



SMART MASS PAYMENTS: Bulk Payments Made Easy

A white paper prepared by the
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About MM4P

UNCDF developed the MM4P programme to ensure that the opportunities and benefits of digital finance would reach low-income people in difficult markets. UNCDF provides a mix of technical, financial and policy support to policymakers, regulators, providers, distributors and users of digital finance in order to expand access to and usage of services that contribute to achieving the SDGs.

About the Zambia project team

This white paper outlines major findings of a research and diagnostic exercise conducted by Positive Planet International and the UNCDF team between July 2017 and November 2018. The exercise involved quantitative and qualitative research, three bulk payment implementations and interviews with digital finance stakeholders (i.e., providers, bulk payers and customers). The following project team members authored the paper:



Nandini Harihareswara
Regional Technical Specialist,
UNCDF

Zerubabel Junior Kwebiiha
Digital Financial Services
Expert, UNCDF

Brian Paul Katimbo
Data Analyst,
UNCDF

Bezant Chongo
Lead Researcher, Positive
Planet International

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Ali Akram
Digital Financial Services
Consultant

Veena Krishnamoorthy
Cash-Based Intervention
Officer, UNHCR

Kaleo Nakazwe
Enterprise Manager,
Zoono Zambia

Eugene Phiri
Bulk Payments Manager,
MTN Mobile Money Zambia

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Table of contents

Executive summary	v
Introduction	01
Key findings	04
Question #1: What is the opportunity for digital bulk payments in Zambia? And, is there a business case for bulk payments across the various DFS provider models?	04
Market opportunity 1: Employer-sector focus	06
Market opportunity 2: Transaction-value focus	07
Market opportunity 3: Geographical focus	07
Market opportunity 4: Government payments	08
Question #2: What can be learned from providers that have started offering bulk payments, payers that have used bulk payments and payees who have received bulk payments so far?	10
Challenges to successful bulk payment implementation	11
Question #3: How can providers and implementing partners successfully (and sustainably) implement bulk payments, especially in peri-urban and rural areas of Zambia?	12
Recommendations	14
Annexes	16
A. Methodology	17
B. List of existing and potential payers surveyed	18

List of figures, tables and boxes

Figure I Breakdown of Zambian labour force by sector	06
Figure II Percentage of total transaction value of bulk payments by type	07
Figure III Subscriber penetration by province	07
Figure IV Mobile penetration by province	08
Figure V Percentage of monthly transaction volume of bulk payments by the Government in cash and digital money	08
Figure VI Percentage of monthly transaction value of bulk payments by the Government in cash and digital money	08
<hr/>	
Table 1 Incentives for the digitization of bulk payments	viii
Table 2 Recommendations for digital bulk payments	ix
Table 3 Recommendations for digital bulk payments	15
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Box 1 Spotlight: Digitization of cash-based interventions for refugees in Meheba refugee settlement	05
Box 2 Examples of cash-based payment costs from sampled companies	09
Box 3 Spotlight: Key success factors - agent proximity and liquidity	13

List of acronyms

CBI	cash-based intervention
DFS	digital financial service(s)
FGD	focus-group discussion
MM	mobile money
MNO	mobile network operator
MTN	Mobile Telephone Networks
UNCDF	United Nations Capital Development Fund
UNHCR	Office of the United Nations High Commissioner for Refugees



Executive summary

This white paper was developed by the UN Capital Development Fund (UNCDF) in collaboration with various stakeholders in the digital financial services (DFS) industry, in order to highlight the potential for digital bulk payments as (i) a viable business tool to conduct mass payments in Zambia; (ii) a sustainable business case for DFS providers; and (iii) an inclusion mechanism for the financial- and economic-empowerment of users. **The key objectives of the research underpinning this paper were the following:**

- **Gather quantitative and qualitative insights** on the market for digital bulk payments in rural and peri-urban areas of Zambia as well as in refugee settlements.
- **Collect insights for the development of a go-to-market strategy** for digital bulk payments, including critical success factors for their deployment, by interviewing and engaging with potential partners (payers) and end beneficiaries (payees).
- **Obtain insights** on actual and potential use of digital bulk payments as well as customer preferences for bulk payment services.
- **Gain insights on awareness** of and trends in bulk payments among companies and other potential payers.
- **Recommend ways** in which DFS providers, bulk payers and other stakeholders, including government and development partners, can promote the expansion of appropriate, affordable and accessible bulk payments.

More than 115 interviewees from 22 organizations, comprising government regulators, ministries and agencies as well as private-sector stakeholders, were consulted during the period of data collection: July 2017 to November 2018. Ten focus-group discussions were conducted with potential and existing payees in various locations across Zambia.

Key findings

In Zambia, bulk payments are currently offered by 50 percent of DFS providers, which fall into three categories:



Banks: Payments are primarily processed in recipients' banks accounts. Customers can then access their funds through various channels (e.g., ATMs, banks and merchants).



Mobile network operators: Payments are primarily processed in recipients' mobile money (MM) accounts. However, a few providers in Zambia are exploring an option to allow for payments via SMS-code for customers who do not have registered MM wallets. Customers can gain access to cash from existing MM agents.



Third-party providers: Payments are primarily processed via SMS-code, as most customers of third-party providers do not have e-wallets. Customers are then able to cash out with various third-party agents.

Bulk payments are 'smart' for financial service providers. A key finding was that a clear business case exists for DFS providers to offer bulk payments, since they introduce e-money into the ecosystem at relatively low cost and can be used to earn transactional revenue through value-added services. Furthermore, the average revenue per user for bulk payment recipients is relatively higher than for other MM users because the recipients tend to conduct more transactions through other services offered by the providers, such as bill payments, micro-loans and airtime purchases.

Digital bulk payments can improve financial inclusion and economic empowerment. Data analysis showed that funds paid into the e-money ecosystem had a multiplier effect of 2.5 within the ecosystem. For example, if a beneficiary was paid the equivalent of US\$10, that beneficiary went on to transact more than US\$25. Payees were keen to cash in and store money in their MM accounts and request micro-loans to cover short-term financial gaps.

There is a large unmet need for digital bulk payments. As the current value of bulk payments in Zambia is less than 1 percent of all e-money transactions, there is a significant untapped market for providers. The potential bulk payment market includes Zambians who are employed and receiving wages regularly, especially those in rural areas. In fact, one subsector of interest, due to its significance to the Zambian economy and the diverse nature of the payments made, is agriculture. Nearly 770,000 people are employed in agriculture, the vast majority of whom are in rural areas, which constitutes an easy entry point for bulk payment providers.ⁱ A sectoral approach would require the development of standardized marketing materials, customer support mechanisms and end user onboarding materials.

Market opportunities for digital bulk payments

The research revealed the following market opportunities in the area of bulk payments for DFS providers in Zambia:

1

Market opportunity 1: Employer-sector focus – To capitalize on this opportunity, the market is broken down by labour-force type. The payment of salaries and wages presents the single largest bulk payment opportunity. The market for this opportunity comprises the members of the labour force who are employed and receiving wages regularly (at least monthly), which amounts to nearly 3 million people; of this group, 40 percent is rural, which, due to the paucity of existing DFS solutions in these areas, provides a relatively untapped market.ⁱⁱ

2

Market opportunity 2: Transaction-value focus – Based on analysis of existing bulk payment clients, operational payments represent 82 percent of bulk payments that can be digitized. These payments provide a sustained business opportunity as they are regular transactions that are core to the business of the clients. Examples of operational payments include but are not limited to staff salaries; payments to casual workers, regular suppliers and vendors; commission costs; and, in some cases, loan disbursements.

ⁱ Zambia, Ministry of Labour and Social Security & Central Statistical Office, *2017 Labour Force Survey Report* (Lusaka, August 2018).

ⁱⁱ Ibid.

3

Market opportunity 3: Geographical focus – Although mobile penetration is high in the urban provinces of Zambia, low mobile penetration in rural areas presents a barrier to uptake. Yet it also presents an opportunity: in other markets, bulk payments as well as mobile-enabled payments (e.g., bill payments and collections) have provided the foundation for the business case to increase access to talk time, text and other services in rural areas.ⁱⁱⁱ Consequently, a roll-out strategy by any bulk payment provider needs to consider interoperability (or platform interconnectivity) or other aggregated solutions as part of its offering since payees will undoubtedly be split across multiple networks.

4

Market opportunity 4: Government payments – Based on a diagnostic report of government payments, released by UNCDF and Financial Sector Deepening Zambia in collaboration with the Ministry of Finance, 35 percent of the 3.5 million transactions made to and by the Government every month are digital and represent 75 percent of the total value transacted.^{iv} The shift of government payments from cash to digital offers a significant opportunity for bulk payments in Zambia.

Barriers to adoption of digital bulk payments

Several issues may undermine the efforts of providers and other stakeholders to digitize business-to-customer and government-to-person payments. **These barriers originate from the payers, the private sector (providers) and/or individuals; they include but are not limited to the following:**

- **Pre-contract processing:** The research revealed significant delays from the point DFS providers first pitch to potential agents through contracting those agents to the agents finally being available at payment sites to sign up payees and activate their accounts. A sampled business experienced a delay of six weeks from the first contact to the conclusion of the contract and ultimately to sign-up of payees.
- **Transparency of DFS pricing:** Research participants at all locations noted a lack of transparency regarding pricing. They expressed concern about being overcharged, as agents never displayed tariffs.
- **Technology training and support:** Insufficient training on the use of MM, especially in regards to PIN management by new users, created a poor customer experience, particularly when it came to PIN-reset requests. No clear recourse process and no centralized support for bulk-payment payees meant that the employer or bulk payer would often have to offer customer support services to the beneficiaries, a task they were not equipped to execute effectively.
- **One-off payments:** One-off payments, such as workshop allowances that are paid by third parties and do not require long-term enrolment, are highly sensitive to delay or failure. In these instances, payers and payees are likely to opt for cash, which is considered more reliable.
- **Proximity and liquidity of agents:** The research highlighted the low number of agents in rural areas. Several sampled payees paid transport costs to reach their nearest agent, which in turn negatively affected the customer value proposition for digital bulk payments. Low liquidity levels of agents were also raised as a concern, particularly during the days when bulk payments were made.

Incentives for the digitization of bulk payments

Extensive engagement with stakeholders in the payment ecosystem, including workshops and interviews, provided a foundation upon which incentives for digital bulk payments were developed (see table 1). These incentives would encourage support from the Government, development partners, businesses, private-sector actors and individuals in the transition of current payment systems from cash to digital.

ⁱⁱⁱ Tillman Bruett, 'UNCDF: Giving Farmers a Boost through Digital Finance,' *Capital Finance International* (Autumn 2018), pp. 200–202.

^{iv} Nandini Harihareswara and others, 'Government Payments Flow Diagnostic – Zambia' (n.p., UNCDF, March 2017).

Table 1

Incentives for the digitization of bulk payments

Bulk payers (government agencies, companies, development partners)	Beneficiaries (payees)
<ul style="list-style-type: none"> • Greater transparency and efficiency of various payments (e.g., salaries, allowances and social safety-net schemes) • Reduced leakages due to syphoning and ghost beneficiaries of subsidies and cash transfers • Increased operational efficiencies resulting from real-time reconciliation, allowing for improved risk management • Improved availability of reliable data with which to make evidence-based decisions • Overall reduction in social welfare programmes' administration costs as a result of digitization and better reconciliation 	<ul style="list-style-type: none"> • Improved security and reduced risk of theft and/or fraud for government beneficiaries and salaried employees (ensured by digital encryption and biometric/one-time-password authentication) • Increased convenience for payments (e.g., salaries, humanitarian aid programmes, social safety-net schemes) • Greater confidence that the full, correct amounts are transferred, especially to individuals • A low-barrier onramp to improving familiarity with digital payments for rural and underserved populations
Financial service providers (banks, mobile network operators and third-party providers)	
<ul style="list-style-type: none"> • Higher revenues from facilitating payments, cash-out transactions as well as additional services performed by payees • Potential technical and/or financial support or partnership for the extension of agent networks in remote areas • Cheaper cost of customer acquisition (particularly for rural customers) given the targeted nature of these projects 	<ul style="list-style-type: none"> • Development of sustainable profit-sharing models that also reduce cost of project implementation in rural areas • More opportunities for cross-selling other products and expanding new revenue streams (e.g., low-cost handset sales, micro-loans and savings, SMS and data sales) • Continued role in facilitating cash-out in remote locations, generating income from transaction charges

Recommendations

The research findings and lessons learned indicate that (i) for DFS providers to capitalize on this opportunity, commercially focused and enhanced support for bulk payments is required; and (ii) strong internal back-office operations and customer care must be in place to ensure customer satisfaction and sustained use of the service. Additional recommendations for existing and potential bulk payment providers are provided in table 2.

Table 2

Recommendations for digital bulk payments

Improvements and/or additions	Relevance	Recommendations
Provider selection	Payers are looking for DFS providers that are able to support and facilitate a smooth transition of payments from existing systems to new digital solutions.	Review the procurement criteria for the selection of bulk payment partners. Ensure service-level agreements are signed between the payer and the provider that identify clear deliverables regarding customer onboarding, education, support and agent network development.
Customer onboarding, education and ongoing support	Payers are introducing bulk payments to thousands of new MM customers, who will require adequate education, training and technical support for them to use these solutions.	Provide training packages and materials at various levels (payers and payees). Build training capacity within the organizations adopting these payments. Enhance both the quality of and the access to customer service for both payers and payees to troubleshoot issues that arise and provide basic training and education on the use of DFS. Onboard mobilizers and/or ambassadors who can promote customer education and address frequently asked questions as a first level of support. ^a
Payer user interface	Payers disburse high volumes (and values) to groups in patterns but also at irregular intervals. Payers will require access to a platform that can allow for ease of payment reconciliation, storage of payee data and history, as well as customizable reports.	Enable payers to establish multiple levels of approval and reports that store payee payment data and history. Such a platform should also allow for easy management of disbursements.
Financial inclusion	The bulk of targeted payees are underbanked, and many will be using DFS for the first time.	Encourage providers to develop a bundled suite of products so that payees can see value in these solutions beyond just receipt of payments.
Agent network and liquidity	For payments in rural and peri-urban areas, most of the payees will initially cash out all of their money due to a lack of trust in systems to which they have been newly introduced.	Support designated agents to specially manage payments, customer onboarding and ecosystem development. Build agent networks to support the communities beyond the payees, which will require deliberate efforts from providers to onboard other customers in the areas of disbursements. Doing so will strengthen the agent value proposition.
System uptime and network coverage	Most payments will be in rural and peri-urban areas where network coverage is less reliable. Payers will require a system that has a high amount of uptime in order to achieve payment consistency.	To promote trust and confidence in the bulk payment systems, consider not signing up customers in areas with inconsistent network coverage. Poor customer experience results in rejection of the service in both the short and medium term as well as reputational damage to the provider's brand.
Interoperability or interconnectivity	Payees often have accounts with different providers. Payers will require platforms that allow them to make payments from one single bulk payer account into multiple provider accounts.	In the absence of interoperability of accounts, consider that the role of aggregators and technology partners is essential. ^b

^a Bruett, 'UNCDF: Giving Farmers a Boost through Digital Finance,' pp. 200–202, a focus on booster teams.^b David Darkwa and Rashmi Pillai, 'Lessons from Aggregator-Enabled Digital Payments in Uganda,' 18 February 2016. Available from <https://www.cgap.org/blog/lessons-aggregator-enabled-digital-payments-uganda>

Next steps

Based on comments from and discussions with existing and potential bulk payers, general themes around product functionality/usefulness and requirements emerged. As product iterations progress and help establish core standards for bulk payments, the offerings can inform both payers seeking to adopt digital payments as well as providers looking to design products that require less customization and are applicable to entire market segments.

A quicker, practical and market-specific approach to ascertain the value of bulk payment streams and to iterate critical elements, such as functionality and market-entry strategy, could include the following steps:

- 1 Start with small batches and with 'low hanging fruit' (i.e., recipients who are more accustomed to MM in areas where network and agent coverage is robust) and follow a systematic scale-up plan.
- 2 Begin with internal payments that the organizations still disburse in cash to their staff (e.g., salary, travel per diem and petty cash) and then transition operational payments to digital payments in areas with better network and agent infrastructure in order to build trust within the organizations.
- 3 Finally transition programme/project payments to recipients in groups that are located first in urban areas, then in peri-urban areas and next in rural areas.

Such an approach allows for learning and iteration in a low-risk scenario that can lead to discovery of specific minimum requirements and priorities for product design and development. The experience can enable providers to determine where to direct resources and how to control quality, and even whether to limit the scope of services in order to focus on deployments that are likely to succeed rather than extend themselves beyond their capacity.

Despite any product limitations or challenges they encountered, payers indicated that they would likely continue using digital bulk payments since they are still a better option than physical cash disbursements. Designing digital bulk payments that meet payees' needs and preferences will make it that much easier and quicker for them to adopt and for payers to promote widespread adoption of MM by their programme participants.



Introduction

State of digital financial services in Zambia

Between December 2016 and December 2018, the digital financial services (DFS) industry in Zambia experienced significant growth in terms of the number of active customers, agents and DFS providers. The industry went from having only 2 percent of adults with an active DFS account from four providers in 2014 to 24 percent of adults with an active DFS account from 18 providers in 2017. Responding to the increase in active customers, the number of active agents grew by 74 percent. With an increased level of trust in DFS, demonstrated by the growth of active customers, there was also an expansion in use cases and partnerships between financial service providers and non-financial service providers such as pay-as-you-go solar services.

According to a UN Capital Development Fund (UNCDF) report on the state of the DFS market, 15 products are available in Zambia—including bulk payments.¹ Since market actors have begun to look for cost-effective ways to grow their customer base and since UNCDF published study of the flow of government payments, several DFS providers have prioritized products like bulk payments.²

Bulk payments are defined as one-to-many payments that go from one paying agency to many beneficiaries at once. In Zambia, these payments are processed in bank accounts (e.g., salaries), mobile money (MM) accounts (e.g., allowances), or temporary wallets via SMS-code (e.g., social safety-net payments and allowances).

¹ Nandini Harihareswara and others, 'State of the Digital Financial Services Market 2017: Results from the UNCDF-MM4P Annual Provider Survey' (Lusaka, UNCDF, August 2018).

² Harihareswara and others, 'Government Payments Flow Diagnostic – Zambia.'

There are always at least three roles that operate in bulk payments:

- **Paying agency (or payer):** This is the party that initiates the bulk payment. It could be a non-governmental organization, governmental agency or private company.
- **Payment provider:** This is the organization that provides the technology platform that facilitates the payments from the paying agency to the beneficiaries. It may be a bank, a mobile network operator (MNO) or a third-party provider.
- **Beneficiary (or payee):** This is the beneficiary to whom the payment is made. The payee may have a bank account or an MM account. In cases where the payee does not have either account, a payment might be made over-the-counter: the payee receives an SMS with a code, and he/she can cash out at designated agent location.

Bulk payments encompass a variety of payment types. Examples of bulk payments include but are not limited to the following:

- Salary payments and expense reimbursements.
- Pension contributions (pay-outs).
- Unconditional cash transfers and humanitarian payments.
- Conditional cash transfers.

It is important to acknowledge the difference in business models among provider types as these business models form the basis for the value proposition to the payer and ultimately to the payees. **With that in mind, this white paper takes into consideration the models adopted by the various provider types:**

- i** Banks, in most cases, act as the 'banker' for the payer and make bulk payments directly into the bank accounts of the payees (e.g., salary payments). Payees access their money at ATMs, at banks and with agents, and they can make merchant and/or online payments.
- ii** MNOs typically offer bulk payment solutions that require the payer to open an e-money (bulk payer) account on the MM platform. Payments are made into the payees' MM accounts. Payees access their money by cashing out at MM agents or can use the multiple services offered through their MM accounts (e.g., airtime purchases and bill payments).
- iii** Third-party providers make bulk payments into temporary e-wallets in which payees receive a unique transaction code via SMS and PIN. Payees gain access to their funds by cashing out at agent locations.
- iv** A hybrid model allows for payments either to MM accounts or via temporary e-wallets for those customers without MM and/or bank accounts. Another hybrid model is possible when banks have partnered with MNOs and third-party providers through a payment aggregator to facilitate payments to accounts of different providers.




Key objectives and research questions

This white paper was developed by UNCDF in collaboration with various stakeholders in the DFS industry, in order to highlight the potential for digital bulk payments as (i) a viable business tool to conduct mass payments in Zambia; (ii) a sustainable business case for DFS providers; and (iii) an inclusion mechanism for the financial- and economic-empowerment of users.

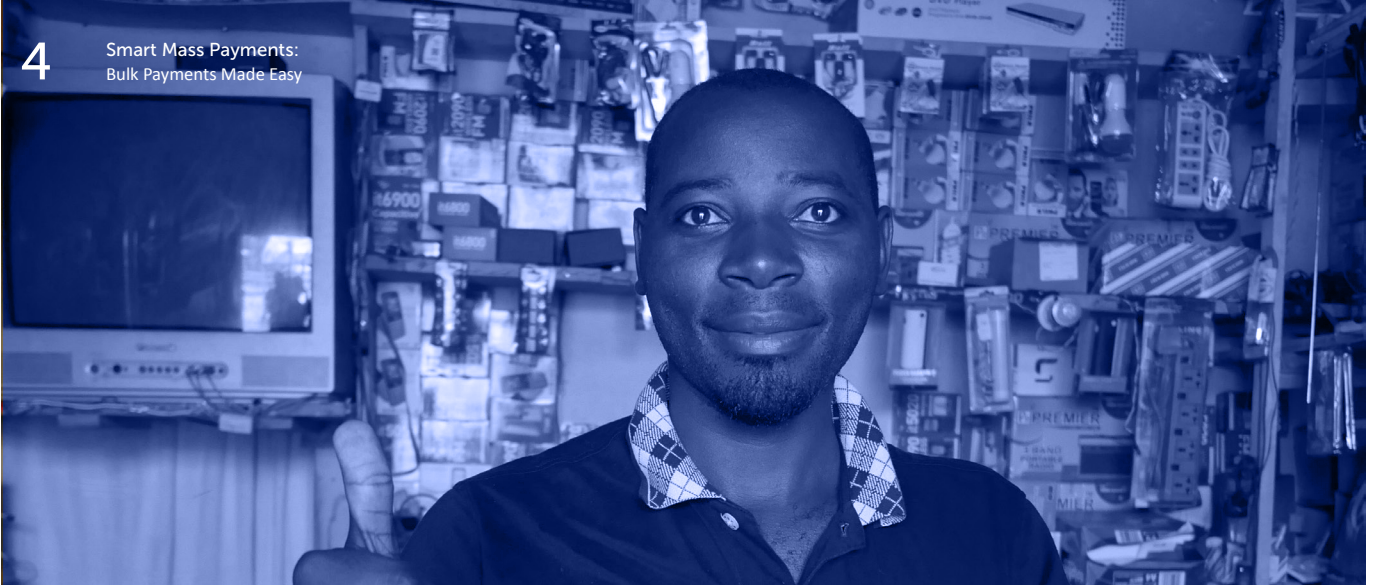
The key objectives of the research underpinning this paper were the following:

- **Gather quantitative and qualitative** insights on the market for digital bulk payments in rural and peri-urban areas of Zambia as well as in refugee settlements.
- **Collect insights for the development** of a go-to-market strategy for digital bulk payments, including critical success factors for their deployment, by interviewing and engaging with potential partners (payers) and end beneficiaries (payees).
- **Obtain insights** on actual and potential use of digital bulk payments as well as customer preferences for bulk payment services.
- **Gain insights on awareness** of and trends in bulk payments among companies and other potential payers.
- **Recommend ways** in which DFS providers, bulk payers and other stakeholders, including government and development partners, can promote the expansion of appropriate, affordable and accessible bulk payments.

To achieve these objectives and to understand the landscape for digital bulk payments in Zambia, UNCDF framed the research and learning by the following questions:

-  **Question #1:** What is the opportunity for digital bulk payments in Zambia? And, is there a business case for bulk payments across the various DFS provider models?
-  **Question #2:** What can be learned from providers that have started offering bulk payments, payers that have used bulk payments and payees who have received bulk payments so far?
-  **Question #3:** How can providers and implementing partners successfully (and sustainably) implement bulk payments, especially in peri-urban and rural areas of Zambia?

See the annexes for more on the methodology for the research and the specific organizations surveyed.



Key findings

Question #1: What is the opportunity for digital bulk payments in Zambia? And, is there a business case for bulk payments across the various DFS provider models?

Bulk payments have been offered by several providers in Zambia, including banks, MNOs and third-party providers; in fact, 50 percent of providers in the country have offered a bulk payment service as one of their offerings.³ Examples range from companies paying field staff to aid organizations digitizing cash-based interventions (CBIs) for refugees in several settlements in Zambia (see box 1 for more on the latter).

Even though it is still in a growth phase, DFS adoption in Zambia has enabled the development of bulk payments, which offer several benefits for payers and payees:

- **Reducing** the need for cash and for the physical infrastructure to deliver cash to recipients, thus reducing the cost to payers.
- **Reducing** the instances of theft, fraud and loss of cash at all points along the distribution channel, reducing the cost to both payers and payees.
- **Increasing** the speed of delivery to recipients while reducing the time lost by beneficiaries lining up for cash or “following the money.”⁴
- **Providing** an entry point for new clients to the DFS offered by MNOs and financial institutions, improving their access to financial services and driving financial inclusion.
- **Improving** transparency and reconciliation related to payments.

³ The following providers offer bulk payments in Zambia: Airtel Money, First National Bank, MTN Mobile Money, United Bank for Africa, Zambia National Commercial Bank (Zanaco), Zambia Telecommunications Company (Zantel) Kwacha, and Zoona. *Source:* Harihareswara and others, ‘State of the Digital Financial Services Market 2017.’

⁴ ‘Following the money’ is a phrase that refugees in Meheba refugee settlement used to refer to the exercise of moving from one location (block) to another trying to track the staff members down that were making cash payments. Due to uncertainty of payment cycles and whether they were on the payment list, they moved from block to block until they were eventually paid.

Box 1

Spotlight: Digitization of cash-based interventions for refugees in Meheba refugee settlement

The UNCDF programme MM4P and the Office of the United Nations High Commissioner for Refugees (UNHCR) collaborated to conduct market research in the Meheba refugee settlement in North-Western Zambia to understand the key challenges faced there and to explore whether digitizing CBI payments would be helpful in addressing the key concerns raised by UNHCR and the Zambian Ministry of Community Development and Social Services.

The partnership supported UNHCR in achieving its mandate of protecting and supporting refugees in Zambia and aimed at achieving the following objectives:

- Develop and test market-led DFS solutions to enable the transition of CBIs in Meheba to digital payments.
- Improve access to CBIs for refugees through more locations, greater availability of transaction points and reduced disbursement time.
- Build the capacities of UNHCR staff on digitization through training and support in implementation.
- Increase the efficiency of the disbursement process in terms of better predictability of disbursement dates for refugees, shorter disbursement period and a more transparent programme for all stakeholders.
- Serve as model for replication in other refugee settlements in Zambia and across the world.

Despite a number of challenges that arose, feedback from the beneficiaries was positive after the initial payment pilot. Many beneficiaries said that it was the fastest that they had received their CBIs without “following the money.” Two subsequent digital payments were conducted in the space of 2–3 days, as opposed to the 10–15 days previously required for manual cash disbursement. Specifically, 52 percent of transfers were completed digitally and distribution of payments was reduced from an average of 13.0 days to 2.5 days. Overall, it resulted in financial and time savings for both UNHCR and the refugees.



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Refugees line up to cash-out their cash-based interventions from an Airtel Money agent, Meheba

Zambia has benefited from strong growth in DFS and MM uptake since 2016. The research for this paper sought to draw out lessons from bulk payment projects and concretely define the market opportunity for digital bulk payments in the country, with consideration of the various players involved in bulk payment value chains. **The opportunity takes into account the following approaches and/or perspectives:**



Payer: Defining the market opportunity by the type of organization(s) using the bulk payment service (e.g., companies, donor agencies or agricultural industries).



Payee: Defining the market opportunity by a distinguishing characteristic of the individuals receiving the bulk payment (e.g., seasonal labourers or community-based field workers).



Transaction type and payment frequency: Defining the market opportunity by the payment type (e.g., operational payments such as salaries or programme payments).



Geographical context: Defining the market opportunity by the location of the service users, with very different scenarios for rural versus urban (or peri-urban) users.

Each approach has different implications on the service provider's business strategy for roll-out and for support of the bulk payment service. The addressable market for digital bulk payments can be viewed from these perspectives, which overlap to build the business case for a provider to offer bulk payments. These perspectives for the Zambian market are summarized in the market opportunities described below.

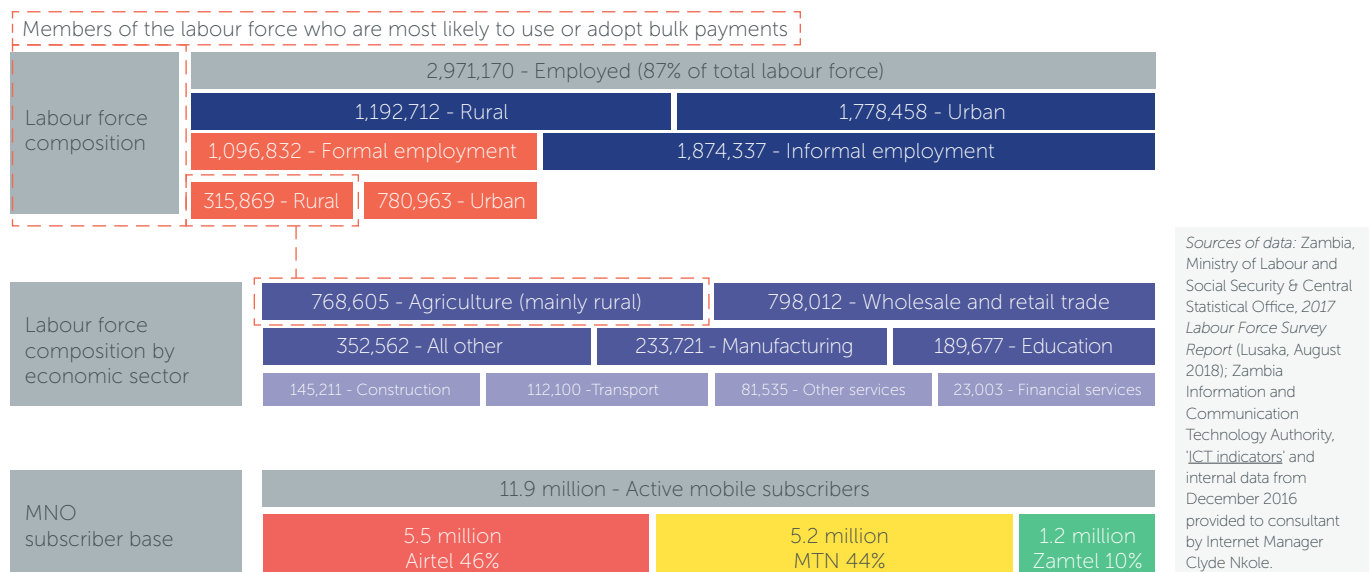
Market opportunity 1: Employer-sector focus

To capitalize on this opportunity, the market is broken down by labour-force type. The payment of salaries and wages presents the single largest bulk payment opportunity, which is quantified in figure I. Namely, the market for this opportunity comprises the members of the labour force who are employed and receiving wages regularly (at least monthly), which counts 2,971,170 people; of this group, 40 percent is rural, which, due to the paucity of existing DFS solutions in these areas, provides a relatively untapped market.⁵ One subsector of interest, due to its significance to the Zambian economy and the diverse nature of the payments made, is agriculture. Nearly 770,000 people are employed in agriculture, 84 percent of whom are in rural areas, which constitutes the easiest entry point for bulk payment providers.⁶

A sectoral approach to bulk payments would require the development of payee onboarding materials, standardized marketing materials (in local languages) and customer support mechanisms as well as an exploration of bundling bulk payments with other services (e.g., DFS-enabled insurance, pay-as-you-go solar kits and payments).

Figure I

Breakdown of Zambian labour force by sector



⁵ Zambia, 2017 Labour Force Survey Report.

⁶ Ibid.

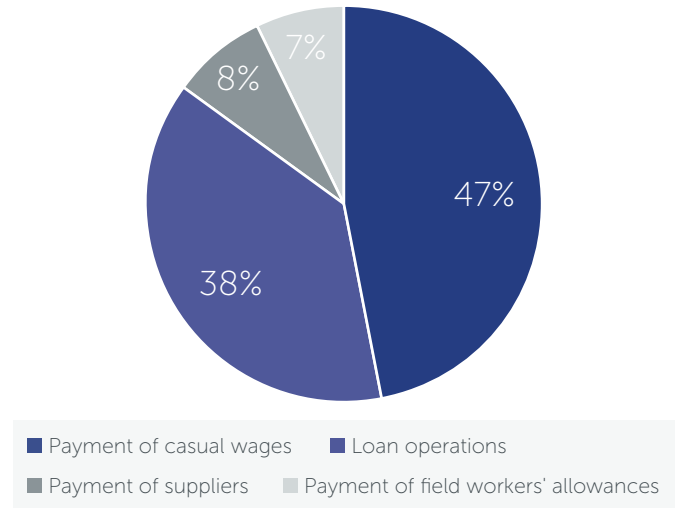
Market opportunity 2: Transaction-value focus

Based on analysis of existing bulk payment clients, operational payments represent 82 percent of bulk payments that can be digitized. These payments provide a sustained business opportunity as they are regular transactions that are core to the business of the clients. Examples of operational payments include but are not limited to the following: staff salaries; payments to casual workers, regular suppliers and vendors; commission costs; and, in some cases, loan disbursements.

Figure II summarizes the distribution of bulk payments by transaction value from July 2017 to August 2017. It shows that operational payments, in the form of wages for casual workers, was the most dominant use case for bulk payments. Additional analysis revealed that most of these wage payments were to permanent and casual employees in the agricultural and agribusiness sectors. Deeper knowledge of the variables at work in these two sectors is essential to understanding how issues such as seasonality of labour, frequency of payments and volume of transactions can affect the implementation of bulk payments.

Figure II

Percentage of total transaction value of bulk payments by type



Market opportunity 3: Geographical focus

Although mobile penetration is high in urban provinces, low mobile penetration in rural areas presents a barrier to uptake of not only bulk payments but also mobile-enabled payments such as for bills and collections. The MNOs Airtel and Mobile Telephone Networks (MTN) have an almost equal market share across the country, which means a roll-out strategy by any bulk payment provider needs to consider interoperability (or platform interconnectivity) or other aggregated solutions as part of its offering since payees will undoubtedly be split across multiple networks. Figure III highlights the relationship between the subscriber base of the MNO and the population size across the various provinces of Zambia.

Figure III

Subscriber penetration by province

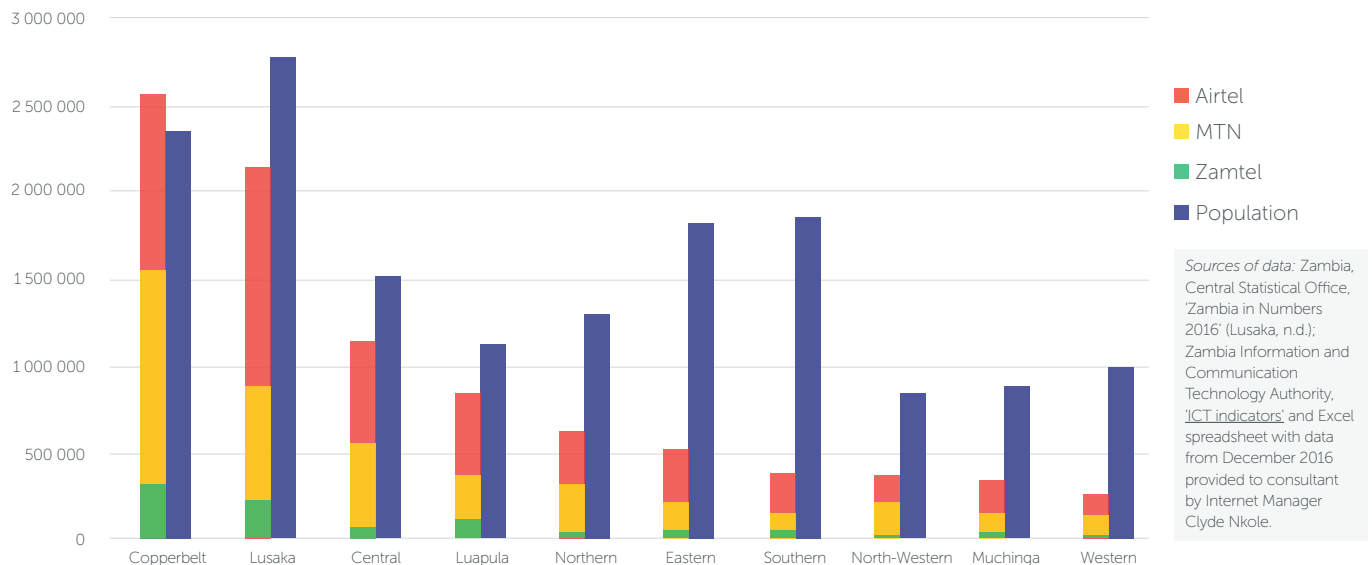
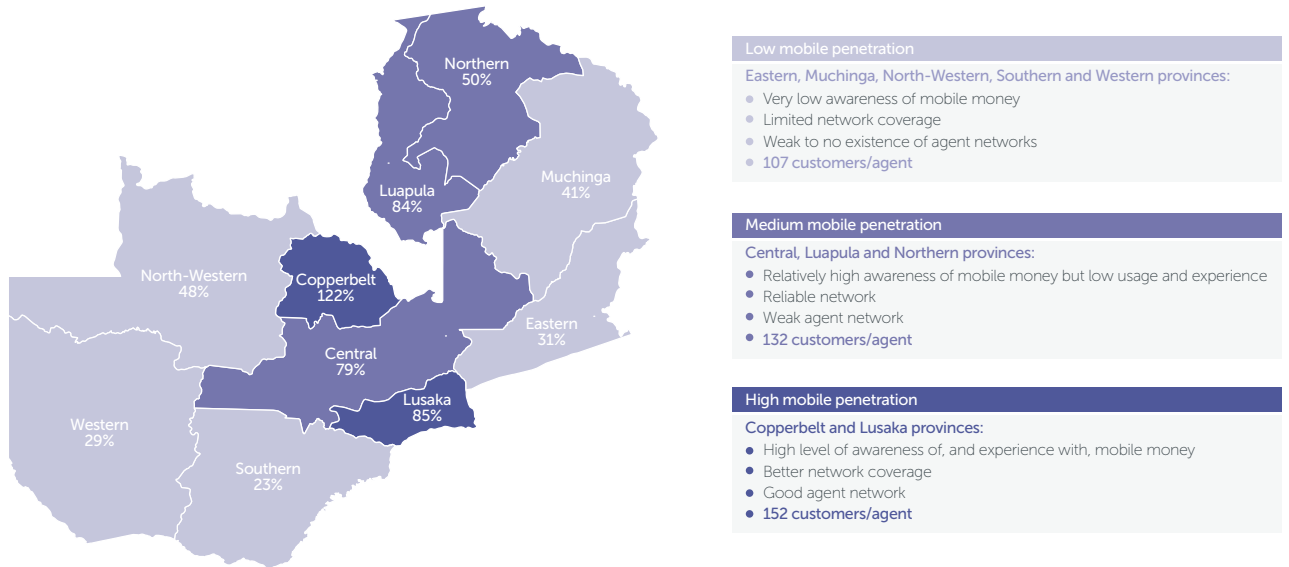


Figure IV shows the mobile penetration rate by province. The provinces with a medium penetration rate offer the best opportunity for digital bulk payments in terms of both the need (i.e., low access to formal banking/payment channels) and the level of readiness. However, it is important to note that areas with a medium penetration rate may have uneven agent coverage and be unable to provide the number of agents required to serve bulk payees. A deliberate agent acquisition and support strategy can be built around servicing a confirmed number of payees within an area.

Figure IV

Mobile penetration by province



Market opportunity 4: Government payments

Based on a diagnostic report of government payments, released by UNCDF and Financial Sector Deepening Zambia in collaboration with the Ministry of Finance, 35 percent of the 3.5 million transactions made to and by the Government every month are digital and represent 75 percent of the total value transacted⁷ (see figures V and VI). The fact that 65 percent of the monthly volume and 25 percent of the monthly value of government payments are still in cash reveals a significant opportunity for digitization. In fact, there are a number of costs that exist with cash-based payments that could be eliminated or reduced through digitization (see box 2 for some of the costs to consider).

Figure V

Percentage of monthly transaction volume of bulk payments by the Government in cash and digital money

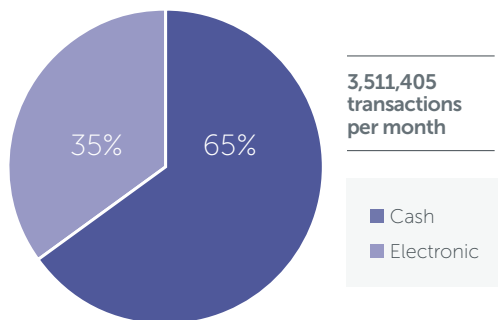
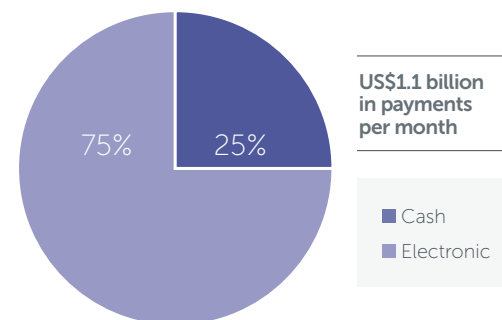


Figure VI

Percentage of monthly transaction value of bulk payments by the Government in cash and digital money



⁷ Harihareswara and others, 'Government Payments Flow Diagnostic – Zambia.'

Box 2

Examples of cash-based payment costs from sampled companies

**Coffee estate**

- ZMW1,000 (US\$83) is spent per day for two armed police officers to accompany staff from the bank and remain onsite during the two to three days of cash payments.
- Salaries for human resources and finance staff operating as tellers during the two to three days of cash payments must be paid, plus ZMW50 (US\$4) for lunch each day.
- ZMW500 (US\$42) is spent on the bank's cash-handling fee.
- In 2015, ZMW233,000 (US\$19,368) was robbed at one of the payment sites.

**Security company**

- ZMW10 (US\$0.83) is spent per transaction, for an approximate total cost of ZMW25,000 (US\$2,078) in bank charges per month.
- In 2016, ZMW3,000 (US\$249) was lost due to fraud via a domestic money transfer.

**Agro-forestry company**

- In 2014, there was a robbery at a pay point during which time two employees were shot and killed.

Note: This paper refers to the Zambian kwacha as ZMW based on guidance from the Bank of Zambia, the country's central bank, after a currency adjustment.
Conversion rate: US\$1 = ZMW12.03 (Source: <https://treasury.un.org/operationalrates/>, 1 March 2019).

Given the opportunity highlighted above, providers need to profile payers and payees in order to gain a better understanding of the solution types to offer to achieve near seamless integration with the payers' existing payment systems.

By volume, social safety-net cash payments constitute 21 percent (0.6 million transactions) of government-to-person payments monthly. By value, only 35 percent of government-to-person payment transactions are made digitally.

Question #2: What can be learned from providers that have started offering bulk payments, payers that have used bulk payments and payees who have received bulk payments so far?

The research findings and analyses of existing projects provided insights on a wide array of features of bulk payments from the bulk payer and payee user experience:

- **Understanding of the business model and costs of bulk payments, as well as recruitment of the right provider:** A major cause for failure of bulk payments has been payers' lack of understanding of the bulk payment business model, the costs involved in the delivery of bulk payments and the necessary characteristics for selection of the right provider. Payers that have settled for the cheapest provider often find that the provider fails to offer services addressing critical issues like customer education and agent liquidity management, resulting in substandard delivery.
- **Review of standard operating procedures:** A review of standard operating procedures early in the implementation process for digital bulk payments helps smoothen uptake of services from the payers' perspective. If payers' staff members feel that bulk payments add to their existing workload and are not integrated into existing procedures, they are likely to resist their adoption within their organizations. Payers should be ready to adjust their existing operating procedures in order to incorporate new processes to increase efficiency and tighten controls over management of services such as SIM registration, payment processing, payee onboarding/training, and digital reporting and reconciliation.
- **Driving adoption through ecosystem development:** Beyond just onboarding payees, providers should incorporate the onboarding of other community members, acquire more agents and support the overall development of the DFS ecosystem in communities where bulk payments are made.⁸ Developing the ecosystem will increase the number of use cases for payees (e.g., school-fee payments, merchant payments and person-to-person transfers), which will in turn reduce the need for cash to support cash-out transactions. It is important to keep in mind that the majority of the beneficiaries of bulk payments will be interacting with DFS for the first time, so it is critical for them to receive adequate education at the point of onboarding.
- **Policy advocacy:** Deployment of DFS for the benefit of specific communities (e.g., refugees) requires significant effort in the area of advocacy for inclusive regulatory policy by all sponsoring stakeholders. For instance, when the Bank of Zambia accepted the refugee 'proof of concept' for standard know-your-customer requirements, it was a significant achievement that may not have been possible without concerted coordination among financial service providers, UNCDF, UNHCR and the Office of the Commissioner for Refugees.⁹
- **Driving adoption among payees:** Beneficiaries initially tend to withdraw the entire sums deposited in their wallets due to a lack of trust in the system and/or the need for cash to make payments locally (e.g., at the grocery store or school). Understanding the use cases for beneficiaries and developing solutions that address them, bundling mobile-enabled products that meet the needs of beneficiaries (and surrounding community members) as well as developing the agent network to gain customers' confidence that cash withdrawals can be completed at their convenience will together build beneficiaries' trust in DFS and eventually drive their uptake of DFS.
- **Provider management:** Effective coordination with and management of DFS providers and their implementing partners (usually agents) requires significant allocation of resources to ensure that they can deliver the financial services in an accommodating manner to the beneficiaries. Selecting and contracting DFS providers should be guided by their ability to meet the service requirements laid out in the terms of reference, which should highlight continuous and pervasive availability of access points, effective liquidity management and sufficient capacity to provide customer support.
- **Agent business case:** A well-developed agent model must deliver a convincing value proposition to all stakeholders but, most importantly, to the agents. Payers and DFS providers need to pay specific attention to the costs incurred by agents in cases where arrangements must be made to provide temporary agent service in difficult-to-reach areas. As much as payers are concerned with keeping costs low, they need to understand that a weak agent proposition results in a poor customer experience for payees.

⁸ Bruett, 'UNCDF: Giving Farmers a Boost through Digital Finance,' pp. 200–202.

⁹ Alliance for Financial Inclusion, 'AFI Member Stories - Country Snapshots from AFRICA: Zambia, Rwanda, Tanzania,' 20 June 2018. Available from <https://www.afi-global.org/blog/2018/06/afi-member-stories-country-snapshots-africa-zambia-rwanda-tanzania>

Challenges to successful bulk payment implementation

Several factors can undermine the efforts of payers and providers to implement digital bulk payments successfully and more frequently. **These factors originate from the providers, the private-sector payers and the payees and include but are not limited to the following:**

- **Contracting of providers and their agents:** As highlighted earlier in this paper, the majority of procurement departments do not understand the bulk payment business model. As a result, the parameters they use to select a provider often leave critical criteria out of the selection process. The research also revealed significant delays from the point that a provider first pitches to potential agents through contracting those agents to the agents finally being available onsite to sign up payees and activate their MM accounts. A sampled business experienced a delay of six weeks from the first contact to the conclusion of the contract and ultimately to sign-up of payees. These delays have, on several occasions, led to payers reverting to traditional payment options/channels that have a faster turnaround time, however inefficient they might be.
- **Customer onboarding, registration, account activation and education:** Providers were reported to have faced several challenges in SIM-card and e-wallet registration and customer education. These problems were partially due to technical errors and partially to human error and lack of training. In several instances, providers' field teams were not adequately trained and/or equipped to support account activation.
- **Affordability:** Interviewed customers (payees) in all locations highlighted a lack of transparency of pricing. In some cases, payees reported that agents took advantage of poor customer education and lack of price transparency to overcharge customers for transactions.
- **Technology training and support:** Insufficient training of payers' staff and payees on bulk payments and DFS usage, respectively, showed itself to be a key barrier to adoption. PIN management was a common pain point among users who have not been adequately trained. Focus-group discussion (FGD) participants who were payees at one sampled business expressed frustration with how challenging it was to have their MM password reset through provider call centres.
- **Back-office support for both bulk payers and payees:** Interviewed payers and payees indicated that the lack of back-office support, coupled with an unclear complaint resolution process, was a barrier to adoption. There were no clear support mechanisms or recourse processes for bulk payers, although such support was available for other services. Typical issues that went unresolved for long periods included payments made to dormant/inactive payee accounts, payments made to incorrect payee accounts, and blocked accounts that were erroneously paid and required fund reversal to the payer.
- **Quality of customer care provided by agents to payees:** FGD participants complained of poor treatment by their nearest agent. As a result, they opted to go to the nearest town where they had a wider choice of agents who provided better customer care. The lack of permanent agents set up within the payment areas contributed to this problem, since agents were only available for a specified payment window.
- **One-off payments:** Payments that are made once (e.g., allowances that are paid by third parties) and for which enrolment is not mandatory are highly sensitive to delays or failures. In such instances, it was observed that payees tend to opt for cash or bank options, which they consider more reliable.

While these challenges exist, several providers have ventured into offering digital bulk payments and some payers have integrated such payments into their operations in order to improve their internal processes.

Question #3: How can providers and implementing partners successfully (and sustainably) implement bulk payments, especially in peri-urban and rural areas of Zambia?

Extrapolating from the research findings, lessons learned and insights from interviewees shared above, there are a number of critical success factors for organizations that are considering or already implementing digital bulk payments to keep in mind:

- **Senior management buy-in:** For digital bulk payments to work, senior management (especially the managing director/CEO, head of finance and head of operations) must buy into their adoption. Senior management buy-in will drive the much-needed behavioural change necessary for the various implementing departments.
- **Provider selection:** Payers must understand the bulk payment business model as well as the selection criteria for the implementing partner. Key considerations for the selection of a provider include the following:
 - Network coverage of the provider.
 - Number of agents in the payment area, or plan to scale up existing agents to meet service requirements.
 - Onboarding, customer education and customer support structure.
 - Pricing structure and ability to offer flexible charges for a larger number of payments.
 - Proximity of provider's staff to train and consistently support payer's payment team.
- **Customer onboarding, registration and education:** Having the structure for and ultimately providing effective customer onboarding, registration and education provide a firm foundation from which to drive uptake of DFS among payees. Direct marketing activities (e.g., using megaphones for announcements) offered the best results for customer education. Building the capacity of payers' staff allows them to serve as a 'first stop' for customers who might have minor queries about DFS usage.
- **Adaptation of existing operating procedures:** Often finance departments consider bulk payments to be an external process and, as such, do not change existing operating procedures to incorporate bulk payment processes. This approach is faulty. The ability of payers to adapt their current operating processes in order to incorporate digital bulk payments allows for seamless integration.
- **Availability and liquidity of agents:** Both the availability and the liquidity of agents play a critical role in the adoption of digital bulk payments (see box 3 for more on this point). Providers must ensure an adequate number of agents to meet the cash-out demands of payees. In cases where temporary agents must be used, providers should negotiate a separate rate to address the costs incurred by the agents (e.g., transport and liquidity management). Providers need to realize that a bulk payment solution may require its own agent management strategy, unique to the needs and locations of the payers.
- **Ecosystem development:** Bulk payments can and should lead to more than just cash-out transactions. To help payees come to that realization, providers must help develop the ecosystem in such a way as to encourage and support transactions other than just cash-outs. Providers should explore acquiring additional customers, beyond just the bulk payees, in order to strengthen the business case for agents. Onboarding schools and clinics, or bundling other use cases like micro-insurance and pay-as-you-go energy payments, could help the ecosystem develop and thereby reduce the cash liquidity needs for agents. Data analysis of existing payees can reveal more use cases that could be adopted/bundled to achieve a holistic customer value proposition for the bulk payee.
- **Interoperability or at least interconnectivity:** It is highly unlikely that all payees will be customers of only one provider, thus bulk payers should explore collaboration with system aggregators. Aggregators are technical partners that allow payers to make payments to accounts of various DFS providers while executing the payments from one payment interface at the payers' offices.

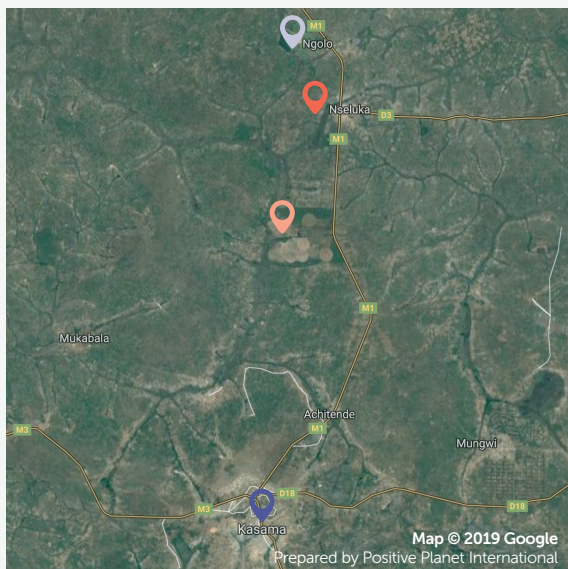
Box 3

Spotlight: Key success factors - agent proximity and liquidity

A key finding from the research was the importance of agent proximity to successful uptake of digital bulk payments by clients. Employees were highly unlikely to accept a shift to salary disbursement via digital bulk payment where there were no local agents, as such a shift would reduce the ease of access to cash and increase the cost to access their wages. Payees sampled at an existing bulk payment client expressed dissatisfaction with the distance to reach existing agents.

Another critical factor in determining DFS uptake and promoting integration of payees into the MM ecosystem was agent liquidity. Payees who observe and experience higher levels of agent liquidity report greater satisfaction, linked to their perception of the security of the service. All other factors being equal, they are also more likely to use other mobile services, driving the multiplier effect that providers hope to see from offering digital bulk payment services.

Case in point: the Kasama district of northern Zambia currently hosts a mobile services client and a potential bulk payment client, both profiles suitable for a bulk payment solution. They make fortnightly payments to up to 7,000 staff during peak season and 3,000 throughout the year, providing a strong business case for a shift to digital bulk payments. However, a lack of nearby agents acts as a barrier to uptake and satisfaction. The map clearly shows the constraints of geography: the two potential payment sites of Kalungwishi and Kateshi are 9 and 14 kilometres, respectively, from the nearest agent, who is located in Nseluka. Kasama, also the name of district's capital, is well served by a large number of agents, but they are too far away to positively influence uptake of digital bulk payments. The bulk payment client in this case could explore paying for the services of temporary agents in the short term (if the business case is strong); however, the provider would have to see the 3,000 customers as a target market with their own agent network to support quality service delivery.

**Kasama**

- Northern province capital
- Provides high volume of agents for leading MNOs
- Over 500 agents operating in the town

Nseluka

- Small town 38km north of Kasama
- On the main road and has an agent servicing the three main MNO MM services

Kalungwishi

- A sugar estate and mill
- Approximately 350 casual workers
- Nearest agent at Nseluka 9km away

Kateshi

- A coffee plantation and mill
- 1,000 employees on the estate, with 2,000 to 2,500 casual workers at peak and up to 6,000 peak
- Nearest agent at Nseluka 14km away

In-depth data analysis provided key insights into the trends of bulk payees. It also showed that bulk payments had an impact on the provider's overall business because of the liquidity injected into the e-money ecosystem. The analysis revealed that digital bulk payments had a multiplier effect of 2.5 within the e-money ecosystem. This finding strengthens the business case for digital bulk payments, as they can be leveraged to onboard new customers and to reduce the cost of sales for providers as no commissions are paid for cash-in transactions through bulk payments.



Recommendations

This paper reveals that, while DFS providers have made tremendous efforts in the implementation of bulk payments, last-mile execution—especially in rural areas—remains difficult. Yet, progress can be made. To that effect, table 3 highlights a number of recommendations for providers and payers to focus on in their efforts to accelerate adoption and usage of DFS in an effective, inclusive and financially viable way.

Table 3

Recommendations for digital bulk payments

Improvements and/or additions	Relevance	Recommendations
Provider selection	Payers are looking for DFS providers that are able to support and facilitate a smooth transition of payments from existing systems to new digital solutions.	<p>Review the procurement criteria for the selection of bulk payment partners.</p> <p>Ensure service-level agreements are signed between the payer and the provider that identify clear deliverables regarding customer onboarding, education, support and agent network development.</p>
Customer onboarding, education and ongoing support	Payers are introducing bulk payments to thousands of new MM customers, who will require adequate education, training and technical support for them to use these solutions.	<p>Provide training packages and materials at various levels (payers and payees). Build training capacity within the organizations adopting these payments.</p> <p>Enhance both the quality of and the access to customer service for both payers and payees to troubleshoot issues that arise and provide basic training and education on the use of DFS.</p> <p>Onboard mobilizers and/or ambassadors who can promote customer education and address frequently asked questions as a first level of support.^a</p>
Payer user interface	Payers disburse high volumes (and values) to groups in patterns but also at irregular intervals. Payers will require access to a platform that can allow for ease of payment reconciliation, storage of payee data and history, as well as customizable reports.	<p>Enable payers to establish multiple levels of approval and reports that store payee payment data and history. Such a platform should also allow for easy management of disbursements.</p>
Financial inclusion	The bulk of targeted payees are underbanked, and many will be using DFS for the first time.	<p>Encourage providers to develop a bundled suite of products so that payees can see value in these solutions beyond just receipt of payments.</p>
Agent network and liquidity	For payments in rural and peri-urban areas, most of the payees will initially cash out all of their money due to a lack of trust in systems to which they have been newly introduced.	<p>Support designated agents to specially manage payments, customer onboarding and ecosystem development.</p> <p>Build agent networks to support the communities beyond the payees, which will require deliberate efforts from providers to onboard other customers in the areas of disbursements. Doing so will strengthen the agent value proposition.</p>
System uptime and network coverage	Most payments will be in rural and peri-urban areas where network coverage is less reliable. Payers will require a system that has a high amount of uptime in order to achieve payment consistency.	<p>To promote trust and confidence in the bulk payment systems, consider not signing up customers in areas with inconsistent network coverage. Poor customer experience results in rejection of the service in both the short and medium term as well as reputational damage to the provider's brand.</p>
Interoperability or interconnectivity	Payees often have accounts with different providers. Payers will require platforms that allow them to make payments from one single bulk payer account into multiple provider accounts.	<p>In the absence of interoperability of accounts, consider that the role of aggregators and technology partners is essential.^b</p>

^a Bruett, 'UNCDF: Giving Farmers a Boost through Digital Finance,' pp. 200–202, a focus on booster teams.^b Darkwa and Pillai, 'Lessons from Aggregator-Enabled Digital Payments in Uganda.'

A. Methodology

This white paper provides key insights into the state of and opportunities for digital bulk payments in Zambia. It includes findings from research conducted with three bulk payment projects and interviews with existing and potential users. The paragraphs below provide detail on each aspect of the research, while the table summarizes the research methods utilized.

- **Market research:** Research was carried out in the Central, Copperbelt, Luapula, Lusaka, Northern and Southern provinces of Zambia. Research was also conducted in the Meheba refugee settlement, located in North-Western Zambia, to gain a deeper understanding of the business case for providing digital bulk payments in a refugee settlement. The choice of sites was deliberately made to cover a diverse range of economic activities and geographical profiles with regards to rural, peri-urban and urban sites. The predominantly rural population surrounding towns in these provinces is employed in subsistence agriculture, permanent and seasonal labour on commercial farms and, to a certain extent, agro-processing industries.
- **Key informant interviews with existing bulk payers:** Key informant interviews were conducted with staff from several organizations that were already using bulk payments as clients of a DFS provider. The interviewed staff were either from the finance or the human resource departments and were knowledgeable about their organizations' experience with bulk payments. They provided insights on the user experience from a bulk payer perspective. These interviews were conducted using a semi-structured interview guide.
- **Focus-group discussions (FGDs) with existing payees:** FGDs were conducted with existing recipients of bulk payments. Four FGDs, comprising eight to ten participants each, were conducted. Three of the FGDs comprised payees receiving bulk payments as wages while the fourth FGD comprised payees receiving bulk payments for commodities (grain) supplied. Three additional FGDs were held with refugees in the Meheba refugee settlement.
- **Potential bulk payment users:** The sample of potential digital bulk payment users (payers and payees) was relatively more extensive than that of existing users as the pool was much larger. The larger number of respondents allowed the researchers to obtain greater insights into the perceived strengths and weaknesses of digital bulk payments from a diverse pool of potential users.

	Key informant interviews	Focus-group discussions
Existing users (case study approach)	4 institutions (5 interviews)	5 (48 participants)
Potential users	14 interviews	5 (65 participants)
Other key informants	5 interviews	

B. List of existing and potential payers surveyed

	Company	Subsector	Macro-sector
1	Kateshi	Coffee	Agriculture
2	Kawambwa	Tea	Agriculture
3	Mansa	Sugar	Agriculture
4	Zambeef	Commodity	Agriculture
5	Zambia Forestry and Forest Industries Corporation	Forestry	Agriculture
6	AVIC	Construction	Construction
7	China Jingxu	Construction	Construction
8	African Life Financial Services	Financial services	Financial services
9	Agora Microfinance	Financial services	Financial services
10	FINCA	Financial services	Financial services
11	Jimbaru	Milling	Manufacturing and FMCG
12	Kasama	Milling	Manufacturing and FMCG
13	National Breweries	Brewing	Manufacturing and FMCG
14	Zambian Breweries	Brewing	Manufacturing and FMCG
15	Dangote Cement	Quarrying	Mining and quarrying
16	LafargeHolcim	Quarrying	Mining and quarrying
17	Catholic Medical Mission Board	Non-governmental organization	Non-governmental organization
18	Catholic Relief Services	Non-governmental organization	Non-governmental organization
19	G4S	Security	Other services
20	Panorama	Security	Other services
21	Impala Terminals	Logistics	Transport and logistics
22	Zambia Railways	Transport	Transport and logistics



UN Capital Development Fund

UN House, Alick Nkhata Road,
P.O. Box 31966, Lusaka, Zambia

Nandini Harihareswara,

UNCDF Regional Technical Specialist
Email: nandini.harihareswara@uncdf.org