage spike in economic activities and improvement in livelihood

5.1   Network Coverage

28% of surveyed mobile money agents quoted network outages as the biggest challenge faced.

Challenges Faced By Agent

- Network Outages
- Running Out Of Float
- Security Related wit Issues
- Lack Access To Service Centres
- Low Capital
- Other Challenge

Instabilities in the mobile network is one of the biggest challenges faced by mobile money agents. Most often at times, a customer will go to a mobile money agent to conduct a transaction only to be told that there is no network. As can be seen in the chart on the left, biggest challenge faced by 28% of mobile money agents is network related.

In the event there is no mobile money network the common practice is for agents to close their shop and go home for the day.

Several mobile network operators have taken the initiative to improve network connectivity in and around Bidibidi. According to Relief Web, MTN was able to replace a mobile tower in Bidibidi with a permanent tower to provide mobile phone connectivity. This has gone a long way in improving the MTN network connection in the area. According to the survey on which this document is based, MTN is currently the most common network used in the area.

Closely allied to the above discussion, Africell has set up another mobile tower in Imvepi, a location within proximity to zone 5. This has similarly played a big role in boosting phone reception. Though Africell money is hardly present in the area, several people use Africell for call services.

5.2   Mobile Money Infrastacture

33% of agents find it hard to understand mobile money notifications. These are sent by the MNO in English; a language most rural people can't read.
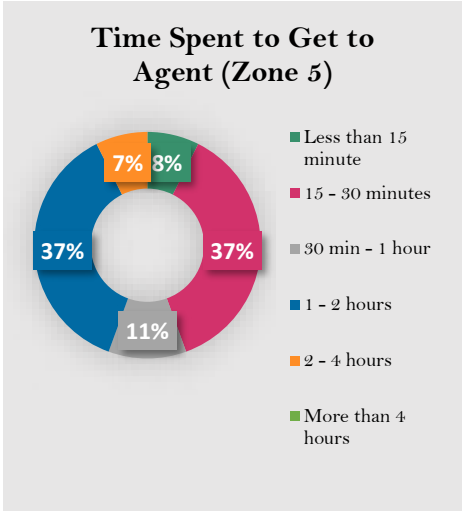
Challenges with Navigating Mobile Money Platform

- Navigating MM System & Understanding Notifications
- Understanding Notifications
- None
- Navigating MM System
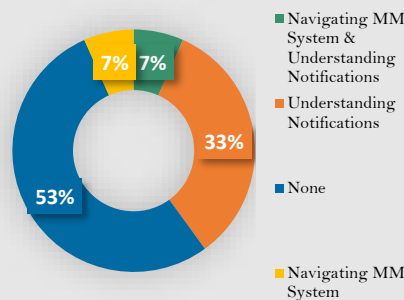
Overall, agents can offer day to day mobile money services such as purchase of easy load for a customer, cash in and cash out transactions. A few of the agents, i.e. 13% said they found it hard to make bill payments on behalf of customers

Furthermore, it can be said that the mobile money platform is mostly easy to use. Based on the data, mobile money agents are mostly comfortable with interacting with the mobile money platform with up to 53% of surveyed agents saying they do not face any technology specific challenges. The key challenge faced by up to 33% of agents is understanding notifications sent by the mobile network provider.

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5.3 Mobility Infrastructure

Time Spent to Get to Agent (Zone 5)

- Less than 15 minute
- 15 – 30 minutes
- 30 min – 1 hour
- 1 – 2 hours
- 2 – 4 hours
- More than 4 hours

7% 3%

37% 37%

11%

Last mile delivery of float and cash to agent locations is made hard and costly due to the poor road network.

Bidibidi Refugee Settlement, which covers about 250 square kilometres of the eastern half of Yumbe district in Northern West Nile is predominantly rural with very limited development.

Field visits to the settlement brought to light the fact that there are fewer mobile money agents in zones 4 and 5. Since zone 5 is wide and Airtel and MTN agents are mostly present at the refugee reception centre, accessing agents is difficult for most people. The main mode of transport is by foot which means that refugees walk long distances to find DFS stations.

Overall MTN and Airtel have two and five permanent sites, respectively, that deliver 3G network to the settlement.

Further, distributors such as REFASU who usually do last mile delivery to mobile money agents find it hard to navigate the predominantly murram road network. The situation is made worse during rainy stations as motorbikes used for last mile delivery find it hard to navigate through the muddy and wet roads.

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CHAPTER 6: PROVIDERS

As identified by UNCDF's MM4P Programme, Providers is a key pillar of a Digital Financial Services ecosystem. This chapter consists of providers operating within Bidibidi Refugee Settlement and Host Community. Focus is put on analysis of existing business models of providers, challenges and barriers and nature of partnerships with banks, if any.

MOBILE MONEY PROVIDERS IN BIDIBIDI REFUGEE SETTLEMENT AND HOST COMMUNITY

MAIN PROVIDERS

30%
Of surveyed customers use Airtel only

45%
Of Surveyed customers use MTN only

23%
Of surveyed customers use a combination of MTN & Airtel

PROVIDER BUSINESS MODELS

MTN extends its services through dealers and master agents like Nilecom and Chims

Nilecom employs agents who it pays a salary. Agent commissions are paid directly to Nilecom

Airtel extends its services through the use REFASU, a regional distributor for West Nile region

REFASU earns revenues from servicing Airtel money agents

BARRIERS AND CHALLENGES

Small customer base

Language barrier

Poor road network

Poor mobile network

CAPACITY BUILDING NEEDS

Setting up localized re-balancing centres to enhance agent liquidity management

Expanding agent network especially in zone 5 to enhance customer accessibility to mobile money services

Credit services to agents to support working capital needs as well as increase operational capacity

6.1 Provider Business Model

MNOs operating in Bidibidi extend their services through regional distributors, dealers and master agents.

Revenue streams for mobile network providers in the area include mobile money services, airtime sales, data, voice, top-ups, and messaging services. Key drivers of revenue for mobile money services is growth in active customers and growth in transactions per customer.

To provide mobile money services, regional distributors and dealers act as intermediaries between the MNO and customers, there are different agent models that a given MNO can adopt in its mobile money service: The Matric Hierarchy Model involves the MNO directly appointing transaction agents as well as appointing master agents to assist with the process of agent recruitment. The master agent model on the other hand involves the MNO selecting and training a network of master agents who in turn oversee recruitment of transaction agents.

As part of their core distribution strategy, Airtel creates geographical territories (East, Central, North and West) for effective service delivery. REFASU handles distribution to West Nile Region acting in a similar manner to master agent handling marketing, float management and recruitment & training of agents.

MTN has a similar strategy involving the use of dealers and master agents such as Nilecom to handle service delivery in the area.
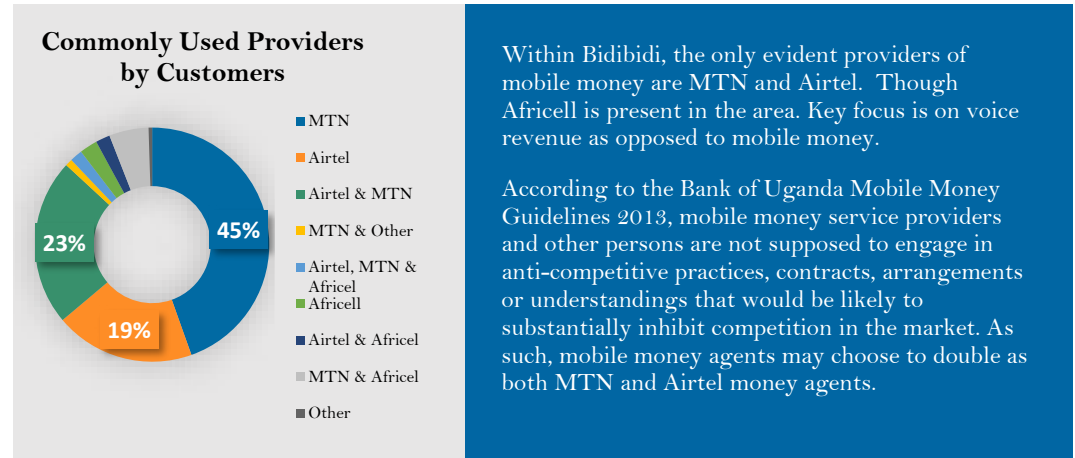
Architect	Value Chain Element				Product
	Deposit Holder	E-money issuer	Payment platform	Distributor/ Dealer	
MTN	Stanbic Bank	Banks in nearby towns and dealers such as Nilecom and Chims	Mobile device	Nilecom and Chims	MTN Mobile Money
Airtel		REFASU agents		REFASU	Airtel Money

For a distributor such as REFASU, revenue streams is twofold, the first is a percentage received on the cash and float value given out. The second is a percentage received from servicing agents with cash and float. For example, if REFASU serviced at least 80% of the agents in Yumbe, they earn an upper tier of 3% of the commission made by agents. Nilecom on the other hand has its own network of agents, agent commissions are paid directly to Nilecom and agents receive a salary.

6.2   Main Providers

MTN, Airtel and Africell are the predominant providers in the area though Africell money hardly has any presence.

Commonly Used Providers by Customers

- MTN
- Airtel
- Airtel & MTN
- MTN & Other
- Airtel, MTN & Africel
- Africell
- Airtel & Africel
- MTN & Africel
- Other

Within Bidibidi, the only evident providers of mobile money are MTN and Airtel. Though Africell is present in the area. Key focus is on voice revenue as opposed to mobile money.

According to the Bank of Uganda Mobile Money Guidelines 2013, mobile money service providers and other persons are not supposed to engage in anti-competitive practices, contracts, arrangements or understandings that would be likely to substantially inhibit competition in the market. As such, mobile money agents may choose to double as both MTN and Airtel money agents.

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6.3   Barriers and Challenges

Float and liquidity management presents a challenge due to distance from re-balancing points and high transport costs.

- Offering digital financial services in a Bidibidi presents a challenge due to the remote and rural nature of the area.
- Providers operating in the region find it hard to break even because of the limited revenues and high operational costs. The active customer base is small, this issue is compounded by low volume of transactions.
- The population has low literacy levels which hinders adoption and use of mobile money. Additionally, mobile phone penetration is still relatively low in this area due to low incomes. This is also exacerbated by language barrier issues.
- Float and liquidity management presents a challenge due to distance from re-balancing points and high transport costs. For example, REFASU agents personally deliver float and cash to agent locations an average of two times a day for every agent. This is very much of a challenge because agents are in very remote areas and most often at times sparsely populated areas. The issue is exacerbated during the wet season when roads are almost impassable. The option of providing float on credit is not currently pursued due to mistrust between REFASU and agents. This is because of the risk of agents not paying for float are high.
- Providers are limited by network & technical difficulties.

Challenges and barriers faced by mobile money providers in Bidibidi

CHAPTER 7: POLICY & REGULATION

As identified by UNCDF's MM4P Programme, Policy & Regulation is a key pillar of a Digital Financial Services ecosystem. This chapter an insight into the key players in Uganda's DFS Ecosystem, the roles they play and the underlying regulation governing mobile money transactions in the country.

CASE STUDY: *POLICY & REGULATION AND THE DFS ECOYSTEM IN BIDIBIDI*

Overview of The Current Regulatory Framework Governing Mobile Money in Uganda

Governing Regulatory Framework: Bank of Uganda (BoU) has set up regulatory guidelines to aid operation of the Mobile Money and Mobile Banking network under the Bank of Uganda Mobile Money Guidelines, 2013. It is important to note that these are just guidelines and they are not legally binding. DFS will be regulated under the National Payments Act which is still a Bill.

However, there are recent development s in the regulatory framework, according to a source at BoU, The National Payments Bill has gone through the policy stage at Cabinet and has been sent to the First Parliamentary Council. There is still some time before it hits the floor of parliament for discussion. Mobile Money Guidelines will form the regulations that will follow the Bill once it becomes an Act. The regulations will be prepared by BoU.

Recent Developments in KYC: Know Your Customer regulations present a challenge in increasing customer adoption of mobile money services. For one to be able to register for mobile money, they have to use a National ID card, the registration status of the user is verified by the MNO through a user's National Identification Number (NIN). In the past, refugees found it hard to register as mobile money agents because of stringent KYCs. Currently, a refugee card is sufficient to ensure registration though from field interactions, not all refugees have refugee cards. However, OPM is currently undertaking a nationwide verification process that is scheduled to end in September 2018.

Shift from Scratch Cards to Top Ups for Airtime: UCC is pushing for a shift from using airtime scratch cards to airtime being purchased through a mobile money account. If the move is proven to be successful, there is bound to be an increase in adoption and use of mobile money.

Tax on Mobile Money Transactions: According to the tax proposals in the Excise Duty (Amendment) Act 2018, there will be a tax charge of 1% on the transaction value of mobile money transactions i.e. cash out, payments and cash in transactions. This proposed tax applies every time someone carries out a transaction using mobile money. This proposed tax is likely to negatively impact on mobile money usage as it will push transaction charges up.

Development agencies disbursing cash through mobile money will do so at a higher cost. Similarly, beneficiaries will cash out their money at a higher cost.

Capacity Building Needed at The Regulatory Level to Support the DFS Ecosystem

- There are no established requirements regarding utilizing systems capable of being interoperable with other payment systems in the country and internationally. This makes money transfers harder for refugees especially to and from relatives in country of origin. There is need for the national payments bill to push for interoperability.
- There is need for a national payments policy that puts emphasis on digital financial services literacy.
- There is need to push for MNOs to customize the mobile money platform in all local languages. This would ensure easier interaction for mostly rural agents.
- There is need to push for greater collaborations between development agencies and MNOs for interventions to be delivered digitally.
- There is need to push for experience sharing of lessons learnt from other refugee camps to development agencies.

CHAPTER 8: CONCLUSIONS AND RECOMMENDATIONS

8.1 Type of Payment and Financial Infrastructure Needed to Support the DFS Ecosystem in Bidibidi Refugee Settlement and Host Community

DFS PILLAR	RECOMMENDATIONS
CUSTOMERS	• Income generating activities are necessary for the sustainability of the DFS ecosystem in Bidibidi. Low incomes lead to low usage of digital financial services. There is need to implement projects that generate income and contribute to improvement of customer livelihood. • Since agriculture is a major economic activity, products around this sector should be explored. Options for these have been presented in the following sub section on interventions to support the DFS ecosystem. • VSLAs, savings groups and cooperatives should have well suited products to encourage transactions using e-wallet. • Targeted education programs tailored to customer needs should be undertaken. Currently, there are some apps such as AgriCart and Agrinet that target farmers with key offering being information on: Seeds varieties; Agronomy Information; Fertilizers and Weather Information. A key limitation of this solution is the fact that the app is android based and refugee farmers for the greater part do not have smart phones. • **Literacy:** Though refugees use basic mobile phones, there are still many literacy issues with customers having to rely on agents to conduct transactions on their mobile devices. Overall, financial education programs are too general to have a measurable impact. An opportunity exists for the private sector to play a bigger role in promoting literacy and training customers on DFS.
DISTRIBUTION	• Number of agents should be increased strategically, in a manner that will keep them engaged in the mobile money agent business. • Agents require additional training, particularly on liquidity management, how to educate customers on mobile money use. • Agents should be accessible to key customer segments including VSLA's, savings groups, cooperatives and businesses and merchants.

	• Increasing agents from refugee community should help combat language barrier issues. • Improving rebalancing system; increased proximity and alternatives to rebalancing point. • Better monitoring of agents.
PROVIDERS	• Building infrastructure i.e. expanding their agent network. • Financial literacy training for rural population/refugees, awareness of ways to use mobile money and other mobile phone features. • Increasing support to regional distributors like REFASU with liquidity management. This can be done through providing financial support with design of a float management system. • Developing systems to manage operational costs. • Credit services to agents to support working capital needs as well as increase operational capacity.
INFRASTRUCTURE	• There is need for more network towers to be put up in zone five. This is the largest zone and most recent one to be set up. • There is need to improve the road network in order to enhance last mile delivery of cash and float to agent locations. • There is need for grid connections to encourage spike in economic activities and improvement in livelihood. • Mobile phone distribution at subsidized prices to encourage use of digital financial services. However, mobile phone distribution shouldn't ignore other mobile phone usages besides Mobile Money. Targets should be able to use the phones for more than the once a month disbursement from developmental agencies.
PAYMENTS AND PRODUCTS	• Enlisting existing businesses as agents to support easy start-up and liquidity management. • Development Agency to Person payments should be phased to ease liquidity demands. For example, instead of sending digital payments to all recipients in a day, payments can be paid in batches over the course of a week. • Use of digital solutions to make payments as opposed to redeemable paper-based vouchers. One such solution is Vouch Digital's mVoucher smart card solution that eliminates paper-based vouchers and uses smart cards. These cards can be reprogrammed and reused by the same refugees. The card acts as a "membership" subscription to the voucher program. The security embedded in the card, as well as features, also ensure that the intended beneficiary is the one who uses the card. The platform includes a photo of each card and ensures that when any merchant is redeeming a beneficiary voucher, they can verify that they are the true identity of who they claim to be.

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POLICY AND REGULATION	• **Interoperability:** Account to Account interoperability allows users to make Person to Person transfers across mobile money accounts of different providers, from bank accounts to mobile money accounts and from mobile accounts to bank accounts. Though, mobile money guidelines require that mobile money systems be interoperable, not all providers are compliant. That is, even though BoU is encouraging interoperability, only the big two i.e. MTN and Airtel have complied.
	• In Bidibidi, like most parts of the country, majority of agents operate on both MTN and Airtel Money. There is need for the pending National Payments Bill to push for interoperability as a regulatory requirement.
	• **Need for an Enabling Regulatory Framework:** One of the biggest limitations with the existing regulatory framework is lack of clear definition and separation of roles between the key players. Until the National Payments Bill becomes an ACT, BoU's role will continue to be ambiguous in respect to who regulates MNO's in as far as financial services are concerned.

8.2   Projects That Can be Piloted to Enhance Digital Payments

The following sub sections consist of key interventions that could be implemented to improve livelihood and generate income. Within the interventions are solutions from the Hack4Refugees project sponsored by UNCDF, DCA and Mercy Corps.

Grundfos AQtap Water Solution:
## *An Aptech Africa Initiative*

Grundfos AQtap is an intelligent water dispenser that can be used at any water kiosk. It's simple and intuitive to use, and water consumers pay for the water via a **WaterCard.** The use of smart cards for revenue collection is transparent and reliable for the consumers and efficient for you as the water service provider.

Furthermore, Grundfos AQtap is connected to an integrated water management system that keeps track of all water data and credit transactions.

Water Kiosk Connected to Water Supply

This is the total solution for sustainable water supply in rural and peri-urban areas not connected to the main water network.

The water kiosk is connected to a water tank supplied by groundwater or treated surface water using proven Grundfos solar driven pumps and
– if required – Grundfos AQpure water treatment systems.
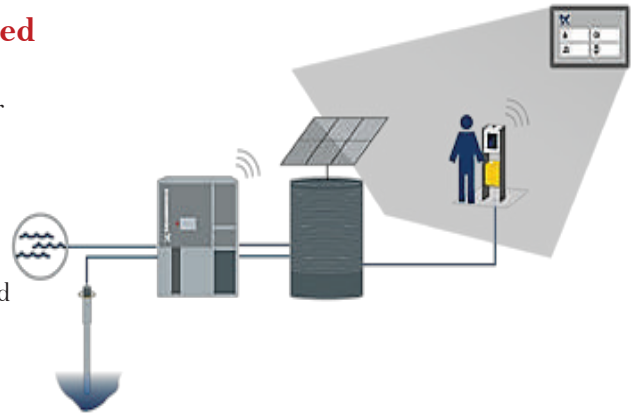
How It Works

Consumers load credits onto their WaterCard, either through local water credit vendors or via mobile pay-
ment. They are then ready to tap water, and this is done in four easy steps:

1. Place the WaterCard in the slot to see the credit balance and water price
2. Push the water button to start tapping water.
3. Tapping is metered on the AQtap dispenser unit display
4. Push water button to stop tapping
5. Transaction is confirmed on AQtap dispenser unit display

Airtel Weza's Product for Saving Groups

entire group savings process making it more convenient, transparent and easier for members to save money through Airtel

Description of the Solution

This product has been designed to cater specifically for savings groups. Below is a summary of key Airteil Weza features:

1. Groups can create a group account.
2. The platform is able to generate mini statements. Such statements give a summary of transactions over a given period.
3. Disbursement of loans using the group wallet i.e. a loan can digitally be sent from the group account to a group member.
4. Similarly, members pay back loans from their Airtel money account to the Weza group account.
5. Also, the platform allows group members to send savings from their Airtel money account to the group wallet.
6. A key advantage of the platform is that it allows a group account to be linked to a bank account. With this feature, groups can easily open an account and transfer savings to interest earning bank accounts. Mobile banking: Airtel Weza can be linked to bank accounts at financial institutions to allow access to interest-bearing savings.

Explanation as to why Airtel Weza Would Work for Groups in Bidibidi

1. Most cooperatives currently use manual record keeping systems. Such records can easily be manipulated or lost. Weza automates the entire record keeping process.
2. Most saving groups currently use saving boxes to save money. Such boxes are not safe and a security risk to the treasurer.
3. It is possible for members in a saving group to live far from the main meeting place or be unable to attend. This platform would allow for a group member to easily send their saving to through Airtel money.
4. Most groups have a treasurer that takes care of all transactions and book keeping. With this approach, there are transparency issues, by using Weza, such issues would be ironed out.

MamboPay:

A Hack4Refugees Initiative

How Mambo Pay Works

Some of the refugees point out that they do not use mobile money because the transaction charges are high. MamboPay provides a solution to this since it charges a transaction fee of UGX 250 per transaction regardless of the amount of money transacted.

Refugees receive unconditional payments from NGO's through the current hand delivered cash distribution system which is costly and involves high risks of theft. MamboPay offers one unified wallet through which all payments can be run and managed.

Different NGO's offer conditional payments to the same refugees while using different wallets to handle the payments. Some use vouchers and others use cards. This makes one refugee to own many different wallets. MamboPay provides a solution with one unified wallet. They leverage the Refugee Identity card and add payment ability on it. The refugee ID card is then able to receive conditional and unconditional payments and hence is used as a tool of payment. All the refugee needs to do is to authorize payment off his/her ID by entering a PIN number against any payment prompt.

MamboPay provides an aggregated wallet for which development agencies can access real time data about different aspects in the refugee settlements. Such data if collected and analyzed centrally can be shared across and used in proper distribution of services and items as well as better planning.

AGRICART:

A Hack4Refugees Initiative

Agricart

Agriculture being major economic activity, it should be given primary focus. Using AgriCart which is a collection of services including a mobile application platform alongside web application, SMS messaging and USSD offers crop farming, inputs, market information and book keeping to farmers.

For business management, AgriCart provides Book keeping Services through ledgers to farmers. It uses a Mobile android application running alongside a web application with SMS, USSD, Data Analysis and algorithms to perform book keeping for Farmers.

AgriCart provides Online Market that guarantees quality through Commodity Ware Houses. This will help to boost sales.

AgriCart gives real time market prices to farmers and also a Ledger to keep track of their farm progress. This market information helps farmers to know where to market their produce and the earnings they expect to get from their sales.

Farm Projections based on Acreage, seeds planted, Spacing and mode of planting are very important. For this to be achieved Farmers in Refugee settlements need access to data such as where to get Seeds varieties, Agronomy Information, Fertilizers and Weather Information such that they can increase their productivity. This is made possible with AgriCart.

KODHI:
A Hack4Refugees Initiative

About Kodhi

Distribution of goods and services should be made easy between consumers and suppliers and by the implementing partners to the refugees by decentralizing and digitizing the distribution process. The use of Block chain by Kodhi enables consumers and suppliers to connect directly without the need for a third party. Block chain is a decentralized and distributed digital ledger that records transactions over a series of blocks which exist in multiple copies spread over the network.

Given the influx of refugees from South Sudan which has let in some of the largest refugee numbers over the past few years, it is imperative that the distribution and dissemination of goods and services is modernized and digitized to reduce leakages, inaccuracies, increase transparency and provide real time reconciliation and monitoring. An efficient, decentralized distribution solution that employs the latest technologies in distributed ledger systems, predictive analytics and Internet of Things (IoT) is urgently required to improve the end to end distribution experience for all parties involved.
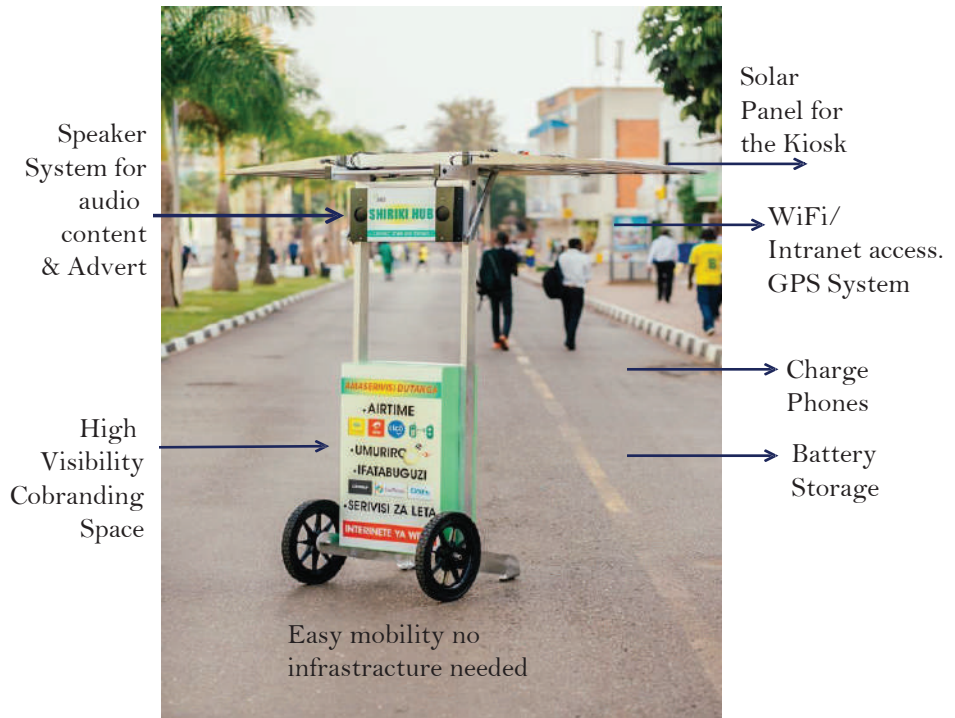
Due to technology changes, there is a need to adjust to new developments in technology. Kodhi utilizes open source components of technologies in block chain, IOT and data science that have a worldwide community of support that ensures that they are always updated with the latest advances and have a lifetime of support. Through its understanding of cutting-edge technologies, it can deliver a modern, digitized system that is both efficient and cheap while delivering on user experience across the entire distribution life cycle.

Solar Kiosks:
An ARED Initiative

About the Solar Kiosk Solution

The solar kiosk is a sustainable solution for growing an agent network and building sustainable businesses.

With this solution, women and people with special needs can be mobile money agents and engage in activities such as selling airtime, selling small commodities, charging phones, among others.

Speaker System for audio content & Advert

Solar Panel for the Kiosk

WiFi/ Intranet access. GPS System

High Visibility Cobranding Space

Charge Phones

Battery Storage

Easy mobility no infrastracture needed

List of Acronyms

BoU	Bank of Uganda
DCA	DanChurchAid
DFS	Digital Financials Services
KYC	Know Your Customer
MM	Mobile Money
MNO	Mobile Network Operators
NGO	Non-Government Organization
SACCO	Savings and Credit Cooperative Organization
UGX	Ugandan Shillings
UNCDF	United Nations Capital Development Fund
UNHCR	United Nations High Commission for Refugees
VSLA	Village Saving and Loans Associations

Acknowledgements

About UNCDF and MM4P
The UN Capital Development Fund (UNCDF) makes public and private finance work for the poor in the world's 47 least developed countries (LDCs). With its capital mandate and instruments, UNCDF offers "last mile" finance models that unlock public and private resources, especially at the domestic level, to reduce poverty and support local economic development.

MM4P (Mobile Money for the Poor) is working intently with banks, mobile network operators, regulators and users of DFS in challenging markets to help reach millions of additional customers who are currently financially excluded. In doing so, MM4P hopes to prove that these services can be provided responsibly, at a reasonable cost, by sustainable institutions in a well-regulated environment. MM4P uses a theory of change approach to DFS development, which focuses on making shifts between phases of market development, moving from Inception to Start-Up to Expansion and eventually to a mature market known as Consolidation. Through each phase, MM4P considers the entire DFS ecosystem. This means MM4P plans activities at the levels of Policy & Regulation, Infrastructure, Providers, Distribution, High Volume and Customers to improve market conditions and facilitate shifts.

About DCA
DanChurchAid (DCA) is one of the about 25 humanitarian organisations that assist the UN system in Bidibidi. DCA works closely with partner organisations and government structures at different levels, while also doing direct/self-implementation in our humanitarian response to the South Sudanese refugee influx.

About Asigma Advisory
Asigma Advisory is a management and financial advisory firm with a niche in using data analytics to offer business strategy insights. Data is a core pillar of work at Asigma. Asigma develops locally adaptable business strategies for organisations by leveraging their operational experience, and expertise in data analytics and business intelligence integration.