

Reference Paper for the 70th Anniversary of the 1951 Refugee Convention

Digitalization in Displacement Contexts: Technology and the implementation of the Global Compact on Refugees

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Abstract:

This paper provides an overview of digital innovation in refugee and displacement contexts, drawing on data from refugee communities about how they use digital identity, cash transfer, and education solutions. This data was collected in 2019 in Kenya and Malaysia in cooperation with refugee community organizations, university partners, and UNHCR. Along with data analysis, there is historical background on digitalization in displacement response, and an overview of current work being done in this space. The paper provides recommendations for maximizing the potential of digital innovation in these areas, and how they can best serve forcibly displaced populations and contribute to the goals of the Global Compact on Refugees.

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1. Introduction

In the stress and uncertainty of being in a new place, a familiar voice or face can provide a moment of relief. Digitalization¹ in our daily lives means that many of us are only a click on our laptop or a swipe on a smartphone away from someone we love or a place we know. For displaced people, this connectivity has deep meaning – receiving a voice memo on a messaging app from a relative who was thought dead, or a text message about a first job opportunity in the city they have settled in. For the agencies and NGOs dedicated to protecting, supporting, and advocating for displaced people, digitalization has also created opportunities to connect with and support communities in ways that would have been at best impractical before mobile phone-based internet was widely available. Prior to cellular phones, displaced persons who lived in a city's outskirts or in a rural area were effectively unreachable except by car, so community meetings required time and planning. Now, displaced people set up community organizations on social media and plan activities on messaging services like *WhatsApp*, *IMO*, *Signal*, or *Telegram*; these serve as two-way communication tools for humanitarian and development organizations to interact with displaced communities in real time despite distance or accessibility.

In order for digitalization to play a positive role in achieving the registration and documentation,² education,³ and financial inclusion⁴ areas in need of support set forth in the Global Compact on Refugees (GCR), understanding how organizations' digital strategies mesh with displaced peoples' digital daily lives will be critical. This paper will provide a broad overview of the recent history of digitalization, highlighting how the transition from community-level computing center-based digitalization to individual-level mobile phone-based digitalization sped up the process of international organizations broadening their digital agendas. From there it will highlight a selection of digital interventions in the areas of identity documentation, cash transfers, and education, and draw on original interview and survey data from displaced people to examine how these interventions actually fit into individuals' daily digital lives.⁵ To succeed in using digital technology to contribute to the aims of the GCR noted previously, it will be critical to understand how organizations develop the knowledge necessary to engage with forcibly displaced people in ways that mesh with their digital behaviors. This requires rethinking how organizations do applied social science research to understand the links between individuals' social, economic, and political activities, and how individuals transfer these to the

¹ Throughout this chapter, 'digitalization' should be understood as the increasing role of internet-based technologies across all aspects of daily life. Any specific definitions outside of this will be provided as needed.

² UNHCR (2018) Report of the United Nations High Commissioner for Refugees: Part II Global compact on refugees. Supplement No. 12 (A/73/12 (Part II)). Section 58; See also ongoing work in the ID Ecosystem project run by UNHCR and Immigration, Refugees, and Citizenship Canada (IRCC): <https://www.unhcr.org/idecosystem/>

³ Ibid. Sections 68-69

⁴ Ibid. Section 71, page 14

⁵ More on these data collection processes: Martin-Shields, Charles, Sonia Camacho, Rodrigo Taborda, and Constantin Ruhe. (2019) "Digitalisation in the Lives of Urban Migrants: Evidence from Bogota." DIE Discussion Paper 12/2019; Eppler, Mirko, Stella Gaetani...Carlotta Preiß. (2020) "Information and Communication Technology in the Lives of Forcibly Displaced Persons in Kenya." DIE Discussion Paper 15/2020; Martin-Shields, Charles & Katrina Munir-Asen (2020) "Digital Technology in the Daily Lives of Urban Refugees." <https://www.transient-spaces.org/blog/blog-digital-technology-in-the-daily-lives-of-urban-refugees/>

digital realm. Indeed, the technology aspect of digitalization is rarely the biggest challenge refugee organizations face when developing a new digital intervention.

The key question this paper focuses on is how and whether these programs align with the lives and daily rhythms of displaced people. Over the last 18 months a number of colleagues and I did surveys and interviews with displaced people in Kenya and Malaysia about what digitalization means in their daily lives. We were able to ask them about identity documentation, cash transfers, and education, and how technologies like computers, tablets, mobile phones, and web-based software fit into these domains for them. The results of our surveys and interviews provide context to better understand how the benefits of digitalization are distributed, and what policy makers working on displacement can do to ensure technology does not become an end in itself. Digitalization is exciting in theory, but to positively affect displaced peoples' lives it has to fit into the context they live in. Drawing on the aforementioned interview and survey data, we can begin to see how digitalization fits into and potentially improves their daily lives and where identity, cash transfers, and education programs can miss the mark. These gaps between daily lives and institutional perceptions are where we can learn practical lessons about how to use digital technologies to improve the well-being of displaced people based on the reality they live in every day.

For digitalization in the domain of identity documentation I will focus on two examples, one from Kakuma refugee camp in Kenya and one from Malaysia.⁶ The first example is the Kasi system in Kakuma refugee camp where refugees can schedule appointments, manage their case files, and update family data,⁷ and the second is the smartphone app Verify-MY in Malaysia that uses a Secure Quick Response (SQR) code reader to establish the provenance of refugees' UNHCR-issued ID cards.⁸ What tensions arise though when local authorities require legitimate access to sensitive data, especially around legal status? Do displaced communities trust them with that power? The interviews with refugees who use these tools helped illuminate ways that digitalization and digitizing documentation were experienced as part of daily life, whether displaced people felt greater choice and agency using these tools, and how these experiences could be used to improve future digital identity documentation efforts.

Cash is the second domain where there has been a great deal of digitalization activity. Ever since M-Pesa⁹ went live in Kenya in 2007, the concept of mobile phone-based cash transfers has been replicated for multiple refugee contexts. *Bamba Chakula* is one such service, developed by the World Food Programme as a means for distributing cash assistance in Kakuma by storing monetary value on SIM cards. The key problem with *Bamba Chakula* is that it is a closed loop

⁶ Biometrics is a large space within the realm of identification; I do not cover it because it is a different set of technologies than the documentation examples covered in this chapter. For those who are interested, more on UNHCR's biometric identification system is available at:

<https://www.unhcr.org/protection/basic/550c304c9/biometric-identity-management-system.html>

⁷ Australian Parliamentary Delegation to Kenya and Ethiopia, 3-9 June, 2018. Pp. 6.

⁸ More on Verify-MY is available at: <https://www.unhcr.org/news/latest/2016/6/591283e37/unhcr-rolls-out-new-card.html>

⁹ M-Pesa is a mobile phone-based cash transfer system developed by Vodafone and its Safaricom subsidiary that allows people to transfer cash via SMS text message. More information about the product is available at: <https://www.safaricom.co.ke/personal/m-pesa>

system¹⁰ – it is only available to refugees, since legally they cannot access commercial systems like M-Pesa. This section of the chapter will explain why close looped systems are not optimal, and use interview data from refugees to better understand their experiences using both *Bamba Chakula*, and finding ways to get around the restrictions to using M-Pesa.

Finally, education has been a global domain where there has been investment in digital solutions for both children and adult learners in displacement contexts. The Instant Network Schools program in Kakuma provides tablets so students and teachers can synchronize lessons across classrooms using a network of portable modems that update the tablets when they are charging, universities in the U.S. and Europe have partnered to support distance learning for refugees, and donor agencies like GIZ have invested in digital literacy training for displaced persons. In our interviews we focused on asking displaced people about using digital tools in school (either themselves, or their children), and asked if they had any experience with the Instant Network Schools program. While none of our respondents knew of the program, they discussed the importance of having technology in classrooms, and what it would mean for their children to be digitally literate.

When digitalization improves the humanitarian community's responses to forced displacement by making them more effective, inclusive and tangible, this success can contribute to addressing the aforementioned areas in need of support in the Global Compact on Refugees. Using digital technologies to support displaced populations comes with challenges though. Digitalization needs to be inclusive, not just in terms of community input when developing a new technology, but making sure that displaced people have access to the same services as their host-country peers. One way to manage this challenge is to advocate for greater legal inclusion of displaced people in host countries. When displaced people have the legal right to access regular financial and educational services, it reduces the need for closed loop solutions that prevent displaced people from integrating into their host countries.¹¹ By bringing the daily digital experiences of displaced people into the analysis of different technology interventions, we come away with a fuller picture of the extent to which digitalization improves displaced peoples' well-being and circumstances. the identity documentation, cash transfer, and educational goals of the Global Compact on Refugees.

2. Brief background: Technological innovation in humanitarian response

Until the mid-1990s computers and computing equipment were expensive and large, making them impractical for humanitarian field operations. By the late 1990s, computers and internet access had expanded enough in OECD countries that prices were starting to come down and it

¹⁰ A closed loop solution is something that is only available to a specific community, often custom built in order to provide a service that would otherwise be legally unavailable to that community. This term will be explored further in the section on cash transfers.

¹¹ Another aspect of dealing with the sustainability problems with corporate social responsibility is provision of long-term funding commitments. Humanitarian agencies often operate on 1-2 year budgets and donors often do not meet their financial commitments, which makes it difficult to enter into long-term commercial agreements with technology firms. The Grand Bargain, launched at the 2016 World Humanitarian Summit, aims to address these funding shortfalls. More on the Grand Bargain can be found at: <https://interagencystandingcommittee.org/about-the-grand-bargain>

became practical to start including digital technologies more comprehensively in the global development agenda. This was formalized in 2001 with the formation of the United Nations Information and Communication Technologies Task Force (UN ICT TF),¹² part of which included Kofi Annan's 'Challenge to Silicon Valley'.¹³ With a core mission of closing the digital divide and supporting public-private ICT initiatives the UN ICT TF was not specifically focused on displaced people. The Challenge to Silicon Valley did lead to one of the first ICT-based interventions for refugees though. Starting in 2001 the Global Catalyst Foundation, an organization based in California's Silicon Valley near San Francisco, set up wired internet and three Internet Learning Centers in Kasulu, Tanzania.¹⁴ The learning center courses were accredited through the local colleges, and Cisco Systems designated the centers a 'Cisco Networking Academy' – when students completed the courses they received Cisco-accredited skills certification. Global Catalyst Foundation paid for the internet and training centers, while Cisco and UNDP co-funded the technical accreditation courses. While this was a small project serving the Mtabila refugee camp, and only a limited number of the 130,000 refugees who lived there would actually use the centers, it is an early example of how private sector and UN stakeholders would continue to cooperate as mobile internet took off in the 2010s.

Among large development and humanitarian institutions the idea of using mobile phones to not only understand their operating environment but to be in direct contact with populations demanded rethinking procedures and processes for institutional learning and adaptation. While mobile phones have been available in developing countries since the late 1990s, their entry into the consciousness of the humanitarian and development sectors boomed in the mid-2000s. The privatization of state-owned mobile network operators in combination with the transition to the Global System for Mobile Communication (GSM) standard ushered in rapid growth of digital cellular connectivity around the world. From 2007-2011 a series of political and humanitarian events brought the role of mobile phones, and mobile phone-based social media technology, into the popular and political focus. During the 2007-2008 election violence in Kenya the Ushahidi crowdsourcing platform,¹⁵ which allowed Kenyans to send text message updates about violence and have those updates appear on a publicly available digital map, captured the attention of donor and UN agencies, NGOs, and reporters. This technology was used again in the 2010 earthquake in Haiti to crowdsource¹⁶ data from individuals and make it available on a map so first responders could use it. For large organizations working in the disaster response,

¹² UN Press Release, 2001 "UN Information and Communication Technologies (ICT) Task Force Launched Today at Headquarters." 20 November. DEV/2353-PI/1388. <https://www.un.org/press/en/2001/dev2353.doc.htm>.

¹³ Kenny, Charles and Justin Sandefur, 2013 "Can Silicon Valley Save the World?" *Foreign Policy*, June 24. <https://foreignpolicy.com/2013/06/24/can-silicon-valley-save-the-world/>

¹⁴ Unluova, Ivana, 2003 "Feature: No power, poor phone system – but Tanzanian camp gets wired for Internet." 5 February. <https://www.unhcr.org/news/latest/2003/2/3e411c574/feature-power-poor-phone-system-tanzanian-camp-gets-wired-internet.html>

¹⁵ <https://www.ushahidi.com/about>

¹⁶ Crowdsourcing is a term that describes how organizations gather information from a population by collecting text messages, social media posts, or other types of individual-level digital data in bulk. As opposed to a survey, where there is a sampling frame, crowdsourcing relies on creating a focal point to which people can voluntarily send information. Crowdfunding is a similar principle, wherein people raise money using a website like Patreon, but is different from what was and is being done in the humanitarian crowdsourcing space.

peacebuilding and humanitarian sectors, the sudden ability for large portions of a crisis-affected population to effectively send them a text message was an amazing opportunity, but brought with it the need to fundamentally rethink how digital technology affected their relationship to the communities they served.

In a perfect world the way that UN agencies, NGOs, and donor agencies actualize technological solutions would ‘mesh’ with the daily digital practices and behaviors of displaced people.¹⁷ Individuals and communities adopt and adapt new technologies to their needs in ways that large organizations cannot reasonably predict, and large organizations work at a scale that makes it difficult to adapt projects quickly to localized idiosyncrasies. There will never be a perfect digital mesh between institutions and individuals, but data on how displaced people use technology in their daily lives, and experience the technology solutions institutions develop, can help strengthen the digital mesh between institutions and individuals.

3. Digitalization in Identity Documentation, Cash transfers, and Education

With the broader context of digitalization outlined we now turn to specific examples of digitalization. Identity documentation, cash transfers, and education are the three areas this section will cover. As noted previously, this is because they are central to the daily lives of displaced people – identity documentation confers protection and access to resources, cash transfers can support self-sufficiency, and education keeps young people on track and adult-learners up-to-date on labor market skills. Each section will include a general introduction to the technologies and analysis of the data collected from displaced people about their experiences using them.

3.1. Digitalization and identity documentation

While paper documents are still used for identification purposes, in the last decade many displaced people have their identity documentation in digital formats. Digital identity documentation can be used to improve records management and access, and allow authorities to quickly assess the validity of things like physical ID cards. To create a robust digital identification system requires a mix of sociological knowledge, and expertise in user interface and user experience. We will look at two examples that take different approaches to creating a digital identity, and discuss the problems they aim to solve.

For displaced persons digitalization can provide the ability to directly manage records and family data. In Kakuma refugee camp in Kenya, UNHCR developed the *Kiosk Automated Services and Information* system (KASI).¹⁸ As of July 2019 13,084 refugees in Kakuma and Kalobeyei had set

¹⁷ In this case I use the term actualize to describe the entire process of an institution coming up with an idea for a digital solution, finding funding to do a proof-of-concept, field testing it, and taking it to scale institution-wide.

¹⁸ <https://www.unhcr.org/registration-guidance/chapter8/continuous-registration-in-unhcr-operations/>

up KASI profiles.¹⁹ Through laptops made available at the UNHCR field posts linked to the KASI server, refugees can go to field posts within Kakuma camp and Kalobeyei Settlement and update records online, send and receive messages to UNHCR, and request appointments for specialized protection services. Appointment registration is particularly important. The KASI system goes beyond just records management, providing UNHCR's Kakuma operation with data on protection services rendered.²⁰ When refugees request a meeting for a specific service, like legal aid, the KASI system generates a digital 'ticket'. The ticket is proof of an appointment for the refugee, but is also visible to UNHCR. The UNHCR Kakuma protection office can use the ticket data to see if there are backlogs for different protection services, essentially creating a data-driven tool for either reallocating or requesting new human or financial resources, or prioritizing where existing resources are used. The KASI system also plays a role in resettlement, decreasing the risk of fraud and identity theft,²¹ and giving refugees exclusive agency in making updates to their files and scheduling appointments. This has led to refugees describing, anecdotally, a significant decrease in the time between a family filing their information in KASI and being informed that an embassy requested to set up an interview.²² This should be an overt positive; indeed most refugees not only seek to expedite their resettlement cases but are also well versed in the overall process. Instead, we heard complaints from refugees not about the system per se, but about how it unexpectedly changed the rhythm of their lives.²³

Refugees in Kakuma who were using KASI explained that normally it takes at least nine months to get a resettlement interview. Refugees who expected many months of waiting described panicked efforts to bring children and extended family, some of whom had been granted the right to go to Nairobi or other cities in Kenya, back to Kakuma after one month when they were unexpectedly offered a resettlement interview.²⁴ Two respondents described having to find family members who had gone to other parts of the country for work or education, and only having 24-48 hours to get these people back to Kakuma from Nairobi and Eldoret. If they could not get everyone listed in the file back for the interview, then it could not take place and they would have to wait an indeterminate amount of time for the next opportunity. It was not entirely clear how quickly people adapted to this change, though it is ostensibly a net benefit to have shorter waits for interviews. This situation is something of a conundrum, since for most refugees

¹⁹ ReliefWeb. 2019. UNHCR Monthly Operational Update: Kakuma Camp & Kalobeyei Settlement, Kenya (1 – 30 June 2019). <https://reliefweb.int/report/kenya/unhcr-monthly-operational-update-kakuma-camp-kalobeyei-settlement-kenya-1-30-june-2019>

²⁰ Detailed information on the KASI system was gathered during an interview with Seda Kazucu, head of protection at Kakuma camp, and the development lead for the KASI system, on 3 April 2019.

²¹ The buying and selling of resettlement files, and cases of bribery in exchange for prioritizing resettlement cases, was an issue that partly motivated the establishment of the KASI system. For more on this see: Hayden, Sally. 2019. "Asylum for sale: Refugees say some U.N. workers demand bribes for resettlement." *NBC News*. <https://www.nbcnews.com/news/world/asylum-sale-refugees-say-some-u-n-workers-demand-bribes-n988351>

²² The causal chain between the way that KASI functions as a software product and how quickly a resettlement interview is scheduled is fuzzy at best. There could be a number of reasons for a timeline from registration to resettlement interview being shorter than expected, but our interview data did not find a specific reason for this.

²³ These complaints were reported during interviews with refugees living in Kakuma 1 that took place between March 29 and April 5, 2019.

²⁴ Interview with Somali respondents in Kakuma, 3 & 4 April 2019

in Kenya resettlement is the main goal, but a system that too-abruptly changes the established rhythms of the process can create new problems.

Instead of only asking how we adjust refugees' expectations of how long things should take with this new system in place, we could also ask: How will the introduction of a new system disrupt life rhythms? Those rhythms include family members coming and going, potentially long distances, since the general expectation is that it will be months before there is a possibility for an interview. If this kind of sociological detail is not known in advance, then how can UNHCR or its partners know what kind of messaging and outreach is necessary for adjusting displaced peoples' expectations of how a system like KASI will change life's rhythms? This is no small matter, since resettlement is the most sought after solution, and slimmest likelihood, for most displaced people. It may be that only a few people have this type of negative experience, but if we can learn from how that negative experience came to be then we can prevent others from experiencing similar stress or disappointment.

Digital identity tools can also serve the purpose of validating information about a displaced person's status to authorities. In the eyes of Malaysian law, displaced people are considered 'illegal' immigrants regardless of their status with UNHCR Malaysia.²⁵ Thus, secure, machine-readable cards that confirm a refugees' status are critical for UNHCR operations. As a means of quickly assessing the authenticity of a card, UNHCR developed the Verify-MY app, which can be downloaded onto iPhones and Android-based smartphones.²⁶ The target audiences for this app are the Malaysian police and immigration authorities, financial services providers, telecommunications firms, employers, and medical facilities.²⁷ UNHCR developed this app and the accompanying cards in response to concerns from Malaysian authorities that paper documents could be forged. UNHCR was permitted to interview asylum seekers and refugees held in detention centers, and the authorities may release them if UNHCR confirms they are an asylum seeker or are a registered refugee. Recent policy changes meant UNHCR staff were restricted from accessing detention centers, though. However, this arrangement is not based on national legislation, and the government retains final discretion around detention and deportation.²⁸ This lack of a legal framework was at the root of many critiques that refugees shared during interviews about this technology in daily life. While it is important for refugees to

²⁵ The use of the word 'illegal' is one that is purposeful on the part of Malaysian officials. A recent example is a quote from the Malaysian Home Minister, Datuk Seri Hamzah Zainudin, regarding the way that the Malaysian government views refugees within its borders: "...The government does not recognise their status as refugees but as **illegal immigrants** who are holders of the UNHCR card..." (quoted in *The Star*, Thursday, 30 April 2020, <https://www.thestar.com.my/news/nation/2020/04/30/rohingya-refugees-have-no-right-or-basis-to-make-demands-says-home-minister> [bold text added by author])

²⁶ <https://apps.apple.com/my/app/unhcr-verify-my/id1099680658>

²⁷ Based on expert feedback from UNHCR Malaysia, the Verify-MY app can be used for identity due diligence by financial and telecommunications services providers. While refugees are currently not legally recognized Malaysia, bodies such as the Central Bank of Malaysia (BMN) and the Malaysian Communications and Multimedia Commission (MCMC) have issued guidance indicating that machine readable refugee ID cards can be used to establish legal identity. The problem that UNHCR is focused on dealing with is advocating for banks in particular to bring their identity guidelines into concurrence with the BMN's guidance. In many cases refugees' exclusion from financial services is due to banks and other firms not updating rules and processes.

²⁸ Indeed, Malaysia is not a signatory state to the Refugee Convention.

have a way to demonstrate the authenticity of their identification documentation, some respondents had a somewhat fatalistic view about what that meant in a context where the state granted them no formal legal status anyway.

Refugees in Malaysia told us about the mix of daily challenges they navigate; the persistent risk of arrest due to precarious legal status, inconsistent access to services like healthcare and education, and long journeys across the city to update records on-site at the UNHCR office. When we asked about the Verify-MY app, refugees from one of the communities talked about how this app was a solution made for the police, not for the refugee communities.²⁹ In these interviews it was clear that the community's experience of policing was bad. As one respondent pointed out to us, the risk of arrest is not due to the veracity of the ID cards, but that refugees in Malaysia are there illegally in the eyes of the law.³⁰ Having this app did not ease the fear he and others in his community felt when the police stopped them – even if the app said a card was authentic, they described how they had been arrested anyway and had to wait for UNHCR to get them out of detention. The *functional* value of the Verify-MY app is for the police and migration authorities, and businesses that choose to recognize it – they use it to check the authenticity of UNHCR ID cards. Its ostensible value, that it can prevent arrests of refugees by verifying the authenticity of their ID cards, is tenuous since UNHCR IDs do not grant legal status, and refugees are aware of this. However, this feeling was not universal: refugees from the Myanmar Muslim and Somali communities said they appreciated the app and described ways in which they would improve it. One that came up often was a log in page, where refugees could see their data, ongoing resettlement processes, and make updates remotely instead of having to go to the UNHCR office. They argued that a log in feature where they could manage their data would give it value to them also, and make it something they could use actively, especially if it saved time going to and from the UNHCR office.

Identity documentation is critical. Documenting who you are, who your family is, and what you have experienced is a key part of the resettlement process, accessing services, and generally being visible to the state. KASI centralizes this type of documentary process, and gives refugees the agency to make changes to their records. While this is a net positive, KASI also creates new rhythms to life in Kakuma – and these changes can be costly to refugees who are not aware of how to adapt to them. The ability to prove the authenticity of documents is important too, but technology can only go so far without formal legal protections attached to the documentation. While authorities have the right to make sure those within their borders are properly documented, without legal status an app like Verify-MY will not mitigate the risks refugees face in terms of arrest. For identity documentation to translate into access to services like commercial cash and banking, and educational opportunities, technology needs to mesh with the legal and social circumstances refugees face in daily life.³¹

²⁹ These two interviews took place on 6 November 2019 in Klang, where a number of refugees have settled.

³⁰ Interview with Pakistani refugee in Kuala Lumpur, 6 November 2019. See also footnote 52.

³¹ Some progress has, however, been observed despite the legal restrictions in Malaysia. According to recent information from UNHCR Malaysia, the app has enabled some refugees to access financial services such as remittances, savings accounts and insurance.

3.2. Digitalization and cash assistance

Globally, the humanitarian sector has been moving away from providing in-kind food and materials assistance and supplementing or replacing that with cash assistance. The idea of cash assistance is to give displaced people the ability to buy food and goods they prefer while supporting the development of local marketplaces. According to the Cash Learning Partnership (CaLP) digitalization of cash assistance can lead to faster, more cost-effective delivery of cash to displaced persons, with greater security for the beneficiaries.³² This makes sense; no one needs to move cash over distances, potentially through insecure territory, and displaced people do not need to store or manage it once it is distributed. While commercial systems provide a model for humanitarian digital cash assistance, there are a number of regulatory and policy hurdles that have led humanitarian organizations to create custom digital cash transfer solutions. To navigate these, humanitarian organizations are often left having to create their own parallel, closed loop, systems. This section will draw on interviews from refugees in Kakuma refugee camp who use both the *Bamba Chakula* closed loop system, and have also found ways to gain access to the commercial *M-Pesa* system.³³ This type of closed loop system is not considered best practice since it does not encourage greater inclusion into host-country financial systems, so this section will also highlight the example of Zambia, where refugees are allowed to use commercial mobile money systems.

Mobile money platforms use SIM cards³⁴ as the basis for identifying the owner of an account. M-Pesa, a commercial mobile money platform developed by Safaricom in Kenya, was the first large-scale commercial service to gain wide recognition in economic development discussions. In simple terms, M-Pesa allows customers to text message one another cash; the sender would go to an M-Pesa agent in their vicinity, give the agent cash, and the agent would use the sender's phone number to credit that cash to their account. Then the sender could send 'cash' to a recipient using that person's mobile phone number. The recipient would receive a text message saying they had received cash, and would then go to their local M-Pesa agent who would check the text message and confirm their identity, then give them the cash that had been transferred. Rolled out in 2007, the project started as a fringe idea that had to be internally pitched to Vodafone's leadership before being developed further for commercial use.³⁵ Over the course of two years contradictory regulatory issues were overcome, the system of cash in/cash out agents was established, and the system went live.³⁶ Since its launch, economists have found that M-Pesa users are more likely to set up formal bank accounts, which leads to greater financial inclusion,

³² <https://www.calpnetwork.org/themes/digital-payments/>

³³ In interviews with refugees in Kakuma and Nairobi, respondents described getting help from Kenya friends to set up M-Pesa accounts in order to circumvent the ID rules (Interviews took place from March-April 2019, and further information about the fieldwork is available upon request).

³⁴ Subscriber Identity Module (SIM) cards are the small chips that connect and identify a mobile phone to a mobile network operator's network. The SIM card comes with the phone number and other data about the subscriber, including the data packages and other mobile products they subscribe to.

³⁵ Hughes, Nick and Susan Lonie. 2007. "M-PESA: Mobile Money for the "Unbanked" Turning Cellphones into 24-Hour Tellers in Kenya." *Innovations*. 2(2), pp. 63-81.

³⁶ Ibid.

and that it created competition that pushed down prices charged by traditional wire transfer services.³⁷ The problem is that most refugees in Kenya cannot legally access M-Pesa, even though they have access to mobile money solutions.

M-Pesa serves as both a spiritual and operational foundation for mobile phone-based digital cash transfers to displaced persons. Spiritual, because M-Pesa became a *cause célèbre* in economic and social development, a vehicle for helping the poor achieve some level of integration into the formal monetary sector. Operational, because organizations like WFP use Safaricom's infrastructure to develop closed loop mobile money solutions specifically for refugees. Why would WFP need a parallel, closed loop mobile money program for residents of Kakuma and Dadaab refugee camps though? The main reason is that in spite of all the work in 2007 that went into harmonizing telecommunications and banking regulations, the focus of the product was not on displaced people or refugees, or more specifically whether the IDs they have access to would be sufficient to set up accounts. For the average Kenyan consumer, providing the necessary ID to set up an M-Pesa account is not a problem; for a refugee though, it can be impossible since UNHCR ID cards are not considered a valid ID for setting up an M-Pesa account, and many refugees lack ID documentation that would suffice.³⁸

To address this, WFP worked with Safaricom to set up *Bamba Chakula*, a mobile phone-based cash transfer program for refugees and merchants in Kakuma and Dadaab refugee camps.³⁹ The background is not purely about cash transfers though; facing a shortage of rations, cash transfers were a way to help refugees acquire food from shops and vendors to supplement the WFP cereals ration. Refugees are issued SIM cards that have digital 'e-wallets' where cash can be deposited, and they can pay merchants directly using mobile phone cash transfers or cash out their e-wallets.⁴⁰ During interviews in Kakuma in April 2019, a number of interviewees said that they had their *Bamba Chakula* SIM cards, but no mobile phone; they would go to merchants, put the SIM into a borrowed phone and transfer all the value to the merchant. The merchant would give them the cash, and they would then do their shopping. Others described how they changed shopping patterns so they could cash out *Bamba Chakula* credit; they did not have their own mobile phones, so had to find vendors who would lend them one to put their SIM card in to do the cash transfer.⁴¹

In these cases the idea of giving displaced people control over processes that they previously did not have control over led to changes in life rhythms that would have been hard to predict without a great deal of refugee community consultation and survey and interview research. This is part of the cost of introducing new digital systems in contexts where analogue solutions were the standard for decades. These startup costs can also be mitigated with training and public

³⁷ Mbiti, Isaac and David Weil. 2016. "Mobile Banking: The Impact of M-Pesa in Kenya," in *African Successes, Volume III: Modernization and Development*. Edwards, Sebastian, Simon Johnson, & David Weil Eds. Chicago: University of Chicago Press. Pp. 247-293

³⁸ UNHCR Innovation Service. 2020. "Displaced and Disconnected."

<https://www.unhcr.org/innovation/displaced-and-disconnected/>

³⁹ <https://insight.wfp.org/bamba-chakula-a-saviour-in-times-of-reduced-rations-fd6604b4df44>

⁴⁰ <https://www.cgap.org/blog/traders-refugee-camps-overlooked-opportunity-bulk-payments>

⁴¹ Aggregate feedback from interviews with South Sudanese refugees in Kakuma, 3 & 4 April 2019

communication. This is no small task when trying to reach everyone in a camp the size of a medium size city, but it is an investment that paid off in other cases such as helping refugee traders start using the *Bamba Chakula* system. Partnering with NGOs in Kakuma that specialize in public messaging, such as FilmAid, can improve the reach of information about new services and potential impacts on life's rhythms.

Closed loop systems, while being better than nothing or forcing refugees to find work-arounds to access commercial systems,⁴² are not the best way to meet the financial inclusion targets of the Global Compact. They can be a stopgap measure in a place like Malaysia, where the lack of legal status means refugees are often excluded from the formal financial system. They can also serve as a proof of concept to financial regulators, showing that using refugee ID cards as know your customer (KYC) identification does not put anti-money laundering and combatting the financing of terrorism (AML/CFT) processes at risk.

An example of best practice in refugee digital financial inclusion comes from Zambia. At the national level, the central bank made the decision to recognize UNHCR ID cards as valid ID for KYC purposes.⁴³ This opened the door for refugees to use commercial mobile money systems, which can lead to greater financial inclusion and integration, in line with the aims of the Global Compact. UNHCR Zambia also worked with a financial technology firm to set up user-centered feedback mechanisms, so that they could learn about the challenges and benefits that refugees saw with using mobile money in their daily lives.⁴⁴ This type of feedback process helps UNHCR and other agencies understand the social and behavioral side of digital financial inclusion. Zambia is a case study of how the Kenyan government could modify the laws to make access to M-Pesa easier, saving WFP resources that went into creating *Bamba Chakula*, while supporting greater financial inclusion for refugees. The observation about training and education in both the *Bamba Chakula* case and Zambia is key, and leads us to the third sector where digitalization is playing a growing role in displaced peoples' lives: Education. There are two angles to look at in this sector. The first is digitalization of the practice of teaching and learning, and the second is training on how to live and work in a digital world.

3.3. Digitalization and education

In displacement contexts, digitalization is both a medium for learning and provides opportunities for future work. The Instant Network Schools (INS) program in Kakuma refugee camp is an example of using the digital medium for learning, while Refugee Code School, iamtheCODE, and Code Your Future are examples of organizations providing displaced people with coding and technology training that can be used when seeking work. Both of these examples are salient, and

⁴² Data from interviews with Somali refugees in Kakuma on 30 and 31 March, 2019 our research team learned that many refugees use friends with valid IDs to set up proxy M-Pesa accounts. As refugees found this way around the ID laws, the Kenyan government was introducing legislation to criminalize helping refugees in this way.

⁴³ KYC rules were established to make sure that banks properly identified customers as part of AML/CFT protocols. Zambia's central bank now includes UNHCR ID cards in the selection of ID documentation that banks can use to meet KYC rules.

⁴⁴ Krishnamoorthy, Veena and Giulia Balestra. 2020. "A digital pivot in cash assistance." <https://medium.com/unhcr-innovation-service/a-digital-pivot-in-cash-assistance-99a4099301cb>

the interview data from refugees we spoke with in Kakuma highlights why the latter is just as important as the former. While programs like INS can only expand as quickly as there is funding and hardware, offering analogue or mixed-medium learning opportunities about the digital world is something that can prepare displaced people to take advantage of educational and work opportunities as they become available.

The Instant Network Schools (INS) program is a partnership between UNHCR and Vodafone Foundation.⁴⁵ Vodafone Foundation contributed the hardware to four schools in Kakuma, which include a single box-type enclosure where tablets are stored and can charge. The boxes themselves are modems – this is important because when teachers finish a lesson or input grades, the data from that day’s work is backed up across the network when the tablets are plugged into their boxes. This means that teachers in the different schools with INS hardware all see the updated lesson plans and can coordinate lessons and content across schools. In most classrooms in Kakuma teaching is done on paper or chalkboards, so having a system in place that backs up lessons, results, and grades improves coordination and helps other teachers see what is being taught in other schools. Given the challenging environmental conditions in the northern part of Turkana County where Kakuma is located, having an all-in-one hardened box that serves as transportation, modem, charging station, and storage for a classroom’s worth of tablets is a practical solution for bringing digital connectivity to classrooms. The box closes out dust and protects the tablets, in the case of flooding it is easy to move. Effective digitalization is as much about adapting to the physical environment as it is to the technological one.

While the INS tech is effective, how did it fit into the daily lives of the refugees our research team interviewed? If one does a search online for “instant network schools Kakuma” the top two hits are the Vodafone Foundation’s page on the project followed by the UNHCR project page. The data on these sites set our expectations that the refugees we interviewed,⁴⁶ many of whom had children in school a few of which were young enough to have recently been in secondary school, would know of this project. We were rather surprised to learn that none of our interviewees had ever heard of the INS program; even re-phrasing questions with the intent of finding out if they knew of it through their children, or heard of it during their school time, turned up nothing.⁴⁷ What we did hear from interviewees was that they were interested in the program, and wanted computers in their children’s classrooms – what came through in the interviews was that value was placed on digital literacy, and that respondents knew their children’s future would have a big digital component. We see that the technology intervention itself is in line with peoples’ needs, but the scale will need to go up significantly. How can the

⁴⁵ <https://www.unhcr.org/ke/1737-kakuma-instant-network-schools-centres-are-buzzing.html>

⁴⁶ The UNHCR website, which is undated (<https://www.unhcr.org/kenya-instant-network-schools.html>), notes that the INS has benefited 86,500 students and over 1,000 teachers across eight refugee camps in four countries including Kenya. The Vodafone website (<https://www.vodafone.com/news-and-media/vodafone-group-releases/news/vodafone-foundation-and-unhcr-expand-instant-network-schools-programme>), which is dated December 2019, offers the same numbers and states that expansion of the project through 2025 will benefit up to 500,000 refugees.

⁴⁷ Interviews with Somali and South Sudanese respondents in Kakuma 1, administered 3 & 4 April 2019

humanitarian and development communities work around hardware limitations, making sure that displaced people have the chance to build digital skills?

Digitalization and education for displaced people is not only about digitizing the act of learning. Digitalization itself is a space where skills can be developed for future job opportunities, and training organizations are providing practical tech and coding training for displaced people living in a variety of contexts. In the United Kingdom the organization Code Your Future provides software development and coding training and mentoring for refugees, then assists with job placement.⁴⁸ Refugee Code Academy and iamtheCODE both focus on refugees in sub-Saharan Africa, running coding programs in Tanzania, Rwanda, Burundi and Malawi.⁴⁹ One of the key things both organizations focus on is helping students connect with remote job opportunities doing coding or IT support work, since in many countries refugees are not allowed to work locally. Indeed, one of our respondents in Malaysia had set up an e-commerce business in the United States that he managed remotely.⁵⁰ This case was an exception that demonstrates both the potential and the challenges. This respondent had studied in the U.S. and had an existing tax ID number, and could thus register the business and pay taxes remotely. They also had extensive IT training, and thus knew how to run a digital business from a technical perspective. This is not the case for most displaced people, but if the educational and identification issues can be resolved at scale, the non-geographic nature of digital work could offer future opportunities for displaced people who are waiting for resettlement.⁵¹

3.4 The interconnectedness of digital ID documentation, financial inclusion, and education

All three of these sectors are interconnected, and identifying these interconnections is key to digital inclusion across the different aspects of the GCR. Without identification documentation, digital or otherwise, it is difficult to access digital financial tools or register for school. Without the education component, displaced people will miss out on access to tools like the Instant Network Schools and the training necessary to engage in future digital work opportunities. Education on digitalization and technology is also crucial for effectively using tools like mobile money platforms – as noted earlier, training and outreach to merchants was central to driving uptake of *Bamba Chakula*. Finally, without access to cash, food cannot be bought nor school/training fees paid. Digitalization becomes the infrastructure where all of these activities become linked – digital identities can be linked to cash and credit histories, and educational attainment; digital cash transfers allow displaced people to pay for food and services; and digital education empowers displaced people to use these tools to maximize their well-being.

To meet the inclusion goals of the GCR, and to get the most out of digitalization to do so, basic research in combination with addressing regulatory issues will be key. We need the space to ask

⁴⁸ <https://codeyourfuture.io/hire-a-graduate/>

⁴⁹ <http://refugeecodeacademy.org/about/>; <https://www.iamthecode.org/>

⁵⁰ Interview in Kuala Lumpur, 6 November 2019.

⁵¹ For example, where does a refugee who has no work status in the host country or the country hosting the firm they are working for remotely, pay taxes, contribute to a pension, etc? This is a much larger question about the future of work than can be answered here.

basic questions, such as: How do displaced people perceive these programs, and the impact on their lives? What would they want from them to make them more relevant to daily life? How do displaced peoples' digital activities help the humanitarian community understand how technology improves their well-being, particularly in ways that might not fit clearly into the identity, cash assistance, and education boxes? In many cases these types of questions are beyond the scope of monitoring and evaluation activities, but can play a role in helping improve such processes. Basic research can also bolster efforts to reform regulatory processes and increase inclusion, giving humanitarian agencies and organizations like GSMA the data necessary to work cooperatively with regulators. To close the paper I will outline the role of basic research and regulatory reform in creating more inclusive digital spaces for displaced people, and propose ways that humanitarian agencies can pursue these activities.

4. Future directions and delivering digitally on the GCR

Digitalization has laid the groundwork for improvements in delivering high quality services to displaced populations. While organizations have been successful in making the rapid adjustment to a mobile phone-based digital environment, these adaptations are only the start. The more we learn about the sociological and behavioral aspects of digitalization in displaced peoples' lives through multi-disciplinary research and inclusive innovation practices, the greater the opportunity to develop truly inclusive digital services. By bringing the best of social science research on digitalization together with new digital practices within humanitarian organizations, new technologies could have a significant impact on achieving the goals set forth in the Global Compact on Refugees. So how do organizations do this?

From a research standpoint, the first question to answer before endeavoring to develop a digital product for displaced people is whether *generalizable* or *idiosyncratic* information is needed. For example, WFP and UNHCR work extensively on cash transfers. A cash transfer app is essentially a single-function tool, so research that helps implementers understand generalizable characteristics of a population are important. For example, to roll out a digital cash app, project implementers need to know how many people own smartphones and how many people have used their phones for cash transfers previously. This type of quantifiable data helps set a baseline for how much public communication and training will go into making sure everyone can use the app when it launches. UNHCR's KASI system is different; it will be used in different ways by thousands of different users who will have different protection needs. To roll out a system like this effectively, an organization needs research on idiosyncrasies instead of generalities. Structured interviews during the development, roll out, and scaling phases are a good technique for learning how individuals and family units use a multi-functional piece of technology. Surveys versus interviews require different time commitments, planning, and staffing, so establishing which techniques are appropriate from the outset can help with planning a digitalization project's budget.

It is important to bear in mind that UNHCR and similar agencies are not research organizations. They have research and evaluation teams that do applied research, but this contributes to

knowledge building in ways that are different from basic research.⁵² These two types of research build on each other though. The research cited in the previous section is an example of basic research, and was oriented toward asking a sociological set of questions about social and digital behavior. Other examples of basic research that can end up being useful to organizations like UNHCR include Alex Betts' work on refugee economies,⁵³ which used mixed interview and survey methods, and Amanda Alencar's work on refugees' methods of building digital communities which employed long-term ethnography and structured interview methods.⁵⁴ Because this kind of basic research is generally not tied to a specific project or technology, it can support applied research by generating new findings that can be used to refine monitoring and evaluation processes. UNHCR has a strong track record of working with university-based researchers, and as we move further into the digital era it will be critical that humanitarian organizations seek out opportunities to support basic research on the social aspects of digitalization in displaced peoples' daily lives.

Coming back to the applied world, building a technology solution itself is likely to be the 'easiest' part of digitalization – we know how to create the software and hardware interfaces to support things like digital cash transfers, or build content management databases to store digital records. Indeed, much of the technology for things like mobile phone-based cash transfers is over a decade old. In a vacuum, developing digital tools to support displaced people would be relatively easy. Basic research can help identify some of the sociological aspects of using technology in displacement situations. Managing the regulatory complexity of building digital solutions onto commercial infrastructure is the governance side of the equation. Humanitarian agencies often advocate for greater regulatory sensitivity and inclusion of displaced people, but do not have, as natural counterparts, host country regulatory agencies. There are exceptions, such as the Zambian central bank updating KYC requirements to include UNHCR ID cards, or the Ugandan government changing the ID requirements to enable refugees to more easily access mobile phone services, and these can be models for future regulatory collaboration.⁵⁵ These should be used as models for future cooperation between regulators and the humanitarian community.

Regulators must also actively engage on topics of displacement. While there are exceptions, regulatory actors tend to be very conservative and will avoid engaging on politically sensitive topics. In practice, they exist to implement the legislation written by host country governments, not advocate for regulatory fixes to problems facing displaced people. So how can the innovation

⁵² Basic research is the term generally used for research that builds or improves theory, and often takes place in academic settings.

⁵³ Betts, Alexander, Louise Bloom, Josiah Kaplan, and Naohiko Omata. 2017. *Refugee Economies: Forced Displacement and Development*. Oxford: Oxford University Press.

⁵⁴ Alencar, Amanda. 2019. "Digital place-making practices and daily struggles of Venezuelan forced migrants in Brazil." In Koen Leurs, Kevin Smets, Myria Georgiou, Saskia Witterborn, Radhika Gajjala (Eds.) *The Sage Handbook of Migration and Media* (pp 503-514). London: Sage.

⁵⁵ In fairness, regulatory agencies also try not to deal with humanitarian agencies since they often wish to avoid the perception they are acting in a political or activist way. For more on telecommunication regulation in Uganda, see: <https://www.gsma.com/mobilefordevelopment/resources/proportionate-regulation-in-uganda-a-gateway-for-refugees-accessing-mobile-services-in-their-own-name/>.

units of the humanitarian world break through? One way is to find partners who can bridge the divide. For example if we look at cash assistance, organizations like the Alliance for Financial Inclusion (AFI), whose members are central banks, are already working with financial regulators to develop financial inclusion strategies for refugees. AFI is independent so they can take on politically sensitive topics like displacement, and they are experts on central banking which gives them entrée with financial regulators.⁵⁶ In the world of digitalization, technology and regulation move quickly. While it is important to have staff with technical and regulatory expertise, having long-term relationships with the right intermediary partners is equally important.

The role of digitalization in contributing to the goals laid out in the Global Compact on Refugees (GCR) will only continue to increase. At a meta level there is a Digital Platform for the Global Compact on Refugees, where best practices and examples of implementation can be archived and shared globally.⁵⁷ Implementation in the field is where digital innovation can have a significant effect on displaced peoples' daily lives though. Having covered identity documentation, cash assistance, and education in this paper, it is important to note that the GCR already highlights digitalization and innovation across these sectors as focus areas.⁵⁸ Increasing capacity for digital registration and biometrics in host countries must come with relevant data protection and privacy standards, which should be codified in national regulatory frameworks.⁵⁹ Online and distance learning present future opportunities for students to continue learning, but these innovations have to be paired with national-level certification and recognition of the education taking place.⁶⁰ Digital cash assistance and wider financial inclusion are a key part of displaced peoples' labor and economic integration in host countries,⁶¹ but the regulatory hurdles for wider financial inclusion remain rooted in an analogue world where the overlaps between regulating internet, telecommunications, and financial activities were not so abundant. Thus, host-country governments need to be ready to adapt to the digital environment in good faith and in cooperation with humanitarian actors.

Large organizations will increasingly use digital technologies in their daily operations, and displaced people will continue having greater and greater access to smartphones, apps, and the internet. The digital era is remarkable because in a relatively short time the world has gone from hardware being big and expensive to small and cheap, while the basics of coding can be taught to people with a wide variety in formal education. In a way, there has been a democratization of the means to build and access technology; it has become an infrastructure that can facilitate social, economic and political inclusion. To contribute to the complex social, political, and economic goals of the GCR, digitalization will be less about building new technological tools and more

⁵⁶ An example of building these kinds of relationships is UNHCR's role in helping set regulatory standards is the work being done on digital identification for financial access. For example: Financial Action Task Force. 2020. "Digital Identity." <https://www.fatf-gafi.org/media/fatf/documents/recommendations/Guidance-on-Digital-Identity.pdf>

⁵⁷ <https://globalcompactrefugees.org/>

⁵⁸ 2018. Report of the United Nations High Commissioner for Refugees: Part II Global compact on refugees. A/73/12 (Part II).

⁵⁹ Ibid. 1.4 Registration and Documentation, Paragraph 58

⁶⁰ Ibid. 2.1 Education, Paragraphs 69

⁶¹ Ibid. 2.2. Jobs and livelihoods, Paragraph 71

about how quickly organizations can learn about the digital idiosyncrasies of the communities and individuals they work with. By keeping displaced people at the center of digitalization we can avoid the risk of becoming techno-centric, can create digital solutions that fit the needs of communities and individuals, and in turn support the wider GCR goals of greater inclusion and self-reliance for displaced people.