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Digital cash transfers from the perspective of intended beneficiaries: A comparative exploration of effectiveness

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**Digital Cash Transfers from the Perspective of Intended
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Digital Cash Transfers from the Perspective of Intended Beneficiaries: A Comparative Exploration of Effectiveness

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Abstract

Digitalization has been identified as a primary aim for humanitarian organizations because it is rapidly altering the way humanitarian logistics and aid activities are implemented, directly affecting the way the humanitarian field supports those in need. Nonetheless, digital humanitarian tools are usually designed to meet the requirements of humanitarian aid agencies, not aid recipients, using top-down innovations, which creates a gap in aid beneficiary perspectives and experiences to enhance the utility of digital aid mechanisms. Using two NGO's reports of beneficiary experiences, this paper compares the experiences of aid beneficiaries in the Democratic Republic of the Congo and Kenya using mobile money, and illustrates different effectiveness outcomes from the perspective of aid recipients.. This paper shows that the context in which mobile money is implemented according to four main factors identified in the literature - access to target populations, sustainability of programming, data protection, and ethical concerns in delivery - determines aid recipient experiences and views of mobile money effectiveness.

Keywords: mobile money; intended beneficiary experience; effectiveness; comparative study

1. Introduction

As humanitarian emergencies have become more convoluted and protracted, the number of individuals who require humanitarian aid has increased substantially (OCHA, 2021). The *United Nations Office for the Coordination of Humanitarian Affairs* (UN OCHA) reports that in 2023, 339 million individuals will require humanitarian aid and safeguarding support, showing an increase from 274 million persons one year earlier (UN OCHA, 2023). Nonetheless, while humanitarian monetary supplies have gradually increased over the years, reaching a reported total amount of over \$27 billion in 2020, a substantial funding gap remains. This gap cannot merely be mitigated by an input of financial resources; rather, ‘new and emerging technologies can support this paradigm shift from reaction to anticipation by enabling earlier, faster and potentially more effective humanitarian action’ (OCHA, 2021, p.2). Digitalization is identified as a primary aim for humanitarian organizations such as the *International Committee of the Red Cross* (ICRC) because it is rapidly altering the way humanitarian logistics and activities are implemented, directly affecting the way the humanitarian field supports those in need (Rejali and Heiniger, 2020; Akhmatova and Akhmatova, 2020). Utilizing the same technological tools and knowledge shared in fragile contexts to provide necessary social protection can bolster the connection between humanitarian aid provision and social protection services (Ford, 2017). As such, an emerging technical group of stakeholders including private corporations working to address humanitarian emergencies, have adapted new technologies for humanitarian application (Aarvik, 2020).¹ UN OCHA (2021) state that this includes mechanisms such as mobile applications and social media platforms that ease communication with people on the ground as well as facilitate digital cash provision to ensure immediate and agile aid supply to affected populations.²

Digital technology as a medium of aid delivery directly affects the aid provision experience of the beneficiaries. The use of technology in aid delivery is politically driven through its ‘agentic capacity’ (or the ways that these technological mediums can cause change in society at large) (Jacobsen and Fast, 2019, p.157). The use of technology can replicate social inequality and/or it can offer previously unreachable

¹ While ‘techno-optimists’ increasingly embrace the digital context, others have pointed out the dangers of the humanitarian field’s adoption of digital mechanisms, including viewing them as harmful to development and progress and introducing monitoring issues and coercion (Aarvik, 2020, p.44). Furthermore, other challenges such as limited adoption of protection mechanisms and legal principles in the use of digitalization can have detrimental effects on human rights, freedoms and livelihoods for humanitarian employees, unpaid workers or refugees (Akhmatova and Akhmatova, 2020).

² Digital cash transfers constitute a main form of digital humanitarian aid delivery. Digital cash transfers can be defined by the Electronic Cash Transfer Learning Action Network (ELAN), the leading platform working on humanitarian aid delivery using digital cash, as an electronic transmission of monetary goods or vouchers from the service provider to an end user. The utilization of cash and voucher assistance (CVA) can be characterized as one of the largest shifts in humanitarian activity over the past ten years. CVA utilization doubled between 2016 and 2019. In 2019, \$5.6 billion of global humanitarian aid or 17.9% of the total allowance, for aid was offered using cash or vouchers (Burton, 2020). The provision of cash to beneficiaries offers them the agency to choose the goods and services they need as opposed to merely accepting offered resources.

populations access to digital technologies (Jacobsen and Fast, 2019). The view that technological innovations can be unbiased in their utilization is challenged by the fact that they are not just used by humanitarian organizations for altruistic reasons; rather, their utility is changed and challenged by other actors in the field, for instance when ruling armed factions oppose the use of technological devices for aid resources and as such ban their use (Kalkman, 2018; Devidal, 2021). Acknowledgment of these realities offers an opportunity to view how technologies used in the provision of humanitarian aid can affect and monitor the lives of beneficiaries (Jacobsen and Fast, 2019).³

Nonetheless, the most detrimental issue in implementing humanitarian initiatives is that their service provision evaluations are usually conducted exclusively by humanitarian organisations rather than in collaboration with program beneficiaries (Rejali and Heiniger, 2020). When selecting digital cash payments over manual ones, humanitarian organizations do not necessarily aim to enhance aid delivery tools from beneficiaries' point of view or improve aid attainment for different types of recipients (Sagmeister and Seilern, 2018, p.15). Digital humanitarian mediums are usually designed to meet the requirements of humanitarian aid agencies, characterized as 'top-down paternalistic innovations' (Mesmar et al, 2016, p.193). As such, digital technology use can be unpredictable. The ineffective alignment of technological solutions with the issues they are responding to arise because aid recipients are not engaged in the creative decision-making processes (Mesmar et al, 2016; Rejali and Heiniger, 2020). Therefore, one major gap in the literature on digitalization of humanitarian aid provision is the perspective of the beneficiaries on its use and effectiveness.

This paper will explore the effectiveness of digital cash transfers, particularly mobile money, through the lens of digital cash transfer beneficiaries. Reported aid recipient experiences are essential resources to inform the effective implementation and sustainability of a humanitarian good or service (Hallam, 1998). The advantages of mobile money can be equitably realised only if activities are implemented in a way that secure the needs of the most disadvantaged beneficiaries. Specifically, this paper seeks to answer the following questions: has the use of digital technology, namely digital cash transfers, in humanitarian aid delivery been effective from the perspective of aid recipients? If it has, how has it been effective; and if not, why has it not been effective?

The paper will explore the effectiveness of digital cash transfers from the perspective of aid recipients as reported by NGOs offering mobile money programs. Mobile money refers to the supply of financial resources and amenities using mobile phones. These

³ For example, 'the expansion and integration of cash transfers to Syrian refugees in Lebanon grants refugees faster, more secure, and more dignified ways to access assistance. Yet it also grants aid agencies and donors access to vast amounts of data about the habits of refugees and requires refugees to register in order to qualify' (Parker, 2016; cited by Jacobsen and Fast, 2019, p. 157).

amenities include the provision of monetary exchanges, insurance provisions, and banking services. The efficiency of mobile money implementation is dependent on the cash delivery system that it uses, namely 'cash merchants' or 'agents,' that receive payments for converting cash into e-payments (Donovan, 2012, p.61). The paper will seek to contribute to the literature on digital technology in humanitarian settings by highlighting the findings (and gaps) of NGO reporting on beneficiary experiences with mobile money programs. While digital mediums offer new ways of communicating in difficult settings, NGOs do not have internationally recognized benchmarks and moral criteria that can guide and monitor their usage by parties. Several aspects that can challenge the effective adoption of humanitarian aid by beneficiaries include (mis)understanding people's lifestyles, cultures in developing nations, societal and economic differences, as well as existing gender equality limitations (Akhmatova and Akhmatova, 2020). Thus, this niche exploration will serve the NGO community by providing a comparative critical analysis on which beneficiary experiences with mobile money programs are reported and (not reported) on. This could prove useful to the NGOs being studied and act as lessons for others, especially to identify the conditions they need to assess prior to setting up their programs for aid recipients and how this could contribute to the effectiveness of these programs.

Overall, this paper will compare the experiences of aid beneficiaries in the Democratic Republic of the Congo and Kenya receiving digital cash transfers through mobile money and illustrate different effectiveness outcomes from the perspective of aid recipients. The data used in this analysis is from two studies conducted by Mercy Corps and Ground Truth Solutions respectively. These two cases were chosen because they represent similar mobile money programs in terms of necessity of programming, funding of the program, and service provision to beneficiaries, but exhibited different outcomes due to the different implementation contexts. This paper examines the contexts in which mobile money is implemented using four main factors identified in the literature, namely, access to target populations, sustainability of programming, data protection, and ethical concerns in delivery.

2. Literature review

This section provides a critical overview of the main interlinked variables highlighted in the literature on the effectiveness of mobile money.

Access to beneficiaries

Digital modes of providing cash are advantageous from the perspective of beneficiaries because they have 'multiplier effects' in which mobile technology can enable them in different facets of their lives, including easing the attainment of information (Naghavi, 2019, p.10). Evidence from studies conducted on mobile money in Kenya and Rwanda have shown that households were able to increase access to

monetary services as well as unofficial private exchanges among recipients, thus more effectively allowing them to control household outcomes (Aker et al, 2011). As such, access to mobile money is credited as a means of facilitating long term development results by integrating current social protection goals (Naghavi, 2019).

Nonetheless, access to aid using technological mediums, such as mobile money, poses major limitations for beneficiaries. Reasons for reduced access to beneficiaries from the perspective of humanitarian aid agencies include limited security, barriers in transportation due to governmental restrictions, few global advocacy efforts for access to beneficiaries, and inadequate infrastructures (Chaudhri, Cordes, Miller, 2019). A study conducted by the *Cash Learning Partnership* (CaLP) in 2011 aimed to examine the utilization of novel technologies to improve and ease cash transfer provision in humanitarian environments. It found that ‘aid agencies should not preclude particular “vulnerable groups” from opportunity to access technology, rather the decision [depends] on the context, specific needs of the group, their mobility and the possibility to build responses to their needs into the programme’ (Smith et al, 2011, p.21). The unavailability of digital infrastructures in targeted areas as well as the challenge of omitting the ‘digitally invisible’ (or those that do not have access to technological mechanisms) are major inconveniences in the effective delivery of aid to target populations (Hill, 2018).

In line with the humanitarian principle of impartiality, digital technologies can offer access to affected people while simultaneously creating a digital divide leading to ‘intersectional inequities’ for various populations (Rejlai and Heiniger, 2020, p.6). In other words, increases in digital payments can create a digital barrier for some recipient groups depending on, for example, their knowledge limitations, financial constraints, and gender-dependent inequalities. A wide gender gap in the possession of mobile phones and utilization shows that women face the challenge of being left behind in a digital environment. For example, ‘women in South Asia are 26% less likely to own a mobile than men and 70% less likely to use mobile internet’ (Akhmatova and Akhmatova, 2020, p.3). Explanations for these statistics include the limited disposal of technological mechanisms, cultural, religious and societal tenets, as well as views on women’s privileges as a whole (Naghavi, 2019; Akhmatova and Akhmatova, 2020). Indeed, only 1 in 3 adults globally exhibit a comprehension of fundamental financial notions and this number decreases for women and the poor (Klapper, Lusardi, and van Oudheusden, 2015, p.21; Burton, 2020). As such, although any individual can access cash if they have the means to do so, the utility of digital transactions needs a minimum level of knowledge on how to operate digital and monetary processes.

Overall, a key reason for limited access is that aid recipients are often not included in deliberations surrounding the design and implementation of technological solutions to aid provision (Partnership for Maternal, Newborn and Child Health, 2019). This implies that these groups’ experiences do not matter, leading to novel challenges or unwanted

ramifications (Sandvik and Lohne, 2020; Rejlai and Heiniger, 2020). Indeed, humanitarian agencies are working to comprehend beneficiary needs without consulting them in the process or consulting them only at certain stages such as data collection but not at the data analysis stage (Mesmar et al, 2016, p. 193; Kalkman, 2020). Technology facilitators need to attain a clear comprehension of the target population's socio-political contexts, their wellbeing, and experiences in utilizing technology to address their needs proactively (Mesmar et al, 2016).

Sustainability of programming

The sustainability of mobile money programming is a key determinant of its effectiveness as a digital cash transfer medium. While digital technology mediums allow for money exchange in crisis settings, humanitarian organizations do not have global or ethical benchmarks for how to operate these technologies across other socio-political contexts and amongst groups and individuals who are discriminated against due to their gender, race, or access to technology (Akhmatova and Akhmatova, 2020). As such, the impacts of digital technologies on the lives of beneficiaries can have unforeseen outcomes. As a 'disruptive innovation,' the adoption of mobile money in communities can unsettle current ways of living, and oftentimes create discord and anxiety (Donovan, 2012, p.71). For example, ethnographic research in Kenya shows that consumers in Nairobi who used to travel regularly to family members in rural locations to send financial resources reduced their travel following the adoption of mobile money tools, creating conflict among family members due to suspicion of their locations, possible disloyalty in their relationships, and economic hardship (Donovan, 2012). This creates unpredictable and unwanted impacts on the social lives of beneficiaries beyond humanitarian aid provision.

To avoid negative consequences such as these, mobile money programs must be adapted to their operational contexts and the needs of beneficiaries and trainings for both providers and recipients must be designed specifically with these needs and contexts in mind. For instance, while the telecommunications company and mobile money provider in Liberia (Lonestar MTN) actively offered training sessions to aid recipients on the utilization of mobile money, NGOs and aid recipients alike still faced technical issues in its adoption. This renders the training sessions ineffectual in benefiting both stakeholders. As such, there is a need to hold digital design understanding workshops that cater to all stakeholders and are consistently and creatively updated to keep up with their current needs and capacities (Dumas, Frisetti, and Radice, 2017).

Data protection

While safeguarding the private information of aid recipients is a main tenant of upholding their rights and dignity, there is a need to underscore and reduce the challenges faced when using digital humanitarian tools (Akhmatova and Akhmatova,

2020). This includes protecting the ‘do no harm’ principle within all initiatives adopted in humanitarian aid provision exercises. For instance, protecting the private data and information shared on media applications using technology developers can be seen in the end-to-end encryption in the messaging application called Telegram in 2013 (Akhmatova and Akhmatova, 2020). All stakeholders involved in humanitarian initiatives must evade the unsolicited sharing of beneficiary data to avoid the negative ramifications on recipients’ lives and rights (Akhmatova and Akhmatova, 2020). The debate surrounding the adoption of the *Digital Geneva Convention* or ‘Geneva 5.0’ (Guay and Rudnik, 2017) to protect digital technology users in the humanitarian context from state led or supported cyberattacks is an example of how the digital community, including private companies, is being led to contextualize rights and duties to the present realities of humanitarian action (Guay and Rudnik, 2017; Akhmatova and Akhmatova, 2020).

Beneficiaries face data protection challenges when digital payments are at the center of humanitarian assistance provision. The admission of consent by beneficiaries to process their personal data to partake in financial exchanges using a monetary service provider offers one example (Burton, 2020). In the context of data security, consent refers to beneficiaries’ agreeing to allowing their private information to be utilized (Burton, 2020). This is especially significant given the fact that ‘consent does not have to be valid for data processing to go ahead, provided that the processing is being carried out on the legal basis of “public interest”’ (Burton, 2020, p.62).

Ethical considerations

Having emerged in a ‘post-consent’ world in which there are often very few alternatives to digital cash available, questions on whether beneficiaries have agency in their choices of relief mechanisms become even more relevant (Devidal, 2021). The adoption of any digital mechanism, including mobile money, must also bear in mind the features and conditions of the aid recipients within their socio-economic, political and cultural contexts (Betts and Bloom, 2014). There are underlying power imbalances between those that offer humanitarian assistance and relief and their beneficiaries. Adopting new digital tools can reinforce existing power dynamics and/or cultural norms (Betts and Bloom, 2014). As such, ‘electronic delivery systems are not a panacea for a successful and efficient cash transfer programme, and the lessons learned from existing experiences need to be borne in mind to ensure that they work to maximum efficiency and benefit’ (Vincent and Cull, 2011, p.49).

Exploring the use of cash payments through digital mechanisms using the ‘do no *digital* harm’ principle [*italics in original*] is essential to humanitarian organizations’ moral adoption and implementation of digital tools (Burton, 2021, p. 48). In the case of the ICRC, for example, this translates into the use of both digital and physical mediums of monetary exchange, while considering the consequences of digital aid on humanitarian activity, especially in crisis zones (Burton, 2021). Thus, in order to benefit

from the value of digital mechanisms for cash exchange and other forms of assistance, the ICRC's adoption of the 'do no harm' principle integrates the perspectives of beneficiaries in analysis of digital cash transfers like mobile money (Burton, 2021). Overall, user-focused approaches are needed to guide new digital tools for humanitarian aid (Betts and Bloom, 2014).

3. Methodology and context

For the purposes of comparing reported beneficiary experiences, the analysis in this paper utilizes a "most similar systems design" (MSSD). This approach aims to explore the most similar mobile money programs that result in differing effectiveness level outcomes from the perspective of beneficiaries (Steinmetz, 2019; Anckar 2020). In other words, 'the assumption here is that comparing similar cases that bring about different outcomes will make it easier for the researcher to control factors that are not the causal agent and isolate the independent variable that explains the presence or absence of the dependent variable' (Steinmetz, 2019). Many of the factors in the following analysis are controlled given the similarity of the cases.

The comparative study method using MSSD will be used to compare the perspectives of beneficiaries on the effectiveness of mobile money programs as reported by two non-governmental organizations with similar declared goals of implementing digital cash transfer transactions in the Democratic Republic of the Congo (DRC) and Kenya. They adopt similar mobile money programs but result in different levels of effectiveness due to the context they were implemented in. The success or failure of the program was judged by the recipients as reported by both NGOs. Both programs were similar as they were needed by beneficiaries in their respective countries, implemented and funded by international organizations, and explicitly aimed to explore the user experiences of aid beneficiaries with digital cash transfers, with particular reporting on mobile money user experience. While the programs implemented were similar, the country differences were accounted for in the context of the four main variables explored in the literature review above. Using secondary analysis of published studies, beneficiary perceptions will be considered within the four main interconnected variables affecting mobile money delivery as identified in the literature: access to target populations, sustainability of programming, data protection, and ethical considerations.

Mercy Corps, DRC

The digital cash transfer program that took place in the Democratic Republic of the Congo (DRC) is part of a larger humanitarian response initiative that was financed by Department for International Development (DFID) in the United Kingdom (now recognized as the Foreign, Commonwealth and Development Office (FCDO)), managed by UNICEF, and implemented by a number of NGOs including Mercy Corps,

Solidarites International, and Concern Worldwide. Mastercard was also a key supporter through a grant called Electronic Vouchers and Transfers in Emergencies (ELEVATE) that allows Mercy Corps to test new payment technologies (Murray and Hove, 2014). The program's study aimed to answer the following question: 'How do electronic transfers affect the user experience in the DRC'. It did this by specifically exploring ease of processing and effectiveness, and beneficiary understandings of and capacities to use the technology, in this case mobile money (Murray and Hove, 2014, p.iii).

The study took place between October 2013 and June 2014 and used surveys and structured observations of transactions to explore the impact of mobile money and other forms of e-transfers on the aid recipient experience. It targeted 3,355 households, 2,134 of which were mobile money users (Murray and Hove, 2014). Target populations included protracted conflict affected groups including internally displaced peoples (IDP) and host family households outside IDP camps of different sexes, ages, and literacy levels (Murray and Hove, 2014). The purpose of this study was for humanitarian organizations to learn to work through bypassing challenges in the electronic transfer of cash to beneficiaries. The exploration of the different electronic cash options would help them better allocate e-transfers that could benefit programs in distant locations (Murray and Hove, 2014).

The DRC case offers an example of ineffective adoption of mobile money as a digital cash transfer due to beneficiary challenges within the monetary exchange operation, the lack of trust that the mobile money service (Vodacom) would operate on time, and few stable cash-out centers in rural areas. These aspects 'reduce the accessibility and convenience of mobile money for participants and reduce their confidence in the service' (Murray and Hove, 2014, p. 29).

Ground Truth Solution, Kenya

The second case involves a research study that aimed to explore how cash transfer recipients in Kenya experienced cash provision in its different forms and combinations, especially beneficiaries that received digital forms of cash transfers (including mobile money) (Sagmeister and Seilern, 2018). In a similar way to the case above where multiple stakeholders, including international organizations were involved in its implementation, this study was conducted by Ground Truth Solutions⁴ in collaboration with Sondar Design, Humanitarian Outcomes, Oxfam Great Britain, and Humanitarian Policy Group (HPG) in 2018. This research was also financially supported by a United Kingdom resource, namely UK Aid. The overall target of the study was to seek how delivery mechanisms can be more effectively applied to meet the needs and expected

⁴ Ground Truth Solutions is a non-governmental organization that was initiated in 2012 with the aim to 'shift the focus of the humanitarian system from a supply side approach- doing what aid agencies themselves consider to be the needful- to one that takes it cue directly from affected people' (Ground Truth Solutions, n.d.a)

outcomes of beneficiaries. This study recognized the importance of addressing the oftentimes neglected aspect of enhancing the cash transfer provision methods from a user point of view to better meet their needs. Unlike the DRC case, Kenya was chosen for this study in order to explore the impacts of its wide-ranging assistance and social protection programs that apply various aid delivery tools to both Kenyan and refugee recipient experiences (Sagmeister and Seilern, 2018). This study also offered an opportunity to explore Kenya's cash transfer activities as they remain uncoordinated and are not implemented in tandem with one another (Sagmeister and Seilern, 2018).

This study utilized a 'human centered approach' to explore the effects of cash transfers from various perspectives, while documenting the unmet requirements and windows of opportunities from the perspectives of aid recipients (Sagmeister and Seilern, 2018, p. 4). Data collection involved 18 interviews in Kenya's Nairobi and Tukana as well as 264 surveys with respondents to comprehend their aspirations for improvements in cash transfer programming, including mobile money, to highlight best practices and provide a priority list of requirements to make transaction experiences more amenable and efficient. The sample included people from both genders, different ages, those living in urban and rural areas, as well as refugees and other vulnerable populations (Sagmeister and Seilern, 2018). Further, the main target audience for this study included humanitarian agencies that provide aid and their financial suppliers to offer them a more nuanced comprehension of cash transfer tools that achieve their practical needs and financial limits, while meeting the actual needs of the people they aim to reach and serve (Sagmeister and Seilern, 2018). Overall, this case offers a more established example of mobile money in Kenya as it has a wide range of experience with digital financial operations (Sagmeister and Seilern, 2018).

4. Discussion

This section offers a comparative analysis of the key variables identified in the literature (namely, access to target populations, sustainability of programming, data protection, and ethical concerns in delivery) for both the DRC and Kenya. The Kenyan case offers effective outcomes, while the DRC case offers ineffective outcomes.⁵ The analysis will draw from the interpretations of user perspectives reported by the NGOs, including their conclusions.

Access to Beneficiaries

Analysis of both cases revealed recipients facing barriers in accessing mobile money, including unfamiliarity with using mobile money tools. In the case of the DRC, one challenge in accessing mobile money was its similar implementation to traditional (i.e., non-digital) aid delivery methods, and therefore few gains from digital cash transfers

⁵ It is significant to highlight that the following analysis will only address the key elements of the following variables that were referenced and reported on by the NGOs in their reports.

were noticed. More specifically, while the program sought to support beneficiaries to withdraw cash using their mobiles as needed, contextual challenges including a lack of mobile money agents with a capacity to support large numbers of unplanned and unsupervised cash withdrawals, as well as a limited number of cash withdrawal stations positioned in rural areas, contributed to this shortcoming. Furthermore, populations were mainly dependent on cash transactions as they have little exposure to formal financial services. Indeed, 'at 17.5 percent, the penetration of mobile phone subscribers exceeds the reach of financial services; only 4 percent of the population has an account at a formal financial institution' (Murray and Hove, 2014, p.10). As a result, Mercy Corps was obliged to offer cash withdrawals in a more traditional way to reach more beneficiaries. These changes meant that projected advantages such as private monetary exchanges, efficiency and independent cash withdrawals usually seen in digital cash transfers like mobile money were not achieved (Murray and Hove, 2014). Nonetheless, the build-up of needed infrastructures by Mercy Corps in targeted areas represents a means to meet the needs of those that cannot be reached as well as those who are digitally invisible.

Nonetheless, aid recipient exposure and knowledge regarding the effective use of mobile money does not necessitate that aid recipients would have more successful experiences in the use of mobile money to obtain cash transfers (Naghavi, 2019). Some beneficiaries that had not experienced mobile money previously gave positive feedback due to technical assistance received from aid organizations or mobile network operators. Meanwhile, other beneficiaries that were more experienced with mobile money offered negative feedback due to deficiencies in the technical provision of the mobile money service (Naghavi, 2019). For example, according to case studies on mobile money initiatives in Ethiopia, Zimbabwe and Bangladesh conducted by the Electronic Cash Transfer Learning Action Network (ELAN), using mobile money to attain aid support, even with training offered, was not enough for digital cash transfer beneficiaries to use mobile money on their own following the end of the project. These case studies showed that 'only 10% of recipients could name all the steps involved in cashing out a mobile money transfer' (Bailey, 2017, p.1). Beneficiaries in the project were found to raise their level of activity using mobile money for money exchanges in all three countries, but their utilization of other financial services such as pursuing savings was inconsistent (Bailey, 2017).

Meanwhile, according to the study in Kenya, of the 25% of the beneficiaries that received cash using mobile money, 62% were completely satisfied, 3% were mostly satisfied, 2% were neutral, and 33% were not very satisfied (Sagmeister and Seilern, 2018).⁶ In comparison to the DRC, these relatively positive results show that offering recipients the opportunity to make payments using mobile money accounts and to

⁶ Challenges associated with access to services directly impact client or patients in three main ways, including causing less satisfaction with the infrastructure or services provided (See Penchansky and Thomas (1981))

adopt other financial inclusion methods like transferring monetary resources between accounts allowed for beneficiary agency and independence in their transactions. The report indicated that this was especially the case for Kenyan youth (Sagmeister and Seilern, 2018).

Nonetheless, beneficiaries of mobile money as an aid delivery method faced challenges related to ease of access in both cases. In the DRC, mobile money created challenges for aid recipients that had little experience with technological mechanisms or formal financial institutions. The research showed that beneficiaries in the DRC preferred to utilize e-vouchers instead of mobile money as it necessitated fewer tasks to complete and no PIN to insert. For example, 59% of e-voucher users were able to fully finalize a transaction solely in comparison to 5% of mobile money recipients. When asked about their ability to name the step-by-step process of utilizing mobile money as a digital cash transfer tool, 87% of users could not explain how to do so in comparison to 13% that could (Murray and Hove, 2014, p.27). Moreover, older people (in comparison to younger people) and illiterate groups in the DRC found it difficult to effectively use both methods (Murray and Hove, 2014).

Moreover, if the impartiality principle is adopted in practice, structural challenges can be mitigated (Rejlai and Heiniger, 2020). For example, in 2016, the UNHCR reported that there were 879,853 migrants without access to mobile phones. By collaborating with partners to activate WIFI services, improve internet access and enhance connectivity, multiple benefits were evident (UNHCR, 2016). Residents of the Nyarugusu Refugee Camp in Tanzania for example experienced better health and enhanced accessibility to cash transfers. These digital means were able to benefit more vulnerable populations, such as nomadic women and children, and individuals without identification. These groups would often be neglected in national social protection packages as well as in mitigating the security challenges of constantly moving from one place to the next (UNHCR, 2016; Partnership for Maternal, Newborn and Child Health, 2019).

In a similar way, the illiterate population that used mobile money in Kenya did not prioritize the feature of saving and storing cash in their cards or virtual accounts due to their digital illiteracy. Beneficiaries in Kenya also highlighted major inefficiencies in the provision of mobile money such as information being relayed in a way that cannot be easily comprehended due to an inability to read or write, language differences, or a lack of knowledge on how to use virtual money transfer systems, as well as a lack of familiarity with the humanitarian assistance structure. The Kenyan study concluded that users favour tools that can be tailored to their needs, are dependable, and can be transmitted through actors they have confidence in and can effectively connect with (Sagmeister and Seilern, 2018, p.15). In situations where there is limited trust between beneficiaries and official money lending institutions, or if beneficiaries do not feel comfortable using these technologies to store their cash, mobile money operators must foster an inviting and trustworthy environment that caters to the social and

cultural context.

Sustainability of programming

While the sustainability of programming is a key determinant of effectiveness, it was challenged and addressed in different ways in both cases. In the DRC, mobile money is a relatively novel approach to digital cash transfers that was only introduced in 2012. At the time of the study, only a few locations had adopted it as a digital transfer mechanism. Mobile money was adopted to merely exchange money among account holders and be swiftly transferred out of the account into physical cash, not for other purposes such as to safekeep monetary resources (Sagmeister and Seilern, 2018). Due to the ineffectiveness of the logistical and organizational mechanisms used by mobile money operators such as Tigo Cash, Vodacom's M-PESA and Airtel Money, and its young programming in general, around a double of SIM distribution initiatives were cancelled (Sagmeister and Seilern, 2018).

Furthermore, money management functions of mobile money or other 'multiplier effects' were underutilized beyond money transfers. A key contextual reason for this in the DRC included the difficulties of cooperating with recently established financial service providers and underdeveloped agent networks that limited the gains of enhanced security, flexible approaches to cash transfers, and access to novel financial services for beneficiaries (Murray and Hove, 2014). A limited network coverage also meant that mobile phone usage was not possible everywhere and all the time (Naghavi, 2019). Interruptions in the processing of mobile money transfers can be an inefficient use of people's time and can draw unnecessary attention and stigma from others if they are waiting in a line indicating that they had been transferred cash (Naghavi, 2019). This represents an example of 'disruptive innovation' in which the use of mobile money services can unsettle present modes of living, and unintentionally create unwanted consequences (Donovan, 2012).

In general, the lack of reliability was associated with both the mobile money operator and network accessibility as they often took place offline which would render mobile money services unsustainable (they were only available during certain times of the day such as early morning or afternoon). As such, the study highlighted the role of clearly comprehending the capacities of aid recipients and their contextual disadvantages and overcoming them using technology focused trainings for aid recipients to better beneficiary adoption of mobile money services (Murray and Hove, 2014).

Nevertheless, while the Kenyan case shares several challenges with the DRC case, the reasons for responding to these challenges differ. Mobile money beneficiaries in the Kenyan context referred to the limited flexibility available to them in cashing out monetary supplies and in the use of these resources, limited knowledge on how to act in the case of no funds, as well as various technical challenges linked to identity

confidentiality, accessing monetary resources, and account management. For instance, beneficiaries underscored the limitations of having a set number of timings to access money from the accounts which were seen as being detrimental to their fulfillment of routine payments like rent (Murray and Hove, 2014).

Overall, unlike the DRC case in which the sustainability of programming was limited by the recent adoption and operationalization of programs, the Kenyan case draws attention to the shortcomings of dealing with a more established mobile money system. This is evidenced in the recommendations provided to more effectively sustain the program, by advocating for and strengthening trust in the community and among mobile money stakeholders instead of merely implementing technical trainings on how to use mobile money. The report highlights that ‘above all, users want payment systems they can trust. Building trust is also necessary to counter frequently expressed concerns that reaching out to agencies may lead to a reduction or discontinuation of services or is perceived as disturbing’ (Sagmeister and Seilern, 2018, p.16). As a result, further beneficiary engagement at the local level was encouraged using ‘community cash champions’ or ‘buddy systems’ to encourage seasoned aid recipients to support new ones (Sagmeister and Seilern, 2018, p.16).

Data protection

Data protection challenges play a key role in highlighting the ineffectiveness of the mobile money programs, especially in the context of newly developed mobile money infrastructures. In a context like the DRC in which aid beneficiaries do not own mobile phones and have never previously received assistance using electronic payments, the implementation of mobile money programs is prone to challenges. One major barrier to the effective adoption of mobile money was aid recipients’ inability to insert PIN numbers and finalize the payment without the support of external parties. In response, Mercy Corps planned for large cash-out meet ups where beneficiaries cashed out their mobile money as opposed to visiting a mobile money facilitator in the community. As a result, the expected advantages of gains in ‘privacy, efficiency and autonomy that are typically associated with electronic payments’ were not met (Murray and Hove, 2014, p.24). Challenges to data protection and the ‘do no harm’ principle are evident in terms of risking identification of the mobile money user and misuse of the data in the hands of external parties not mobile money agents.

Although aid recipients in Kenya were more experienced in the use of digital cash transfers like mobile money (Sagmeister and Seilern, 2018), data protection still constituted a key concern for users in different ways. For example, on a scale of 0 indicating ‘not at all important’ to 5 indicating ‘very important’ to ascertain what beneficiaries considered to be their priorities when receiving aid, ‘confidentiality of income’ and ‘security of digital payments’ were both ranked 4.1 respectively on the scale (Sagmeister and Seilern, 2018, p.6). The high ranking of these data protection features signifies their importance in their adoption by beneficiaries. Further, the

significance of trust to beneficiaries' buy-in and the adoption of mobile money tools were explicitly mentioned in the Kenyan case. In terms of what aid recipients valued, 'trusting those managing transfers' ranked highly on their priority list with a 4.4 out of 5 rating. The Kenyan experience underscored that beneficiaries prefer cash transfer methods that they can trust. Strengthening trust is also needed to mitigate beneficiary apprehensions that working with agencies would limit or cut off services or is perceived as unsettling (Sagmeister and Seilern, 2018). As such, recommendations included prioritizing engagement at the community level to support one another in digital cash exchanges, increasing trainings to both aid recipients and providers throughout the duration of the program, as well as observing agent activity in the aid process (Sagmeister and Seilern, 2018).

Ethical considerations

Ethical considerations are significant to the effective implementation of mobile money programs and their sustainability from the perspective of beneficiaries. While the literature clearly outlines the challenges of meeting ethical standards in mobile money implementation, both cases make little or no reference (as in the DRC case) to ethical considerations. The overall lack of reporting on ethical considerations by these organizations indicates an evident limitation and key gap in their overall evaluation of beneficiary experiences (especially concerning issues such as the post-consent challenges felt by aid beneficiaries and NGOs implementing these programs, as well as maintaining the 'do no digital harm' principle' in their initiatives).

The Kenyan example explicitly indicated three major interlinked ethical issues: first, the provision of information to mobile money recipients in an inaccessible way due to variations in literacy, language preferences, or a lack of technological literacy, indicates a weak or uneven distribution of instructions and key knowledge on the program. Second, several beneficiaries decided against probing for clarification or information when adopting the digital cash transfer tool as they feared they would lose access to aid or be viewed as a liability. This illustrates the power imbalance between those accessing aid and those providing aid, as well as wider perceptions on the social security between aid providers and users. Lastly, beneficiaries also expressed concerns regarding their overall physical wellbeing when accessing mobile money, especially among displaced aid recipients, users experiencing trauma and extremely vulnerable populations (Murray and Hove, 2014). As such, the study shows that beneficiary experiences are enhanced when they can easily access information needed about the program or process, when they feel assisted and heard by the aid agency, when they rely on the aid provision method and enablers such as financial service providers, and when targeting audiences and program implementation has been advised by the local community it aims to serve, offering users clarity on the process as a whole.

4. Conclusion

In summary, this paper compared the experiences of aid beneficiaries in the Democratic Republic of the Congo and Kenya using mobile money illustrating different effectiveness outcomes from the perspective of aid recipients, as reported by two similar studies conducted by Mercy Corps and Ground Truth Solutions respectively. This paper showed that the context in which mobile money is implemented according to four main factors identified in the literature, namely, access to target populations, sustainability of programming, data protection, and ethical concerns in delivery, determines aid recipient experiences and views of mobile money effectiveness. This exploration has also highlighted the evident gaps in reporting made by the NGOs concerning the four variables, especially the ethical challenges in the DRC case, which limit the provision of a holistic context for a more in-depth comparison.

Mobile money and other digital cash transfer methods can be effective and equitable only when all humanitarian initiatives are conducted in a way that meets the needs of the most disadvantaged group of aid recipients (GSMA, 2020). The Humanitarian Innovation Project-World Humanitarian Summit (HIP-WHS) *Oxford Principles for Ethical Humanitarian Innovation* directly emphasize the role played by aid recipients in the development of digital innovations, highlighting that “innovation should be user-driven and based on participatory methods that are sensitive to within-community power dynamics, culture, and language” (HIP-WHS, 2015, p.3).

Three key policy related takeaways from this comparative study are important to highlight. First, the views of intended beneficiaries on their experiences, realities, and challenges in adopting mobile money are critical to understanding the effectiveness of the program. To avoid a top-down approach in the design of technological means to supply aid resources to beneficiaries, and its consequences of unintentionally harming aid recipients, beneficiaries must be consulted in the creative decision-making processes related to mobile money development and implementation (Mesmar et al, 2016; Rejali and Heiniger, 2020). Through such action-oriented consultations, the contextual challenges beyond the four main variables of access, sustainability of programming, data protection and ethical considerations, can be made clear. For example, in Kenya a mobile network provider that intends to implement a mobile money service needs to ensure the buy-in of the target population. They must apply the mobile money service to the current remittance system to understand why and where they are sending their money. In Kenya, there was clearly marked urban to rural remittance transfer system in which people sent money to their families in rural zones. Nonetheless, the high crime prevalence in Kenya and in Nairobi specifically created a need for a new and secure means of transferring money (Camner, Pulver, and Sjoblom, 2012).

Second, a benefit of conducting a comparative study based on reported beneficiary

experiences by NGOs is that it draws attention to what is reported from the perspective of beneficiaries. This is a key lesson for improving program reporting. As seen in the comparative study, the overall lack of reporting on ethical considerations by Mercy Corps in the DRC and Ground Truth Solutions in Kenya indicates a gap in their overall evaluation of beneficiary experiences. Learning why these organizations chose to report little or no ethical considerations and their impact on future programming is the subject of future research inquiry. One way to explore ethical limitations and other concerns from aid recipient perspectives is using the *Cash Barometer*, launched by Ground Truth Solutions in partnership with the German Federal Office and the Cash Learning Partnership (CaLP) (Ground Truth Solutions, n.d.b).⁷

Lastly, the challenges highlighted in the comparative study points to the need for timely evidence-based policy research on the impact of technological innovations in cash transfers (and wider social protection initiatives) on the user experiences in the short and long term. This type of research would transcend the limitations of secondary research and conduct contemporary and novel empirical research. The use of technology as a medium of aid delivery is not considered neutral in its delivery, but rather, politically driven using the means that technology can create change in society (Jacobsen and Fast, 2019). Technology can replicate existing types of social inequality and/or it can offer previously unreachable populations with access to digital technologies. As such, learning about these aspects offers an opportunity to comprehend how technologies used in the provision of humanitarian aid can affect and monitor the lives of beneficiaries (Jacobsen and Fast, 2019).

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⁷ This is 'an independent accountability mechanism that combines standardised face-to-face surveys with user-centered approaches to allow cash recipients to provide feedback on cash and voucher assistance and participate in decision making' (Ground Truth Solutions, n.d.b. para. 2).

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