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Digitalizing Social Protection Systems for Achieving the Sustainable Development Goals: Insights from Zimbabwe

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Abstract:

Social protection systems, a target of the United Nation's (UN) Sustainable Development Goals (SDGs), are intended to reduce extreme poverty, build human capital, and protect against risks to sustainable livelihoods and well-being. As social protection systems are by their nature inherently complex, multi-faceted, and socially embedded, it is inevitable that tensions will emerge between their design and implementation, representing design-reality gaps. These tensions present an excellent opportunity for cross-disciplinary research, by understanding how best to bridge these design-reality gaps. In this qualitative, interpretivist case study, we situate our work on the ground with the actors involved in the design, implementation, and use of a social protection system in Zimbabwe. We find interaction failures amongst some users; design-reality gaps around network access and ICT policy implementation; as well as mixed views regarding transparency and accountability of ICT. Our findings provide rich insights from ICT users in the global south and underscore the importance of the co-creation of IS interventions together with communities to ensure technologies consider social, political, economic, and network realities. We conclude by providing directions for future research.

Keywords: Information Systems, Digital Social Protection Systems, Sustainable Development Goals.

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1 Introduction

Social protection encompasses contributory and non-contributory payments, the former happening when an employer or the government encourages or obliges individual workers to engage in schemes that provide benefits, such as payments towards a pension. The latter, non-contributory payments, are schemes that require no direct contributions from beneficiaries or their employers as a condition of entitlement to benefits (Devereux & Sabates-Wheeler, 2004; Devereux, & Vincent, 2010; ILO, 2021). All forms of social protection aim to protect those that are the most vulnerable and who face poverty. SDG Target 1.3 concerns the provision of appropriate social protection systems for all, including basic and substantial coverage of the poor and the vulnerable. SDG Target 10.4 encourages social protection policies that progressively achieve greater equality. Underpinned by the human rights framework, social protection is increasingly being identified as necessary to protect against risks to livelihoods and well-being. Universal social protection refers to a national system that provides all citizens access to various social protection benefits or programmes to help to protect them from poverty and the various risks they may experience during their life. The Organisation for Economic Co-operation and Development (OECD) reports that universal social protection has many benefits, such as increased social cohesion, lower income inequality, positive citizenship, and citizens having confidence in their government (Razavi et al., 2020; Green & Janmaat, 2011). The design and implementation of such systems are socially complex and multi-faceted and remain a grand global challenge (Hovorka & Corbett, 2012; Sahay et al., 2017). Evidently, mechanisms for paying state social protection, in particular non-contributory payments, requires fiscal space to generate funds for disbursement. In Africa, over 85 percent of employment is informal and often not aligned with any social insurance mechanisms (Born et al., 2019; Bonnet et al., 2019). With limited resources to extend social protection, better target-setting can provide a route toward universalization of social protection benefits (World Bank, 2022)..

Information systems (IS) and technology have an important role to play in achieving many of the SDGs and global grand challenges (Pan et al., 2022; Watson et al., 2021; Corbett & Mellouli, 2017; Sahay et al., 2017). Whilst IS can, in general, provide opportunities to make the world a better place (Walsham, 2012), such as contributing to efficient emergency responses and humanitarian operations (e.g., Tusiime & Byrne, 2011), building health systems and cities (Braa et al., 2011; Corbett & Mellouli, 2017), taking climate action and ensuring environmental sustainability (Dwivedi et al., 2022; Hasan et al., 2017; Melville, 2010; El-Gayar & Fritz, 2006), and work towards poverty alleviation (Jha et al., 2016), IS can also specifically provide opportunities to improve the lives of people through digital IDs linked with mobile money accounts, thus promoting more timely delivery of social protections and better targeting and reach of eligible beneficiaries (Hosny & Sollaci, 2022). Indeed, IS and technology in general, have an important role to play in the digitalization of social protection services in the context of sustainable development (Masiero & Arvidsson, 2021; Masiero & Das, 2019). In this paper, '*digitalization*' refers to the conversion of information from analog to digital form and the automation of processes through information technologies (Hess et al., 2016; Vial, 2019).

Many indicate how digitalizing social protection holds the potential to reduce fragmented social protection systems that are delivered by different actors without connections. Digitalization can ensure faster delivery to recipients, less bureaucracy, and a more secure service to users (Barca, 2017; European Commission, 2017; Handayai et al., 2017). Despite the reported benefits of digital social protection systems, such systems have received harsh criticism. For example, Carswell and De Neve (2021) investigated the effects of biometric and digital technologies on social protection for the poor in India. Their findings underscored the importance of kin and non-kin mediations in beneficiaries' engagements with the reformed Public Distribution System, as attributed to the inevitable role of human decision-making around classification, eligibility, and access, which remains outside the realm of technology. An assessment of Brazil's *Auxílio Emergencial* (Emergency Aid) by Silva (2022) concluded that digitalization had dehumanized the application process, disposing of personal intervention and thus eliminated the agency to contest an automated decision. Similar concerns have been raised in developed countries. For example, a study by Jorgensen (2021) concluded that Denmark's digital welfare state would lead to a digital technocracy that treats its citizens as data points suited for calculation and prediction rather than as individuals with agency and rights.

Against this background, the focus of this study is on social assistance, a set of non-contributory transfers made to vulnerable households either through vouchers, cash, in-kind such as fee waivers for health and education, and school feeding programmes (Carter et al., 2019; White, 2016). We situate our research "on

the ground" (Trauth, 2017) to capture the views and experiences of stakeholders involved in a digitalized social protection system in Zimbabwe. To this end, the aim of this paper is to *explore the opportunities and challenges of deploying a digitalized social protection system in Zimbabwe and to improve the design, implementation, or outcomes of digitalized social protection systems*. In the context of this study, social protection is referred to in national policies and strategies of Zimbabwe as a non-contributory form of social security which is financed from government revenue and in some cases with support from non-state actors such as development partners, civil society organisations and the private sector. Because of limited resources, it is means-tested to ensure that the most deserving beneficiaries receive cash or in-kind benefits. Access to social assistance is a basic human right enshrined in international human rights instruments (Government of Zimbabwe (GoZ), 2016a). Put simply, social protection is a set of interventions whose objective is to reduce social and economic risk, vulnerability alleviate poverty and deprivation (GoZ, 2016a). We answer two research questions: i) what the design-reality gaps are, and how do they manifest in social protection systems; and ii) how IS research can contribute to improving the current challenges of digitalizing social protection systems.

The remainder of the paper is structured as follows. A synthesis of social protection literature in the context of a digital welfare state is presented. Then, a detailed description of social protection and the impact of poverty in Zimbabwe is provided. Next, the research methodology is outlined. The findings and analysis follow. Discussion of the findings and opportunities for future research are presented, and the paper ends with a conclusion section.

2 Social Protection Systems

While many developing countries have set ambitious targets for the deployment of social protection systems, there are concerns about unreliable and inconsistent data (e.g., birth and death records, households with an income below the national poverty), and hence policymakers cannot make informed decisions about where to target resources or which interventions work (German Federal Ministry for Economic Cooperation and Development, 2023). Governments across the African continent have significantly under-invested in the delivery of social protection systems, with the average expenditure being less than five percent of GDP (Ortiz et al., 2017; Kvist, 2019). In comparison, in 2021 the Danish government invested over 28 percent of its GDP in social protection systems (Eurostat, 2021) and the Irish government invested almost 14 percent of its GDP (Irish Central Statistics Office, 2021).

IS holds the potential to improve the provision of social protection to beneficiaries, specifically in remote locations (Devereux & Vincent, 2010; Lowe, 2022). For example, in response to COVID-19, 763 million people received digital social protection payments (Gentilini, 2022). Digitalized and integrated data management holds the potential to harmonize isolated social assistance systems and facilitate social protection that can respond to sudden shocks (shock-responsive social protection). It can also ensure accountability. Digitalization of social protection services can ensure efficient service delivery, real-time analytics, effective administrative processes, and transparency (Masiero & Prakash, 2019; Masiero & Das, 2019), for example, in Kenya the successful delivery of social transfers during a state of political violence was achieved through a mobile phone transmission mechanism, M-PESA (Mariot & Foster, 2012). Evaluations on M-PESA highlight that interventions need to be adapted even within a country and that a one-size-fits-all intervention does not work (Mariot & Foster, 2012). In this instance, it was realized that deployment of the Kerio Valley Cash Transfer Program (KVCTP) was being hindered due to infrastructure challenges, coupled with a lack of M-PESA agents who could travel to rural districts to facilitate cash collections. Furthermore, most of the recipients had no sim cards. Nevertheless, those who accessed cash via this programme felt that M-PESA had empowered them with exposure to using new services and made them more active players in the delivery of their own transfers. During the Kenyan Post-Election Violence Recovery (PEVP) programme, M-PESA also encountered network challenges that caused delays in sending and receiving money transfers to rural areas. Yet, recipients also indicated that the transfers gave them the choice to receive money instead of food hence they had flexibility in prioritizing their needs. Mobile cash transfers can encourage an ideological shift from distributing food to enabling access to dietary diversity enhanced by cash transfers (Bailey et al 2017). Other cited benefits of M-PESA was that it reduced the distance one had to travel to collect the money and it improved agility and security as it used an existing telecom infrastructure (Mariot & Foster, 2012). Furthermore, there is evidence that Kenya's digitalized safety net programme enables rapid scaling, specifically in drought-prone regions (Doyle & Ikuta, 2021; Mfitumukiza et. al., 2021).

With limited fiscal resources to extend social protection to populations, a major problem facing governments who wish to reach impoverished citizens is to identify benefiting individuals and families below a certain income level. Putting to the side, complex questions on poverty definitions and poverty thresholds, this task also requires an efficient nationwide information system that can be easily updated. Another issue is the fragmentation of different social assistance schemes, sometimes delivered by actors outside government and linked to different sectors (e.g., health, education, pensions, maternity payments) or humanitarian aid delivery systems. The ILO highlights the absence of policy and institutional coordination, with no cross-sectoral policy coherence, particularly between the social, employment, and economic sectors (ILO, 2021). Setting up a Unified Beneficiary Registry (UBR) is often recommended by donors and experts on social protection. A social protection registry is a special-purpose national information system usually managed by a dedicated institution to ensure that the correct segment of the population obtains the benefits offered. The system should be underpinned by a legal framework (e.g., policies, decrees, acts of parliament) to ensure it can be systematically used by multiple social protection programmes. The UBR is a key element and examples are available from countries who are rolling out a UBR. For example, in Malawi, prior to designing a UBR, each social protection programme implementer was going to communities and collecting similar information from villages with slightly different targeting criteria. Separate databases were being developed to support programme implementation. In response, a programme to harmonize all programmes being implemented in Malawi is being put in place (Lindert et. al., 2018; Paul et. al., 2021). Better data management of social protection may help us move beyond the fragmentation of social services towards a fairer social protection delivery system.

The deployment and sustainability of social protection systems rely on three levels of competency, namely (i) individual (e.g., staff availability, retention, skills, attitudes), (ii) organisational (e.g., structures, processes, procedures, resources), and (iii) institutional (e.g., institutional support, laws, regulations) (Barca, 2018). IS design issues that need to be considered include software and system design, updating and maintaining systems, user IDs, data security and privacy; social protection business processes; data visualisation, and poverty vulnerability analysis) (Makin, 2018). In the next section, we examine these and other related issues in the context of Zimbabwe.

3 Social Protection and Poverty in Zimbabwe

Zimbabwe is characterized by high levels of poverty where 57% of the population is considered poor (ZimStats & World Bank, 2020). A UN country analysis report indicates that Zimbabwe's social protection coverage remains low as it only covers 5% of the national population despite the poverty levels (UN, 2021). Between 2011 and 2017 extreme poverty rose from 23 to 30 percent but increased to 38 and 42 percent by 2019 (about 5.6 million people). In 2021, the World Bank's Poverty and Equity brief for Zimbabwe indicated that poverty was still rapidly rising. Although poverty remains largely a rural phenomenon, urban poverty is now rising faster than rural poverty. Extreme poverty in urban areas increased from 4 percent in 2017 to 10 percent in mid-2019 (UN Zimbabwe, 2021), whereas rural poverty went from 43 to 51 percent, with poverty traps in remote and poorly connected but densely populated rural areas. Poor rains are affecting the growing seasons which has led to a reduction in household incomes in both rural and urban areas. The COVID-19 pandemic impacted urban areas relatively more than rural areas, with jobs and livelihoods affected in cities and towns. There was some coverage of COVID-19 relief assistance, but it was low overall, particularly outside cities and towns. A 2022 report by Zimbabwe Vulnerability Assessment Committee (ZimVAC, 2022) indicated the percentage of people obtaining some form of support and in turn implied the extent to which poverty manifests (see Table 1).

Table 1: Percentage of Households Reliant on Financial Assistance

Year	2016	2017	2018	2019	2020	2021
Rural households	65%	71%	75%	73%	61%	74%
Urban households	17%	-	25%	46%	42%	-

Approximately 42 percent of urban households received some form of social assistance in 2019, a manifestation of urban poverty. Challenges in social assistance distribution and coverage are frequently highlighted (Chirisa, 2013; Dhembwa, 2013; Mushunje & Mafico, 2010). Different reports conclude that poor targeting, lack of consistency and transparency, the existence of disjointed laws and policy statements, and institutional capacity gaps all inhibit the efficiency of Zimbabwe's social assistance system (UN Zimbabwe, 2021; UNICEF, 2020; Government of Zimbabwe, 2016a). Indeed, from such a background of challenges, IS research holds the potential to influence policy and practice in social protection systems (supporting data-driven digitalization).

Implemented in 2011, the Harmonised Social Cash Transfer Programme (HSCT), targeted food poverty and labour-constrained households and is considered Zimbabwe's flagship for social protection programmes. The HSCT is an unconditional cash transfer programme that disburses bi-monthly cash transfers to beneficiary households (Bhalla, 2018). The cash transfers vary with household size. An endline impact evaluation of the HSCT conducted in 2018 revealed that some of the beneficiaries of the cash transfers spent as much as 6.2 hours waiting to collect their transfer when both travel and wait time are combined (Angeles et al., 2018).

The current focus in Zimbabwe's social protection targeting systems appears to be more on the rural areas, with urban populations not fitting into the government's criteria for subsidy interventions, such as food and crop inputs. This is corroborated by findings of the 2022 ZimVAC report that concludes that three-quarters of rural households received crop inputs and food as forms of support, whereas 42 percent of urban households received support from relatives outside the community and from development agencies. Apart from the cost of extending social protection, Dodlova and Lay (2016) argue that political and administration constraints may create prejudices for the optimal design of poverty alleviation programs with transfer programs. Social assistance can be targeted to entice the poor to circumvent resentment of the political regime. This nexus between the use of social protection and amassing political influence over beneficiaries has been reported widely. Mtapuri (2012) found that in the case of Zimbabwe, both the government and non-governmental organisations channeled food aid and crop inputs/seeds on partisan lines. In Zimbabwe, rural areas have remained a stronghold of the governing party, which may explain why the current targeting favours rural populations; although a counterargument, supported by poverty data, is that rural areas are generally poorer. This is collaborated by reports on differences in the impacts of poverty amongst rural and urban children, which indicate that rural children have recorded higher rates of stunting, malnutrition, and low/under-ideal weight compared to their urban counterparts (UN Zimbabwe, 2021).

3.1 Digitalizing Social Assistance Services in Zimbabwe

In the wake of the COVID-19 pandemic, the Government of Zimbabwe attempted to use mobile money platforms to disburse funds to four million beneficiaries. The Ministry of Public Service, Labour, and Social Welfare (MPSLSW) faced typical challenges related to a non-digitalized system, (e.g., having incorrect contact details of beneficiaries, and outdated vulnerability data). Furthermore, a lack of essential technical tools such as computers to collect and collate beneficiary data for onboarding to the "OneMoney"¹ online platform posed a challenge. There were inconsistent guidelines on conducting payment of the COVID-19 allowances (Rushwaya, 2022; Office of the Auditor General, 2021). The consequence for the above challenges was a loss of ZWL\$89 million which the MPSLSW labeled as having 'vanished' (Rushwaya, 2022). Two alternative smaller-scale digitalized processes have however been successfully used to provide support in Zimbabwe as summarised below:

CARE, a humanitarian organisation operating in Zimbabwe, used a combination of EcoCash and OneMoney to disburse cash transfers to their project clients during the delivery of the Emergency Cash-First Programme (ECFP) between 2015-2017. At that time, this cash program (ECFP) was the first large-scale provision of cash transfers through mobile money. An evaluation of the programme undertaken by Bailey, et. al. (2017) reflected that those mobile transfers had benefited local economies with beneficiaries buying maize or mealie meal in their local shops. The report also revealed that remote villages reported dramatic increases in their profits as a result (Bailey et al, 2017). Further, important benefits noted from ECFP were an increased understanding of, and exposure to, mobile money, increased ownership of SIM cards and mobile phones, and an increased registration for national IDs. The results from Bailey et al.

¹ The OneMoney wallet is a mobile payment service from Netone that allows one to send and receive money. OneWallet website can be accessed at <http://www.netone.co.zw/onemoney>

(2017) align with the conclusions by Maitrot and Foster on M-PESA, as they observed that the exposure to using new services had facilitated the empowerment of beneficiaries.

Secondly, the Higherlife Foundation, originally set up to support orphaned and vulnerable children in Africa, later began to provide cash assistance to Zimbabwean healthcare workers. Initiating the Medical Doctors Fellowship, a targeted assistance suite for healthcare workers, Higherlife Foundation provided support including cash transfers, a mobile phone and travel funds to cover home to work expenses (Pembere, 2019). Higherlife Foundation used EcoCash², the mobile money platform provided by Zimbabwe's biggest telecommunications company. To be enrolled in the fellowship, doctors submitted proof of employment, proof of identification and an EcoCash telephone number registered under their name. The turnaround for payments was robust such that doctors who responded to the call received their cash transfers by the end of the month, demonstrating that once enrolled and in the system, efficient payments reached clients. EcoCash as a platform carries important demographic data such as age and gender and potentially can be used to track how cash transfers were used/expended. Interestingly, the government-owned telecommunications company, the One Wallet platform, managed by NetOne was used to disburse government funds, although EcoCash appears to have wider coverage (Telecompaper, 2020).

4 Theoretical Framework

4.1 User-Centered Design (UCD) for Social Protection Systems

Digitized social protection systems provide efficiency, cost-effectiveness, and ensure regular and predictable cash transfers (Lowe, 2022; Muralidharan et al., 2021; Vincent & Cull, 2011; Devereux & Vincent, 2010). Yet, there is also evidence that recognizes the risks (i.e., *protection and privacy violations, and obscured transparency and accountability*) of adopting 'techno-solutionism' without regard to beneficiaries (Ceia et al., 2021; Jørgensen, 2021; United Nations, 2019).

For example, Ceia et al. (2021) highlight that when digitizing social protection systems, it is critically important to listen to the needs and priorities of women and marginalized communities and understand their experiences with digital technologies. Additionally, a study assessing the citizen uptake of e-government services in the Netherlands (Kotamraju & van der Geest, 2011) highlighted the need to align the service concept with the prior knowledge, expectations, and context of use for the customer or citizen. Designing user-centric systems and placing end-users at the center of innovation, will ensure the experiences of vulnerable and marginalized users are considered (Madden, 2019).

Our study thus adopted a hybrid theoretical framework that draws tenets from the 'user centered design' theory to listen to expectations of intended beneficiaries, while borrowing tenets of the Sustainable Livelihoods Approach (SLA) as outlined by Parkinson & Ramirez (2006). SLA focuses on the intended beneficiaries of development as actors who make choices and strategies based on the resources available to them and the environment in which they exist (Parkinson & Ramirez, 2006). The application of SLA aims to help stakeholders with different perspectives to engage in structured and coherent debate about the many factors that affect livelihoods, their relative importance, and the way in which they interact (DFID, 2001). SLA emphasizes a "bottom-up" approach that is founded in participatory methods for data collection and analysis that involve the poor to understand their views about design-reality gaps (Dennehy et al., 2014; Duncombe, 2006; Lowgren & Stolterman, 2004; McCarthy et al., 2021). Such gaps can emerge when the features developed by designers do not match the goals of user groups, and therefore create 'dissonance' between user expectations and the utility of new systems (McCarthy et al., 2022).

Both the User Centered Designs and Sustainable Livelihoods Approach allowed us to understand the knowledge and experience of those using mobile money as well as the concerns of intended beneficiaries, both of which lie at the core of user centered design, also known as 'thoughtful design'. Thoughtful design refers to the process of arranging and deciding all use-oriented qualities of a digital artifact (function, aesthetics, etc.) for end-users within existing resource constraints and contexts (Lowgren & Stolterman, 2004). The SLA is useful for assessing early and probable future impacts of ICT4D projects at the community-level. Early feedback to testing design assumptions can be recorded (Parkinson & Ramirez, 2006; Heeks & Molla, 2009). Similarly, user centered design is founded on the notion that a system,

² EcoCash is an innovative mobile payment solution that enables customers to complete financial transactions directly from their mobile phone, provided by Econet Wireless. EcoCash website can be accessed at <https://www.ecocash.co.zw/>

service, or product is most likely to fulfill user needs when its development process is based on iterative cycles in which potential users are consulted early and often (Witteman et al., 2015; Still & Crane, 2017).

5 Research Methodology

5.1 Case Study Method

We adopt a qualitative, interpretive case study method as it is suitable for researching 'practice-based problems' (Benbasat et al., 1987) and unearthing the experiences of those 'living the case' (Benbasat et al., 1987; Stake, 2000; Eisenhardt, 1989). By paying close attention to the influence of social and organisational contexts (Yin, 2017), the case study method enabled the researchers to acquire a rich set of data surrounding the complexity and context of a real-life IS related phenomenon (Benbasat et al. 1987; Myers, 2002) and understand the meanings that those living the case assigned to the phenomenon (Orlikowski & Baroudi, 1991). This approach provides the researcher proximity, both conceptually and physically, to the underlying phenomenon, thus allowing for deeper engagement with the actors (Dubé & Paré, 2003) and to understand the deeper structure of the phenomenon (Orlikowski & Baroudi, 1991).

5.2 Data Collection and Analysis

A case study approach uses multiple data collection techniques, namely (i) documentation, (ii) archival records, (iii) interviews, (iv) direct observations, (v) participant observations, and physical artifacts (Yin, 2009; Eisenhardt, 1989) to study the same phenomenon which provides the opportunity to triangulate (Benbasat et al., 1987). Triangulating the interpretations of data offsets, the limitations specific to each individual technique, enhancing the validity of the research, and reinforcing the conclusions of the study (Dubé & Paré, 2003; Yin, 2017).

In this study, data were collected through secondary sources (i.e., government reports, United Nations publications) and primary sources (i.e., semi-structured interviews, observations, and field notes), thereby enabling us to generalize the case study through 'rich insight' (Walsham, 1995). Five specific reports were reviewed^{3,4,5,6,7}, as each provided an enriched statistical insight into poverty and social protection in Zimbabwe.

Thirty-nine semi-structured interviews with actors involved in the design and delivery of digitized social protection systems and the intended beneficiaries were conducted in September and October 2022. Interviewees from government and civil society organisations were identified through purposeful sampling (Seidman, 2019), a popular method used in qualitative research (Parker et al., 2019; Palinkas, 2015) whereby contact information provided by other interviewees is used to identify suitable interviewees that represent a cross-section of society in Zimbabwe. Intended beneficiaries were approached in queues at the People's Own Savings Bank (both in Victoria Falls and Bulawayo) which is the most popular bank used by pensioners. The role and experiences of interviewees varied (see Table 2).

Consent was sought from all interviewees and confidentiality and anonymity (Walsham, 2006) were assured in the data collection and writing up of the findings. Face-to-face interviews were conducted with intended beneficiaries and virtual interviews using Zoom and WhatsApp were used to conduct interviews with government officials and civil society representatives. As a native of Zimbabwe, author one conducted the face-to-face interviews both in "body and spirit" while also being cognizant that one "knows" one's own country" is true (Walsham, 2006). The duration of interviews ranged between 30 and 70 minutes, totaling 23 hours and 15 minutes of interview time. The interviews were recorded and when

³ UN Zimbabwe. (2021). *The United Nations common country analysis: Zimbabwe, Harare*.

⁴ ZimVAC. (2022). *2022 Rural livelihoods assessment report*. ZimVAC. Retrieved from https://fsccluster.org/sites/default/files/documents/zimvac_2022_rural_livelihoods_assessment_report.pdf

⁵ UNDP (United Nations Development Programme). (2022). *Human development report 2021-22: Uncertain times, unsettled lives: Shaping our future in a transforming world*. Retrieved from <https://hdr.undp.org/content/human-development-report-2021-22>

⁶ UNICEF. (2020). *2020 social protection budget brief*. Retrieved from <https://www.unicef.org/esa/media/6511/file/UNICEF-Zimbabwe-2020-Social-Protection-Budget-Brief.pdf>

⁷ Officer of the Auditor General. (2021). *Special audit report of the auditor-general on the COVID-19 pandemic financial management and utilisation of public resources in the country's provinces by ministries, departments and agencies*. Government of Zimbabwe. Retrieved from https://www.veritaszim.net/sites/veritas_d/files/Auditor-Gen%20Special%20Report%20on%20Covid%20Resource%20Management.pdf

transcribed and annotated, totaled 108 pages (minimum of 4 pages per transcript). The reviewing and cleaning of transcripts and interviewer notes were completed on the day of the interview.

Table 2. Interviewee Profile

Interviewee role	Organisation type	Number of interviewees
Academic	University	3
Public Official	Ministry of Public Service, Labour & Social Welfare	2
Manager/Coordinator	Not-for-profit	7
Intended Beneficiary	Retired	27

This research used thematic data analysis, a useful method to code, analyze and interpret data collected from interviews and case studies. Initial codes were generated through a deductive approach based on the research questions, background readings, and our hypothesis of ICT and social protection. To avoid researcher bias, we adopted double coding (Schreier, 2012) whereby coding of the same units was done by two of the authors who worked independently from each other. It is often believed that qualitative coding usually involves resolving disagreements that emanate amongst coders (Cofie et al., 2022; Chinh et al., 2019), we reconciled such disagreements by ensuring that standards for intercoder reliability were established prior to the coding process. Firstly, the coders agreed to use an inductive approach, thus ensuring that basic themes and concepts that were developed during the analysis were consistent (Cofie, 2022). Secondly, coders held meetings to compare and conclude on key points thus achieving coding consensus. In our case, we discovered that in most instances, there was no conflict per se, but rather a difference in the terminology each coder used.

Arising from an inductive approach (thematic analysis), our findings were shaped by views from our respondents, thus in places, we report these verbatim. To connect our discussion with the broader research fraternity, we tied our discussion to user centered design as our theoretical framework of choice, while aligning to tenets of SLA. Thematic analysis enabled us to identify key themes which were central to this sense-making process, allowing us to fully understand the prevalent and deviant cases.

5.3 Interview Protocol

As we interviewed a population that had elderly respondents (60+ years), we adopted the 5Q interview approach (Eitzinger et al., 2022) to keep the questions brief, yet maintaining depth. Pilot interviews were conducted to assess the appropriateness of questions and to establish if there was a consensus of understanding among interviewees (Majid et al., 2017).

A review of extant literature informed the interview questions (e.g., Maitrot & Foster 2012; Heeks 2009; Masiero & Das, 2019; Bowen, 2009) that were based on understanding the expectations of end-users of a digitized social protection system. The 5Q interview approach proposed by Eitzinger et al. (2022) was adopted to capture the voice of those who will use digitized social protection systems, as it ensures that community-based initiatives reflect local needs and priorities and that such initiatives do not overlook conditions that affect groups that are most likely to be left behind due to design-reality gaps (Heeks 2009; Heeks & Molla, 2009; Masiero & Das, 2019; UNDP, 2022).

The interview process followed the protocols proposed by Jacob and Furgerson (2012), whereby interview questions are informed by a review of extant literature. Open-ended interview questions, included i) To what extent would you prefer receiving your government cash transfers via your phone?, and ii) What would be your main expectations from a digitized social protection system? The interview questions central to our study were derived from Greenhalgh et al (2010)'s definition of the design-reality gap, who conceptualize it as the differences between the assumptions built into an IT artifact by designers and the real-life needs of users.

6 Results and Analysis

In this section, we provide insights from three key types of actors, namely, the intended beneficiaries, government officials, and civil society advocates.

6.1 Insights from Intended Beneficiaries

Interaction Failure: Interaction failure occurs when the system is successfully developed and completed, but it is not utilized by its intended users (Lyytinen & Hirschheim, 1987; Masiero, 2016). Several interviewees shared feelings that could exacerbate interaction failure in digitalized social protection systems. For example, this interviewee stated, *“I am not tech savvy, and I prefer using hard cash”* (Pensioner 1). Another stated *“I am not registered on any mobile money platform, and due to my inability to use a phone, receiving money via the phone would be complicated for me”* (Pensioner 2). When beneficiaries were asked about the extent to which they would prefer to receive cash transfers via mobile money platforms, just less than half of the pensioners (11) indicated that they would prefer receiving their social transfers on mobile money platforms (digitalized social protection), whereas nearly half (13) indicated that they would to lesser extent prefer such an arrangement. Three of the twenty-seven respondents indicated that they were not sure if they would prefer receiving their cash transfers on mobile money platforms. The extent to which respondents made their judgement was based on the level of convenience or challenges they believe mobile platforms give them. Several varied reasons were given. The recurring theme that emerged bordered around the level of confidence to navigate mobile money platforms. For example, this interviewee stated, *“EcoCash has hassles especially if you make transaction mistakes”* (Pensioner 3). A similar view was expressed by another interviewee, *“I do not have any knowledge of using phones, and I would not be able to use my money”* (Pensioner 4). The responses from users who expressed limited knowledge of using mobile money platforms accentuate a key point that underpins user-centered design (i.e., understanding the user’s experience, needs, and context (Madden, 2019; Kotamraju & van der Geest, 2011)). One implication for UCD is that service and policy decisions should be guided by user needs so that fewer ‘bad’ or ‘unsuitable’ ideas make it to delivery, and to ensure that more things are working better for people (Hughes, 2021). In this regard, to record success in digitalizing social protection in Zimbabwe, understanding users through undertaking a larger sample would be essential in ensuring that efforts to digitalize are within the context of existing knowledge, skills, and technological keenness.

Amongst those who indicated that they would to a “greater extent” prefer receiving their government social cash transfers on mobile money platforms, responses leaned towards the design side of the design-reality continuum/spectrum. The convenience and efficiency of mobile money platforms were highly cited in this regard. The following are responses in favour of mobile money as a platform for social cash transfers:

I find it easy using my phone and even sending money back to the village, mobile money makes life easy. (Pensioner 5)

Everyone has a phone now, and if my money is in the phone, it’s easier for me to send money around to my grandchildren. (Pensioner 6)

No need to travel from the village to get money from a bank. (Pensioner 7)

Mobile money works well almost everywhere. I run a tuckshop and I use all mobile money platforms. (Pensioner 8)

Mobile money is effective for transacting everywhere and easily. I live in rural areas and our shops accept it more than they accept bank cards. (Pensioner 9)

Concerns were also expressed with regard to past experiences of using mobile money, specifically issues related to ‘reality gaps’ that were being caused by the macro-economic environment in Zimbabwe. One of the respondents said, *“Some shops do not accept EcoCash, or they add an extra charge for EcoCash transactions making it costly to use EcoCash”* (Pensioner 10). Deriving from Pensioner 10’s experience with using mobile money platforms, digitalizing social protection in Zimbabwe would require the government to undertake a country-wide survey on the experiences of the populace on using mobile money platforms, an essential exercise to assess the viability of such a platform for delivering social protection. Indeed, such a country-wide survey will enhance the full adoption of principles that underpin user centered design, (i.e., incorporation of user feedback to define requirements and design, and actively involving users to assess their knowledge and appetite for the product (digitalized social protection) (Novoseltseva, 2017; Hughes, 2021).

Design-reality gaps: There is a large pool of literature on design-reality gaps with a focus on the setup of the digital welfare state and its failure to be fit-for-purpose (Busemeyer et al., 2022; Silva, 2022; Lowe, 2022; Choroszewicz & Mäihäniemi, 2020; Masiero, 2020). By asking ‘would be end-users’ views on a digitalized social protection system and their ‘aspirations, hopes, and wishes’, our research contributed

with a future oriented thinking lens as it captures the ‘*what could be done*’ to spell out a positive future for Zimbabwe’s digital welfare state. Respondents had several expectations from a digitalized social protection. Four interviewees indicated that in advance of digitalizing social protection, the government and its partners should prioritize providing a stable broadband network. One interviewee believed that *“There should be improvements in network coverage as digitalizing social protection will mean that the system will have more pressure than normal, and I would expect the system to perform”* (Pensioner 11). A similar view was expressed by another interviewee, *“I would expect improved network coverage to be prioritized. With a stable network, it means the money can be easily accessed”* (Pensioner 12). Addressing network challenges holds the potential to prevent expectation failure. Masiero (2016) notes that expectation failure is experienced in IS when technologies fail to fulfill the purposes that key stakeholders have of them, in this scenario a digitalized social protection system in Zimbabwe. Eight out of 27 interviewees indicated that a digitalized social protection system should improve ease and convenience, which can be understood in the context of the current social protection systems and programmes which usually delay disbursements to beneficiaries. One interviewee stated *“I would expect that the system addresses the current delays we experience. I spend 4-5 hours in a bank queue and with digitalized social protection that could be reduced”* (Pensioner 5).

Support for the elderly featured as a theme with two pensioners out of twenty-seven respondents strongly expressing the need for such support. One of the respondents indicated that in designing the system, it should not be too technical for older persons, whereas the other respondent indicated that there should be enough mobile money agents to offer transactional support to the elderly. Our findings align with previous studies (i.e., Silva, 2022; Carswell & Neve, 2021) that indicate that despite technology’s push to eliminate mediators, their inevitable role continues to remain relevant. This finding is of significance considering that social cash transfers in Zimbabwe have mostly targeted the elderly to date. Earlier research by Maunder et al. (2007) and Bertot et al. (2008) underscores that user centered design goes beyond simple attempts of analysing the user and their environment, but also prioritizes the development of the user and the supportive structures within the user’s living and working environments. It will be essential therefore to ensure that the components (money agents and a friendly digital interface) that we identified as a necessity in this research, be considered in ensuring the utility of digitalized social protection systems in Zimbabwe.

An accountability and governance system was also mentioned as an expectation that should accompany digitalized social protection. Respondents indicated the need for accountability standards set for mobile money platforms and other service providers who charge exorbitant fees for mobile money transactions. One of the respondents noted that *“Digitalized social protection will mean that we can use our money without being robbed of it. My expectation will be for the government to solve the issue of extra charges that shops impose on people who shop using EcoCash”* (Pensioner 7).

Oversight to ensure such control over fees was expressed as important by four of the twenty-seven pensioner respondents. In addition, two pensioners indicated that they would expect the digitalized version of social protection to have security features that secure their money.

6.2 Insights from Government Actors and Civil Society

Embedded in the theory of design-reality gaps is the idea that discrepancies between worldviews can cause a complete or partial project failure or premature abandonment (Masiero, 2016). Our research in this regard sheds light on what social protection actors (designers) prioritize compared to intended beneficiaries (i.e., pensioners) hence being a source for understanding if tensions between worldviews exist.

Transparency and accountability: A key informant from civil society stressed that digitalization would improve consistency, predictability, and efficiency of social protection payments, which are considered erratic and frequently late. The Harmonized Social Cash Transfer (HSCT) programme was given as an example of a programme experiencing inconsistent delivery. Being able to monitor the impact of social protection was highlighted as an important outcome of a digitalized system by key informants from both civil society and the government. Having integrated registries with other government ministries and agencies would enable/empower the key ministry (Ministry of Public Service, Labour and Social Welfare (MoPSLSW) tasked with social protection, to effectively monitor and evaluate the impact of their social protection programmes. At least half of key informants mentioned the benefit of a better digitalized registry for reporting. Two respondents out of twelve indicated that digitalization would improve the auditing function for social protection programmes. A respondent from the Civil Society noted, *“digital systems*

leave an evident paper trail and that is what Zimbabwe currently needs. A digitized social protection will increase accountability". Of importance is the recognition that promoting an auditing function will increase public confidence which was noted as being a by-product of digitalization by respondents from both government and civil society. Digitalizing social protection was viewed as being essential in enhancing data management and impact reporting of social protection programmes. As this government official asserted:

I think digitizing our social protection systems will give us greater control in terms of analysing the scope of our coverage, collating, and understanding new and available data (demographics) which I believe is key in helping the ministry measure its impact. Currently, the paper-based administration of social protection is robbing us of having the full view. (Government Official 1)

At least two interviewees mentioned how digitalizing social protection would facilitate coordination and cross-agency programming, avoiding duplication of efforts. The ability to prepare for larger responses in the future was another advantage mentioned. In other words, the government would be able to expand social registries horizontally and vertically across government departments and share information. A quarter of respondents mentioned this. A key informant from the government noted that *"Having a digitalized social protection will help keep such records accessible and easy to update too"* (Government Official 2). Responses from government officials and those in civil society accentuate the imperative role that IS research can play in tackling current challenges in digitalizing social protection systems in developing countries by producing evidence that can be used for data-driven engagements and for making investment cases for social digitalization.

What is required, in the first instance, is a platform for sharing information across government departments. One government official noted how difficult it was for the government to develop a beneficiary registry to disburse the COVID-19 funds. Data availability and accessibility are difficult. Many respondents from civil society mentioned the importance of understanding (from well-stored data) who are benefiting from which social protection programme. Eliminating duplicates and favouritism where one household can be a recipient of several programmes was also noted as an advantage of digitalization by two interviewees (a view expressed by one respondent from civil society and another from a government official). All these issues would be overcome with a unified beneficiary registry, which is a challenge to set up.

Another interviewee from civil society noted that there are difficulties for some households to register electronically (e.g., for households who require technical assistance or those who may not have certain documents that may emanate from digitalization). On the other hand, identification documents are already required for benefits such as food aid provisions. Nevertheless, exclusion could still be present in a digitalized social protection system as *"it could further exclude communities that are not digitally connected with the larger community, both because of information illiteracy and lack of digital resources. Ensuring that registries are inclusive and non-discriminatory of voting patterns would evidently be necessary in the move to a digitalized system"* (Civil Society 1).

Tensions between national ICT policy and implementation: Key informants were asked about plans in Zimbabwe to introduce a digitalized social protection system. The National Policy for Information and Communications Technology was mentioned by one government official and one academic, indicating that this National Policy is an invitation to the ministry to digitalize social protection and a policy that permeates all government departments and agencies. One key informant mentioned that the country is guided by 'Smart Zimbabwe 2030'. However, five out of 12 interviewees were unclear or did not know whether such plans are in place in Zimbabwe. Two government officials indicated that plans are in the pipeline although they have not yet been announced. It was mentioned that policy communication can be a challenge in the country. Although a good policy is in place, a framework for strategic implementation and monitoring is lacking. A quarter of the respondents (from both government and civil society) identified the need for strengthening policy implementation in Zimbabwe as an essential element of digitalization of social protection. It is important to note that if well implemented, the policy will address current and future unfavourable realities such as poor network services, as the policy amply articulates commitment to bridging the digital divide; promoting the provision of broadband for all; and supporting the provision of infrastructural facilities necessary for ICT development (Government of Zimbabwe, 2016b). Adopting UCD as a framework for this research, enabled us to capture multidisciplinary views from diverse teams thus bringing out the broader knowledge, experience, and information from different experts in relation to ICT policy in Zimbabwe (Chammas et al., 2015). Diversity in the voices revealed that the policy environment in Zimbabwe may inhibit the adoption of digitalization. Looking at the diverse responses on tensions

between ICT policy and implementation, Zimbabwe could benefit from future coherent debates and engagements from diverse stakeholders to further understand how digitalization will impact social protection programming relative to promoting sustainable livelihoods (DFID, 2001).

Recommendations for digitalizing sustainable social protection systems: When asked about considerations for a digitalized system, investing in infrastructure, technical, and human resources featured strongly in interview discussions, with interviewees emphasizing that allocating resources for infrastructural investment is a cornerstone for the establishment and maintenance of a project of this size. A respondent from the government added that *“Infrastructure development and capacity building of human resources should be prioritized for a project of this scale as our ICT infrastructure is not up to standard to achieve the commitments of a digitalized social protection system”* (Government Official 2).

A quarter of interviewees suggested that for digitalization to be successful, a multisector approach should be adopted with NGOs and the private sector providing technical support. The government would be tasked with setting up a suitable policy and legal environment. A collective view from the interviewees was that such an approach would ensure that those with expertise would manage disbursements, with the government managing the legal and regulatory frameworks hence ensuring that there are checks and balances in the system. A multisector approach would also improve policy communication and eliminate disjointed policy implementation across the board which was identified as a challenge for the implementation of ICT policies in ministerial departments and agencies. Leveraging the role of Public Private Partnerships (PPPs) in improving e-government services is topical as Twizeyimana (2017) established that Rwanda's success in achieving user-centeredness and usability in its e-government was because of PPP as this increased awareness of the project, capabilities of citizens and public servants, and mitigated challenges of infrastructure required for access and use of the developed e-government system. Two interviewees from the Civil Society recommended that in implementing a digitalized social protection in Zimbabwe, political bias should be eliminated. Indeed, a multi-sector approach will be important for digitalization, considering that while the needs of end users must be at the crux of innovation, equally important is the motivation of those who design and implement. As observed by Van der Bijl-Brouwe (2016), in a public sector context, UCD will have a number of stakeholders (e.g., problem owners who have to use their reputation, leadership, contribution, and responsibility, in this case, the Minister of Public Service, Labour, and Social Welfare) and direct contributors who contribute to a solution by offering time and effort, in this case, telecommunication firms who will provide technological guidance as well as mobile money service providers.

Equality in relation to access also featured in responses from interviewees with one interviewee stressing that digitalized social protection should broaden the opportunity of access, especially to groups that have been left out in the past. A government official indicated that in designing the system, the administration and its partners should set up a mechanism that ensures intended recipients receive the benefits (Government Official 2). In essence, equality was presented in line with eliminating chances of exclusion and ensuring that as Zimbabwe digitalizes its social protection transfers, efforts are made to promote the inclusion of all groups (those who are digitally connected and those who are not).

Continuing to serve those in need was another recommendation as reflected by this interviewee, *“Zimbabwe's social protection is highly based on donating food and other non-food items; a major step is finding a balance on how digitization will continue to serve this purpose and not undermine the existing needs of the community especially rural communities”* (Civil Society 2). However, other interviewees highlighted that a digitalized cash transfer system should be the priority underpinning the broader social protection agenda. The focus on cash transfers that are not eroded by inflation was mentioned as important in terms of making a difference in the lives of the recipients in lieu of food and non-food items.

Establishing sustainable ecosystems: Opportunities to establish ecosystems underscored that there are players that have implemented cash transfer programmes in Zimbabwe and that these players possess the technical expertise and local knowledge on how a cash transfer programme can be implemented effectively. Eight out of 12 interviewees mentioned experiences where e-services are already being applied and a third of interviewees highlighted government attempts to deliver social protection via mobile phones during COVID-19. It was recommended that the Government can take advantage and learn from such experiences. Interviewees noted that despite the existence of digitalized social protection programmes operated by NGOs, these social protection programmes could not be used during COVID-19 because they could not handle horizontal and vertical scaling (for a national call) something also noted by the Zimbabwe Red Cross Society (2021).

Ten out of the 12 interviewees noted that the government of Zimbabwe had established ecosystems that could be leveraged in implementing the digitalization of social protection. Only one interviewee (from civil society) indicated they had no knowledge of such partnerships. Several partnerships such as UNICEF (supporting the HSCT programme), the Government's partnership with NetOne in delivering COVID-19 funds, or others who have digitalized cash transfers (e.g., CARE International, World Vision Zimbabwe) were mentioned as possible sources of help in migrating social protection to digital platforms. The fact that pensioners already receive their money on bank cards that are linked to mobile phones was highlighted also. Thus, the role of partnerships was widely associated with the expertise that NGOs and private actors have in relation to digital skills training, knowledge, and data sharing (e.g., Econet Wireless). Finally, a respondent from academia added *"Let's not forget our universities as research hubs too, those are partnerships that can help government achieve its digitalization project"*.

Adopting a futures thinking approach to digitalizing services and systems: The digitalization of social protection is viewed as a technological opportunity that will improve and promote efficiency (*timely delivery of social cash transfers*); increase accountability and transparency (*paper trail and verifiable databases of beneficiaries*) and paint a better understanding of social investment (*knowledge management*). This desired future however depends on taking onboard the concerns expressed by the intended beneficiaries and designers of the digital welfare state in Zimbabwe. On the other hand, Zimbabwe's digitalization competency falls short of delivering social cash transfers efficiently due to poor networks, limited digital literacy, high charges for mobile money transactions by service providers, and a lack of public confidence in the government. As indicated earlier, attempts to use mobile money platforms to disburse COVID-19 failed as a result of design-reality gaps that were exposed in a report compiled by the Office of the Auditor-General (2021). Yet, Zimbabwe has the potential to establish an inclusive digital welfare state. Adopting a future-oriented approach would enhance creative policy research and development which can contribute to a better understanding of the contemporary world and of its hidden complexities and uncertainties (Kelly et al., 2004). Table 3 outlines the key points made by each group.

Table 3

Key points made by pensioners	Key points made by government officials	Key points made by civil society
ITCs may reduce time wasted collecting benefits	Digitalized SP may improve the government's capacity to manage social protection data and reporting.	Implementation of an ITC policy is a concern
Network coverage concerns	Current ICT infrastructure needs to be upgraded to meet digitalization standards.	Digitalization can improve monitoring and evaluation (audit trail).
	Multisectoral approach is important for Zimbabwe to digitalize its social protection system.	

7 Discussion and Future Action

The results of our study on the digitalization of social protection in Zimbabwe can be analyzed under concepts outlined in a UNDP report (UNDP, 2022) on changes to enable the transformation towards expanding human development and managing uncertainty. Three fronts for change are highlighted namely investments, insurance, and innovation, which are depicted as policy building blocks towards enabling transformations. Our research points to the need to embrace investment, innovation, and insurance. Investment encompasses people, financial and natural resources, a caveat for investments in social protections essential for social development and transformation; whereas insurance relates to mechanisms that guarantee protection or compensation in the case of shocks or threats emanating from imbalances or insecurities and therefore bringing a greater sense of control. Innovation encapsulates the notion of embracing change, looking for new solutions through creativity, iterative learning, and diverse perspectives (UNDP, 2022) – which a robust digitalized system can do, allowing for scale-up in delivering social protection in times of crisis and uncertainty. M-PESA demonstrated this during the Post-Election Violence Recovery Programme in Kenya. Our paper is a riposte to such a call for innovative and creative thinking. Considerable national efforts are required in Zimbabwe to digitalize its social protection system, so as to deliver social protection in a more systemic, transparent, and consistent manner under situations of uncertainty. Lessons can be learned from the experience of CARE International and the Higherlife

Foundation. CARE demonstrated innovation in that it was the first cash program in Zimbabwe, providing innovative means of insurance (in the form of cash). Higherlife Foundation demonstrated how they could digitally provide insurance to healthcare workers during COVID-19. A transmission mechanism with broad coverage is required to collect and store beneficiary details (or social protection registries) in a secure manner (such as M-PESA in Kenya or EcoCash in Zimbabwe). Regardless of which service provider is used, there is a need for more transparency regarding partnership choices, given that investing in partnerships is important for anticipating a future crisis.

Moving to 'digitalization' may not be an easy process in Zimbabwe, with many challenges including privacy, data access, and ethical issues. Political support and financial resources are also required to invest in a digitalized system. To set up a digitalized social protection system, a policy or an e-governance framework is required. Citizens may be hesitant to share information. A further challenge in Zimbabwe may be the quality of data. Ideally, data should come from the national statistics office in collaboration with ZimVAC. For a digitalized information system in Zimbabwe, a unified beneficiary registry is required, with a management information system (MIS) comprising hardware and software, as well as individuals with capacities to ensure its functioning. Thus, it is necessary to have in place government staff who have basic education and basic computer skills.

A key challenge is citizen trust in social protection registries – would individuals register so that they can be assessed and would they trust such a system for payments and disbursements? Citizens need to understand and trust a digitalized system or else they will not register. Trust in public institutions can be an issue in many parts of the world. Data privacy and security is of utmost importance, particularly if information is being shared across social protection programmes (Dennehy et al., 2021). Protocols and procedures for sharing information must be in place. Officials must be trained to act responsibly regarding information management, as sensitive issues such as personal health information are often included. Stricter data protection laws will be required (the right to privacy). Beneficiaries may need to be asked whether they give their consent. Thus, a registration and digitalized social protection system must be user-friendly, so those giving their consent understand what information they are sharing about themselves. It is worth reviewing the UN Global Partnership for Sustainable Development Data Collection in this regard (United Nations, 2014; Mikhailov et al., 2023). Harmonization of concepts beforehand is important. Different districts may have a different understanding of social protection eligibility criteria. It is also important to indicate to citizens that signing up to a social registry does not necessarily entitle them to benefits. However, the registry must include those just above the poverty line but still vulnerable to poverty.

Building on our findings and the case studies (M-PESA in Kenya, CARE in Zimbabwe) that we reviewed for this study, several themes emerged that provide direction for future research (see Table 4).

Table 4. Research Agenda

Research area	Research questions	Research actions
Good practices in setting up a unified beneficiary registry (UBR)	How can existing data registries be integrated?	Identify existing registries and centralise in a single registry. Review national data protection laws, and review whether they fit with a UBR. Leverage AI and advanced analytics to mine national datasets.
Adoption and trust in a digitalized social protection system	How do different categories of social protection recipients transition to a digitalized social protection system? Are there age or gender linked or other differences in digital literacy? What role does trust play in the use of social protection systems and the provision of accurate information to a UBR? How can data protection and privacy be incorporated into the design of a UBR?	Conduct large-scale surveys of social protection recipients within and across countries in Africa. Examine how national cultures shape and are shaped by technologies. Establish partnerships with government agencies and technology companies to achieve high rates of digital literacy.

	How can governments of developing countries improve the digital literacy of its citizens?	
Learning from successful and failed digitalized social protection systems	<p>What lessons can be learned from the deployment of other social systems across Africa?</p> <p>What lessons can be learned about the registration of social protection beneficiaries in other African countries?</p> <p>How can international agencies provide technical support while protecting indigenous knowledge?</p>	<p>Conduct research with a focus on different entities that are extending social protection programs.</p> <p>Literature review and interviews with key informants from neighboring countries and beyond.</p> <p>Examine the role of indigenous knowledge.</p>
Planning for vertical and horizontal integration	<p>How can future-oriented thinking be applied to the design and implementation of the SDG targets?</p> <p>Where are the likely areas (e.g., drought, marginalised) that may require more focus in the lead up to 2030 and beyond?</p> <p>What population groups has the government prioritized for an increase in social protection, e.g., veterans, pensioners, children, female headed households, climate affected areas, unemployed, informal workers, etc.</p>	<p>Integrate future-oriented thinking into the design, development, implementation, and review of SDG initiatives.</p> <p>Review national adaptation and disaster risk management plans.</p> <p>Using Geographical Information Systems (GIS), map vulnerable areas against social protection recipient areas and national demographic information available.</p>

8 Conclusions

The digitization of social protection services in developing countries, and developed countries in general, is a complex socio-technical process that relies on the ethical and sustainable designed IS. The digitalization of social protection services in Zimbabwe holds much promise, but it is being undermined by a lack of trust between key actors and a misalignment between policy and practice. Our case study examined some of the design-reality gaps in Zimbabwe and our findings have a consequential contribution to the broader domain of digitalization of social protection in developing countries, as well as discussing how to overcome some of the challenges of digitalizing social protection systems. Starting with a user centered design mentality, several steps are required in the digitalization process, not least an understanding of the current range of user concerns and expectations of a digitalized system. Interviewees for this study extensively outlined many perceived benefits of a digitalized system, including the view that ICTs and digitalized payments may increase the efficiency and safety of payment delivery. Whilst interviewees emphasized that mobile money is already widely in use in Zimbabwe, many may not trust current accountability systems or the use of certain ICT platforms. Such user views are important for different blocks of digital architecture that need to be approached in an iterative manner (such as deciding which platform for registration and payments, strengthening the networks, designing the user interface, registration, and establishing digital IDs).

The findings of this study provide rich insights that can be generalized to other developing countries and directions for future research. There is no doubt that the academic community needs to play a non-bias role in the implementation and assessment of the SDG targets including those related to social protection provision and how research can contribute to improving the deployment of ITC services for social protection delivery. To conclude, we make the call to action for an orchestrated effort across academic disciplines and better engagement with organizations from all sectors to ensure that the sustainable development goals become more than just metrics, but a reality for the people living in the global South.

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