# DigCBA: responsible use of DIGital Cash-Based Assistance in refugee crises

Project Annual Report #1

December 2022

# D6.1– Annual Report #1

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# Glossary

| Abbreviations/ Acronym | Description |
|---|---|
| **CBA** | Cash based assistance |
| **NFR** | Norges Forskningsrådet (Norwegian Research Council) |
| **INGO** | International Non-Governmental Organization |
| **NGO** | Non-Governmental Organization |
| **UiA** | University of Agder |
| **HANKEN** | Hanken School of Economics |
| **WWU** | University of Münster |
| **MUBS** | Makerere University Business School |
| **NYNU** | Norwegian University of Science and Technology |
| **HO** | Humanitarian organization |
| **NRC** | Norwegian Refugee Council |
| **DRC** | Danish Refugee Council |
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# Preface

The project Responsible Use of Digital Cash-based Assistance in Refugee Crises (DigCBA) started in November 2021. This report summarizes the tasks carried out in the first year of project (month 1- month 12). DigCBA aims to develop assessment frameworks to support decision makers in the humanitarian aid to select the most feasible digital technology in cash-based assistance for refugees. This report elaborates on the first stage of the project: exploring the state-of-the-art and developing conceptual frameworks that will be used in the later stages of the project to develop feasibility assessment frameworks. Based on an exhaustive systematic review of academic and grey literature, DigCBA's researchers have identified and then categorized variety of technologies that have been used in different interventions globally over the last decade. Based on the findings, in this report, we refine the scope of DigCBA and thereafter provide insights on what would the next steps be in the project.

We are grateful to the humanitarian practitioners who have contributed to DigCBA in its first year. We look forward to continuing our collaboration over the next two years. The project is funded by the Research Council of Norway - agreement No. 325437.


Grimstad, November 2022


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# Executive Summary

DigCBA focuses on supporting the use of technology to deliver humanitarian assistance in refugee crises. Humanitarian assistance is often provided to refugees through traditional in-kind assistance, cash-based assistance (CBA) or a combination of both. CBA refers to all programmes where cash (or vouchers for goods or services) is directly provided to beneficiaries. While supporting local markets and economy, CBA provides opportunities for refugees to make own choices (according to their priorities and needs) about what essential goods or services they wish to buy.

DigCBA will develop evidence-based frameworks to support policy makers to appropriately understand contextual characteristics of the target community, and the technology readiness of involved actors to prioritize the order of technologies for digital CBA. Digital technology is transforming CBA with the potential to increase access to financial resources and services during times of crisis while increasing the effectiveness and efficiency of assistance. The responsible use of digital CBA entails ensuring policy makers at Humanitarian organizations (HOs), non-governmental organizations (NGOs), and donors make informed decisions about the use of digital technologies in CBA.

This report describes the work carried out in the first year (Nov 2021- Nov 2022) of the DigCBA project. Over the course of the first year, DigCBA researchers started several tasks in work packages (WPs) 1, 2, 3, 4, and 6: this deliverable provides a summary of outcomes for these tasks. We note that as some of the tasks have just been started and are still ongoing by the time of preparing this report; therefore, their latest outcomes are only presented here. Dedicated deliverables for completed tasks are available on the project's website (http://digcba.uia.no).

WP 1 concerns with conceptual developments for the project. Among the included five tasks, four are completed and only task 1.5 (sharing insights across research team) spans over the course of the project. **Chapter 2** provides a summary of the outcomes for the completed tasks for WP1.

WP 2 aims to provide an assessment framework for contextual and beneficiaries' requirements for digital CBA. As of November 2022, this WP is still in progress and only one task has been completed. **Chapter 3** provides a summary of the completed task and presents future steps in the WP.

WP 3 targets developing an assessment framework to evaluate the relative technology readiness of HOs, NGOs, and donors. WP 4 follows the same approach to assess the relative technology readiness of business partners involved in digital CBA. As of November 2022, both WP 3 and WP 4 have been started recently. **Chapter 4** presents the ongoing work in these WPs and describes relevant future steps.

WP 6 includes project management, engagement and dissemination tasks. **Chapter 5** summarizes popular and academic dissemination activities, and reports on stakeholders' engagement over the first year of the project.

Lastly, the report ends with **Chapter 6** that explains our plans for the second year of the project.

# 1 Introduction

## 1.1    Purpose and Scope

DigCBA focuses on supporting the use of technology to deliver humanitarian assistance in refugee crises. Humanitarian assistance is often provided to refugees through traditional in-kind assistance, cash-based assistance (CBA) or a combination of both. CBA refers to all programmes where cash (or vouchers for goods or services) is directly provided to beneficiaries. While supporting local markets and economy, CBA provides opportunities for refugees to make own choices (according to their priorities and needs) about what essential goods or services they wish to buy.

DigCBA will develop evidence-based frameworks to support policy makers to appropriately understand contextual characteristics of the target community, and the technology readiness of involved actors to prioritize the order of technologies for digital CBA. Digital technology is transforming CBA with the potential to increase access to financial resources and services during times of crisis while increasing the effectiveness and efficiency of assistance. The responsible use of digital CBA entails ensuring policy makers at Humanitarian organizations (HOs), non-governmental organizations (NGOs), and donors make informed decisions about the use of digital technologies in CBA.

The purpose of this report is to describe the work carried out in the first year of the DigCBA project. The project kicked off on November 1st, 2021 (see Figure 1) and since then, DigCBA researchers have worked on tasks in work packages (WPs) 1, 2, 3, 4, and 6.
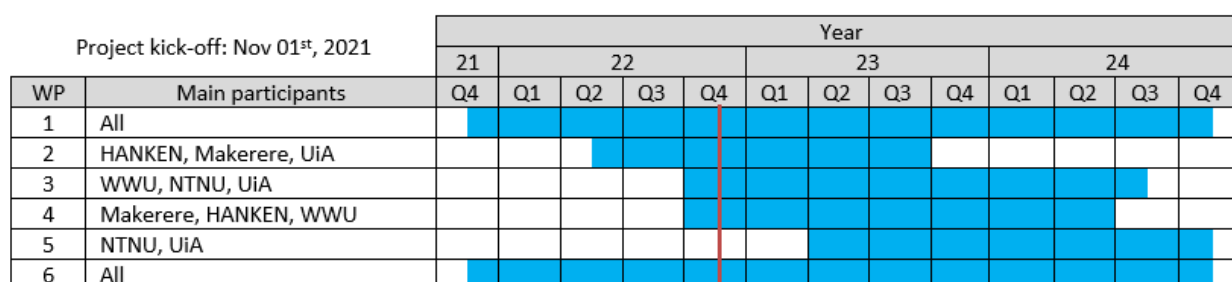


**Figure 1. The relation of the 1st annual report (this document; showed by the red line) to the DigCBA's timeline**

The scope of this report can be explained with respect to the five WPs 1, 2, 3, 4, and 6. As of November 2022, WP5 has not yet been started and therefore, its tasks do not belong to the scope of this report. Table 1 provides details for the tasks that are covered (partly or completely) in this report.

**Table 1. Relevant WPs and tasks for this report (M: project month)**

| WP | Tasks | Status | Leading partner |
|---|---|---|---|
| WP 1 | Preparing for proposal revisions, empirical research design, data management server and (if needed) ethical approval for interviews | Finished | UiA |
| | Conducting literature reviews and gaps analysis | Finished | UiA |

| | | | |
|---|---|---|---|
| | Developing conceptual frameworks (M5-M8) coordinated by WWU; | Finished | |
| | Developing interview and workshop protocols (M5-M6) coordinated by HANKEN; | Finished | Hanken |
| | Sharing insights across research teams (M1-M36) coordinated by UiA. | In progress | UiA |
| WP 2 | Mapping contextual characteristics of refugee crises and beneficiary groups against technologies' features (M6-M12) | In progress | Hanken |
| WP 3 | Measuring the as-is situation (covering the vision, mission and capabilities on different layers (M10-M19) | In progress | WWU Munster |
| WP 4 | Developing technology readiness assessment framework for vendors (M11-M20) | In progress | MUBS |
| WP 6 | Applying the Agile Project Management concept | In progress | UiA |
| | Popular dissemination (M1-M36) | In progress | Hanken |
| | Scientific dissemination | In progress | Hanken |
| | Engaging with stakeholders by organizing four workshops and thematic meetings | In progress | UiA |

## 1.2    Structure of the report

Apart from Chapter 1: Introduction, this report includes five more chapters. Table 2 shows the WPs that are covered in each chapter and shows the implications of each chapter for other tasks and WPs in the project.

**Table 2. Relation to DigCBA tasks**

| D6.1- Annual report #1 | | |
|---|---|---|
| Chapter | WP(s) | Contributing to following WPs/tasks in the project |
| Chapter 2 | 1 | WPs 2, 3, 4, 5 |
| Chapter 3 | 2 | WPs 2, 5 |
| Chapter 4 | 3 and 4 | WPs 3, 4, 5 |

| Chapter 5 | 6 | All WPs |
|-----------|---|---------|
| Chapter 6 | - | All WPs |

# 2 WP 1: Conceptual development

## 2.1 Task 1.1 Preparing proposal revisions and data management plan

The DigCBA project targeted 12m Nok for three years in the original application. However, only a budget framework of 10m NOK was granted to the project by the Research Council of Norway. As such, the Project Manager in close collaboration with partners revised the project scope to accommodate the budget changes. Table 1 shows the revised plan for the project including the work packages (WPs), Tasks (T) and Deliverables (D).

**Table 3. Details of DigCBA's work plan (M: project Month)**

| WP No. | 1 | | M1-M36 | |
|---|---|---|---|---|
| **WP Title** | Conceptual development | | **Lead partner** | UiA (**HB**) |
| **Participants** | All | | | |
| **Objective** | Theory development taking into account contextual characteristics and readiness of main actors. | | | |
| **T1.1**: Preparing for proposal revisions, empirical research design, data management server and (if needed) ethical approval for interviews (**M2**) coordinated by **UiA**; **T1.2**: Conducting literature reviews and gaps analysis (**M3-M7**) UiA (**PostDoc**); **T1.3**: Developing conceptual frameworks (**M5-M8**) coordinated by **WWU**; **T1.4**: Developing interview and workshop protocols (**M5-M6**) coordinated by **HANKEN**; **T1.5**: Sharing insights across research teams (**M1-M36**) coordinated by **UiA**. | | | | |
| **D1.1**: Revised proposal (if needed) and approved study plan **D1.2**: Literature review report; **D1.3**: Theoretical assessment frameworks; **D1.4**: Focus groups and interview protocols; **D1.5**: 6-month reports (M6, M12, M18, M24, M30, M36). **Target**: 1 conference presentation. | | | | |
| WP No. | 2 | | M6-M21 | |
| **WP Title** | Contextual and beneficiaries' requirements for digital CBA | | **Lead partner** | HANKEN (**WOJ**) |
| **Participants** | HANKEN, Makerere, UiA | | | |
| **Objective** | Characterizing the refugee crises context | | | |
| **T2.1**: Mapping contextual characteristics of refugee crises and beneficiary groups against technologies' features (**M6-M12**) HANKEN (**WOJ, AM, RH**), Makerere (**JN, SN**); **T2.2**: Validating context assessment framework (**M12-M15**) Makerere (**SN**), HANKEN (**AM, RH**), UiA (**PostDoc**); **T2.3**: Identifying and analysing the potential benefits and risks of using technologies in the refugee crisis context (**M15-M21**) HANKEN (**AM, RH**), Makerere (**JN**). | | | | |
| **D2.1**: Evaluation report on contextual characteristics and beneficiary groups; **D2.2**: Validated context assessment framwork; **D2.3**: Scenarios for flowchart sensitivity analysis in WP5. **Target**: 1 journal paper, 1 conference/white paper, 1 Master theses. | | | | |
| WP No. | 3 | | M10-M34 | |
| **WP Title** | Relative technology readiness of HOs, NGOs, and donors | | **Lead partner** | WWU (**AW**) |
| **Participants** | WWU, NTNU, UiA | | | |
| **Objective** | Measuring the state of technology readiness in main actors and identifying improving plans. | | | |
| **T3.1**: Measuring the as-is situation (covering the vision, mission and capabilities on different layers (**M10-M19**) WWU (**BH, AW, KV**), UiA (**PostDoc**); **T3.2**: Developing the to-be scenario (taking the as-is situation into account) (**M19-M28**) WWU (**AW**), NTNU (**FS**); **T3.3**: Validation and formulating transition plans (**M28-M34**) WWU (**AW**), UiA (**NS, PostDoc**). | | | | |
| **D3.1**: Evaluation report on readiness criteria and measures for HOs and donors; **D3.2**: Scenarios for flowchart sensitivity analysis in WP5; **D3.3**: Validated technology readiness assessment framework. **Target**: 1 journal paper, 1 conference presentation, 1 Master thesis. | | | | |
| WP No. | 4 | | M11-M32 | |
| **WP Title** | Relative technology readiness of business partners | | **Lead partner** | Makerere (**JN**) |
| **Participants** | Makerere, HANKEN, WWU | | | |

| Objective | Measuring the state of technology readiness in vendors and identifying improving plans. | | |
|---|---|---|---|
| **T4.1**: Developing technology readiness assessment framework for vendors (**M11-M20**) Makerere (**JN, SN**), WWU (**AW, KV**); **T4.2**: Evaluating and validating the framework with experts (**M20-M26**) Makerere (**JN**), HANKEN (**AM**); **T4.3**: Assessing the readiness of vendors in a selected refugee camp (**M26-M32**) Makerere (**SN**). | | | |
| **D4.1**: Evaluation report on readiness criteria and measures for business partners; **D4.2**: Validated technology readiness assessment framework; **D4.3:** Scenarios for flowchart sensitivity analysis in WP5. **Target**: 1 conference presentation, 1 Master thesis. | | | |
| WP No. | 5 | | M15-M36 |
| **WP Title** | Lessons for policy makers | **Lead partner** | NTNU (**FS**) |
| **Participants** | NTNU, UiA (contributions from all partners for verification) | | |
| **Objective** | Operationalize research outcomes for practice | | |
| **T5.1**: Developing If-then flowchart based on combining assessment frameworks (WP 2-4) with MCDA for prioritizing technologies (**M15-M24**) UiA (**HB, NS, PostDoc**). **T5.2**: Sensitivity analysis of flowchart results based on scenarios developed in WP2-4 (**M24-M30**) NTNU (**FS, AR**), UiA (**PostDoc**); **T5.3**: Verifying flowchart with experts (**M30-M36**) coordinated by **NTNU**. | | | |
| **D5.1**: An intuitive open-source evidence-based flowchart; **D5.2**: Validated flowchart; **D5.3**: Guidelines and policy for unified and coordinated approach to digital CBA. **Target**: 1 journal papers, 1 conference presentation, 1 white paper, 1 Master theses. | | | |
| WP No. | 6 | | M1-M36 |
| **WP Title** | Project management, engagement, and dissemination | **Lead partner** | UiA (**HB**) |
| **Participants** | All (contributions from all project participants in engagement and dissemination activities) | | |
| **Objective** | Disseminate the project results through popular and scientific channels | | |
| **T6.1**: Applying the Agile Project Management concept (**M1-M36**) UiA (**HB**); **T6.2**: Popular dissemination (**M1-M36**) coordinated by **UiA**; **T6.3**: Scientific dissemination (**M1-M36**) coordinated by **HANKEN**; **T6.4**: Engaging with stakeholders by organizing four workshops and thematic meetings coordinated by **UiA.** | | | |
| **D6.1**: Annual project report to RCN (M12, M24, M36); **D6.2**: Project's website and social media (M3); **D6.3**: Annual report on scientific dissemination (M12, M24, M36); **D6.4**: Annual report on stakeholder engagement activities (M12, M24, M36) | | | |

## 2.2 Task 1.2 Conducting literature reviews and gaps analysis

Task 1.2 concerns with reviewing academic and grey literature about digital cash-based assistance technologies in refugee crises. The objectives include:

- exploring the depth/vertical and breadth/horizontal of the current use of digital cash-based assistance technologies and assessing the use gap accordingly. Depth/Vertically is in terms of what is currently used by humanitarian organizations. Breadth/horizontally is in terms of the spread of the use of these technologies geographically in disadvantaged areas, and
- identifying the feasibility requirements of digital cash-based assistance technologies.

The academic literature review used the Scopus, IEEE, and Ebsco Databases. The academic references identified were 566 publications after removing duplicates. By excluding all non-related publications, only seven publications were found to focus or even mention a digital cash-based technology within the scope of this deliverable research. On the other hand, searching Google.com for grey literature through an exploratory approach came with several links referring to the same technology in many cases. Around 42 URLs were identified in this search. Figure 2 illustrates the literature review process.
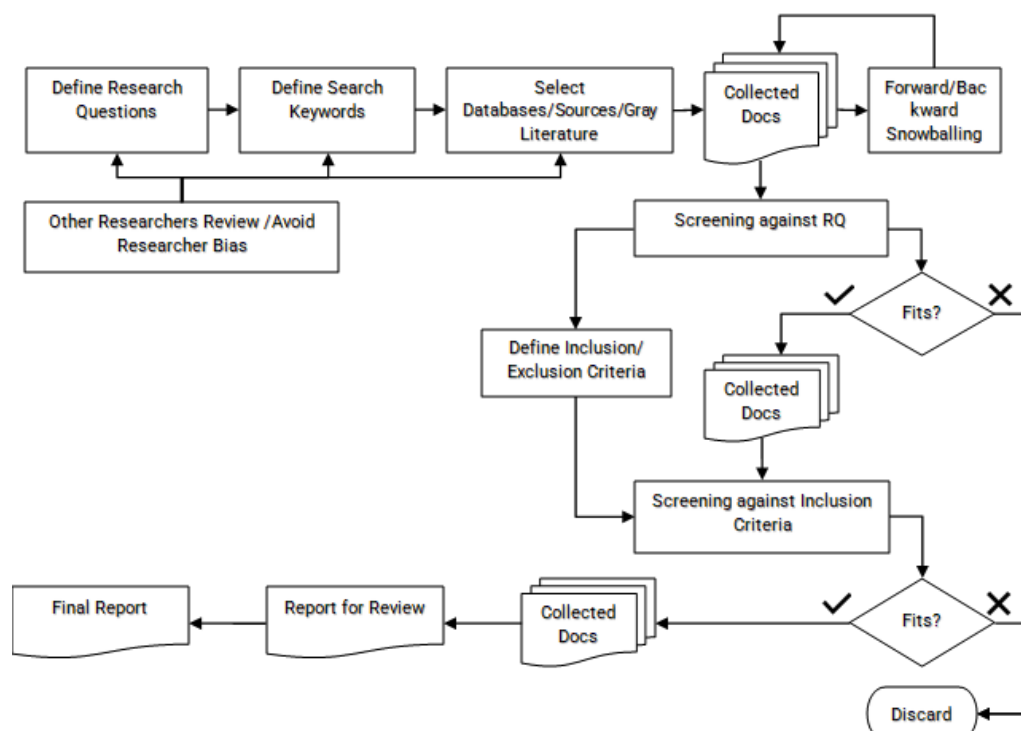
**Figure 2. Review process**

Figure 3 shows a summary of identified publications. The review referred to 33 cases of digital cash-based assistance (covering bank accounts, prepaid cards, and mobile money) to refugees and asylum seekers in 13 host countries.
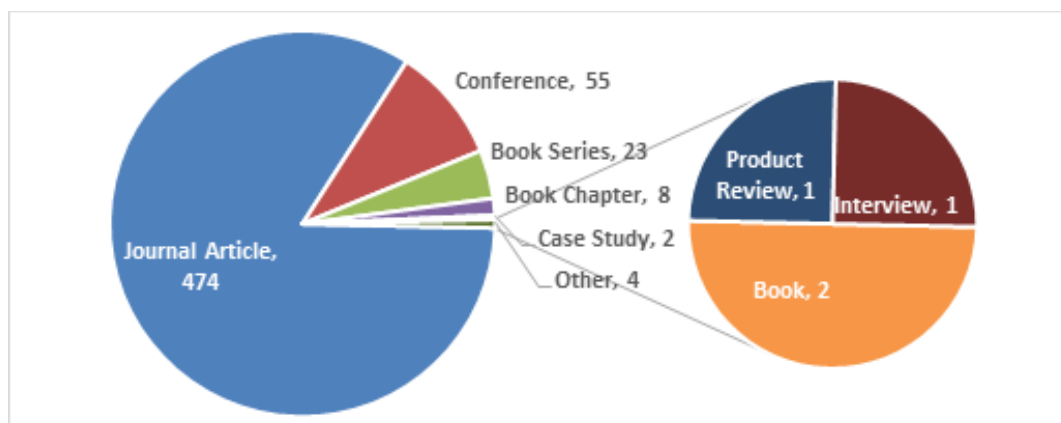


**Figure 3. Categories of reviewed literature**

The review reveals that literature often refers to three types of technologies in digital cash-based assistance as shown in Figure 4. According to our investigation, using smart cards as digital cash-based humanitarian assistance didn't appear in our search.
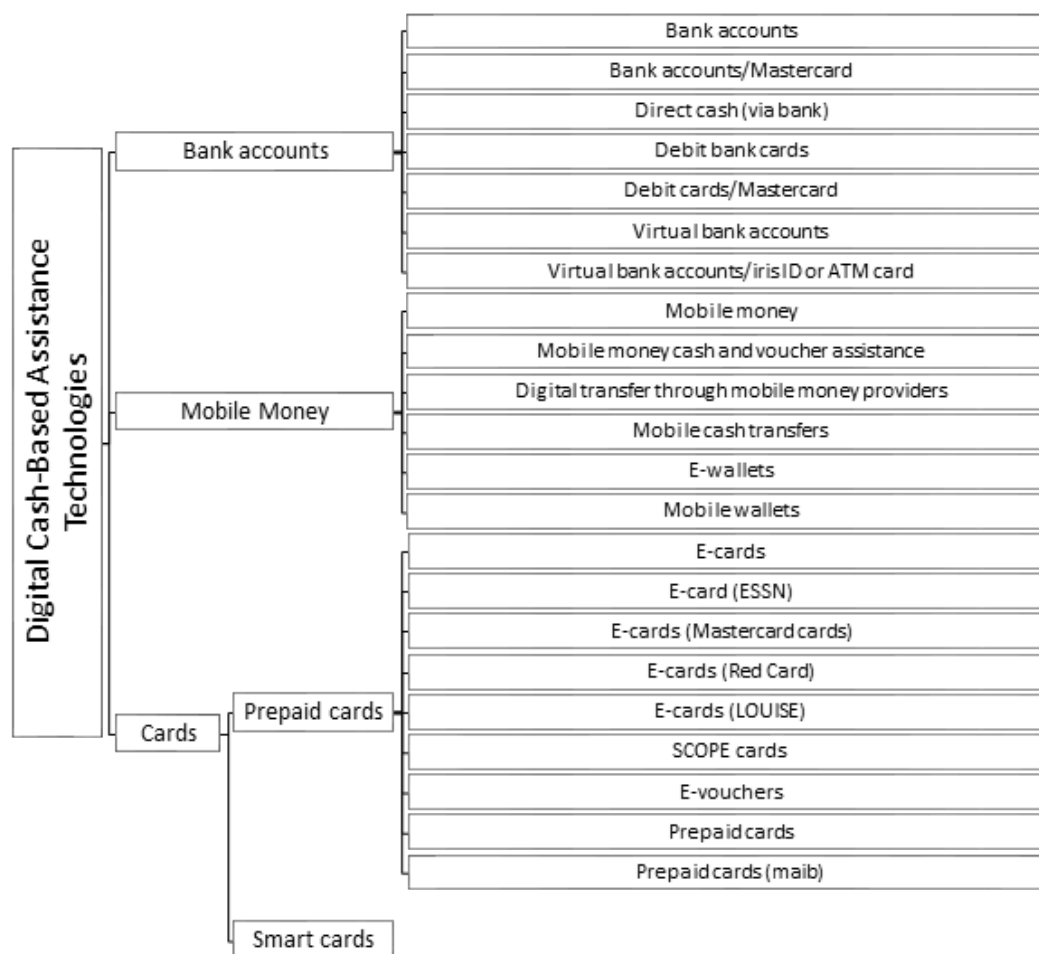
**Figure 4. Identified technologies for digital cash based assistance in refugee crises**

The review identifies over 40 feasibility requirements that should be met/fulfilled by beneficiaries, policymakers, and business partners to be able to apply digital cash-based assistance technologies effectively and efficiently in general. These feasibility requirements are then classified under Technical/Technological, Economic, Legal, Operational, Schedule, and Societal/Social (TELOSS) feasibility requirements. Further details are provided in the Deliverable 1.2 accessible through the project's website.

## 2.3    Task 1.3 Developing conceptual frameworks

Task 1.3 is dedicated to the development of conceptual frameworks for each WP. This conceptual framework should serve as a guideline for the developments in the WPs 2, 3, and 4. Therefore, a template has been developed and provided to all WP leaders, which can be used for developing the conceptual frameworks. The conceptual frameworks are intended to include short, but precise information on what the purpose and goal of a WP is, what the general approach for addressing and achieving the goals is (incl. information on theories, methods, and frameworks used and applied) as well as and when sub-goals are planned to be achieved.

Due to confusions between involved stakeholders, the deadline for finalizing the conceptual framework has been extended to the project month 12.

## 2.4    Task 1.4 Developing interview and workshop protocols

This section is briefly presenting the task description for the interview and workshop protocols. In addition, the survey questionnaire procedures is addressed which have been developed and completed for the purpose of this research project during the project year of 2022.

First, for the interview protocol and guide, the research team at Hanken (Amin Maghsoudi (AM), and Abdelsalam Ababakar (AB), Wojciech Piotrowicz (WP)), as the team leader for this task, has provided a comprehensive list of questions and guide (before, during and after interview stage) including 7 sections. The questions are capturing the main objective of the research, and some specific questions related to each WP is developed. At the second stage, the interview protocol was forwarded to all partners for their kind feedback and comments, and if they are planning to add/edit any part of the guide. Upon receipts of the protocol from all partners, the comments are added to the questionnaire. This has been done in close collaboration with MUBS research team (Joseph Ntayi and Sheila Namagembe) as one of the key partners and responsible for the data collection at the field level. The security issue is addressed, and consent form is developed and submitted as attachments, which is mandatory for conducting the interviews. The three versions have been made until the final version of the interview protocol and submitted to the lead partner of project before the deadline. In addition, a shortened version of questionnaire is created, if the interviews were timely limited and not able to go through all sections. In overall, the guide gives the partners a general overview, on what we are aiming to achieve for the duration of project. The data collection follows the semi-open-ended procedures with the key questions to be asked during the interviews. The same procedures were done for the workshop protocol and the revised version has been submitted to the lead partners after including all comments from the all partners.

The survey has been created and developed in collaboration with the Makerere University research team. At Hanken, two new postdocs (Virva Tuomala (VT), and Lijo John (LJ)), have been added and engaged with the survey development during this process together with the rest of Hanken team as of September 2022.

The Makerere research team has also created the sampling plan for the data collection including with the population of 13 camps and how and in what method they are aiming to collect data from the selected camps. The survey is finalized between Hanken and Makerere. Makerere partner will distribute and collect the survey data from the communities based in camps in Uganda. This demand for the permission to get access to people inside camps. This has to be done by Makerere research team. The survey is meant to be filled by beneficiaries whom receive digital cash by humanitarian organizations. That includes questions how they perceive the service they have received by humanitarian organizations and their behaviour level toward digitalization of cash and voucher assistance in such context. The main purpose of both interview protocol and survey is to map the contextual characteristics of beneficiary groups affected by disasters in context of Uganda. With that, we aimed to provide answer and develop a framework connecting to tasks deliverable under WP2.

# 3 WP 2: Contextual and beneficiaries' requirements for digital CBA

## 3.1    Task 2.1 Mapping contextual characteristics of refugee crisis and beneficiary groups against technologies' features

This task is led by Hanken together with a close collaboration with MUBS research team. At Hanken, PI of the project has been changed as of 1st.September 2022 from Wojciech Piotrowicz to Amin Maghsoudi. For this task the main research team at Hanken includes VT, AB, LJ, WP, and AM.

At the first stage, the designated and confirmed interview questionnaire were distributed by MUBS research team in Uganda. As of 29.11.2022, in total, 23 valid interviews have been completed and transcribed in English language by MUBS research team. The interviews are mainly conducted with humanitarian organizations responsible to delivering cash and voucher assistance in both refugee camps and urban areas to enrich affected communities in Uganda in the response to the refugee crisis. The full list of interviews and their details will be later attached to task deliverable 2.1. The transcriptions were forwarded to Hanken team in a secured database and kept unanimous for the purpose of confidentiality. Yet, the interviews to be analysed and coded by Hanken research team. However, the summary of main findings from the completed analysed transcriptions are discussed here.

This following part disclose three main subsections including 1) the case background; 2) summary of the key resutls from the reports; and 3) summary of interview findings.

### 3.1.1 The case background

Cash based assistance in Uganda has a long history. Since 2019, nearly 40% of the cash transfers have taken place through either mobile money (31.1%) or through bank accounts (9.8%). However, direct cash is still the most preferred more of cash transfers (31.5%) along with cash delivery thorough agents (26.4%). Another major observation from Uganda is essentially the nature of cash-based interventions and their modality. About 80% and 61% of cash-based interventions were used on for food security in the years 2021 and 2022 (till June) respectively. Almost entire cash intervention for food security is being handled through world food programme (WFP). This has been observed by the Uganda Cash Consortium (UCC), a consortium of international NGOs operating out of Uganda, and have made a three-year plan for developing a Multipurpose cash assistance (MPCT) program to make CBA a more inclusive mechanism for a wide variety of assistance programs. UCC identifies that for the successful working of MPCT, they need to focus on a program agenda which includes financial literacy training for beneficiaries, linking long term livelihood assistance program with CBA and promoting digital payments and increasing digital cash transfers. The first phase of MPCT concluded in July 2022 and the second phase is currently underway. Phase 2 focuses on targeting the beneficiaries and in linking their needs with the CBA. To this end, UCC focuses on three vulnerability categories, viz. protection specific vulnerability, economic specific vulnerability, and sector specific vulnerability (CWG, 2022)

However, it is important to note that, there are certain structural challenges for the effectiveness of CBA in Uganda. One most critical challenge is the stark difference int eh choice of modality between the financial service providers (FSP) and the beneficiaries. While FSPs overwhelmingly prefer digital transactions, beneficiaries prefer hard cash. This is evident from the fact that more six billion UGX has been transfers

through banking institutions in 2019-2020 while less than one billion UGX has been transferred through mobile network operator and micro finance institutions during this period. On the other hand, only 4% of the beneficiaries prefer transfers through banks and majority (70%) prefer it through mobile money. Some of the arguments beneficiaries for this preference include ease of access and lack of transport required for beneficiaries, presence of agents inside the settlement means beneficiaries do not have to travel far from their homes to open accounts, make withdrawals. Hence, beneficiaries see mobile money as more inclusive for people who have trouble traveling long distances, such as older persons, pregnant women, or persons with disabilities. Opening a mobile money account was a relatively simple process for beneficiaries to understand the costs associated with opening and maintaining the account were limited and mobile money is confidential and discreet, especially compared to the highly visible distributions of direct or OTC cash (REACH, 2021)

## 3.1.2 Summary from analysed reports

Technology has changed the world and the way of doing work. Where digitization has changed the cash transfers provided by humanitarian organizations. Digital payments have been a game-changer, opening the door to faster and more efficient delivery of life-saving assistance (Burton, 2020). Cash transfer has been one of the most significant changes of the modern era. Cash transfers in the humanitarian field increased two times between 2016 and 2019 (CaLP, 2020). CBA recently spread over the humanitarian context to help people in disaster and conflict areas (Arnold, 2011). In the recent years Humanitarian organizations were able to quickly absorb digital payment systems and adopt them faster to obtain results and benefits for users, organizations and donors. The spread of banking services and the availability of some quick payment methods such as ATMs and mobile payment services helped respond to humanitarian emergencies more effectively and meet the needs of large numbers of beneficiaries. On the other hand, the digital assistance system is more transparent and provides accountability requirements. Cash assistance mechanism can be used as demand stimulator for cerin setting to encourage the purchasing power. Digital Cash-based mechanism adoption is escalating among different organizations, governments, Humanitarian NGOs, agencies and local groups with the aims of delivering cash to individuals or groups, For the reason, this mechanism has the ability to help people with money directly without any interruption or intervention, which may empower them and make them less poor (Gairdner, Mandelik & Moberg, 2011).

Previous experiences, Humanitarian organization reports and empirical investigations indicate the paramount context of digital cash-based assistance. However, since crises/emergencies are different, contexts vary and are volatile based on the country, region, political, and natural conditions(Ford, 2017). Therefore, the requirements for digital assistance implementation must be assessed to meet the needs of affected communities including refugees in such contexts. Therefore, it is very critical to map and develop an assessment framework containing the factors affecting the decision for the digitalization of CBA for the delivery to refugees as beneficiary groups. Although such contextual factors determine the implementation of any digital-based assistance, DigCBA can be customized or chosen from different options based on what is available and what can be improved or managed. According to the grey literature, i.e., humanitarian organization assessment reports, implementation reports, challenges and learned lessons from digital assistance, we extract the following factors (see Table 3) as digital cash-based assistance contextual factors for the assessment to take into the account (GSMA, 2019). The resutls are tentative and not categorized, but they rather provide a overall picture of key contextual factors to adders the digitalization of CBA refugee contexts.

**Table 4. Summary of contextual factors derived from reports**

| Contextual Factors | Smith et al. 2011 | USAID 2021 | DCA&MSC 2020 | AVIS, 2022 | U-Learn 2022 | CWG 2020 | GSMA 2019 | OXFAM 2022 | Oxfam 2019 | OXFAM 2022 | Hadzic, 2020 | U-Learn 2021 | CWG 2022 | Mercycorps 2018 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Technological barriers | √ | | | | | | | | | | √ | | | |
| Financial Barriers | √ | | | | | | | | | | | | | |
| Institutional Barriers | √ | | | | | | | | | | | | | |
| Operational Barriers | √ | √ | | | | √ | | √ | | | | | | |
| Political barriers | √ | | | | | | | | | | | | | |
| Attitudinal Barriers and preference | √ | | | | √ | | | √ | | | | | | |
| Legislative Barriers | √ | | | | | | √ | | | | | | | |
| Capacity and experience | | √ | √ | | | | | | | | | | | |
| FSP capacities | | √ | √ | √ | | | √ | √ | √ | | | | | |
| FSPs and the delivery mechanisms they support | | √ | | | | | √ | | | √ | | | | |
| FSP experience with humanitarian CVA | | √ | | | | | | | | | | | | |
| High cost of access | | | √ | | | | | | | | | | | |
| Weak DFS and road infrastructure and Mobile and Internet Coverage | | | √ | √ | √ | | √ | √ | √ | √ | | | | |
| KYC, and registration challenges | | | √ | √ | √ | | √ | | | √ | | | | |
| Illiteracy (educational, financial and digital) | | | √ | √ | √ | | | | | √ | | | | |
| Data and Privacy Regulations | | | | √ | | | √ | √ | | | | | | |
| lack of income | | | | √ | | | | | | | | | | |
| Strategic | | | | | | √ | | | | | | | | |
| Technical | | | | | | √ | | | | | | | | |
| Gender disparity | | √ | √ | | | | | | | | √ | √ | √ | √ |
| Mobile Phone ownership | | | | | | | | | | | √ | √ | √ | |
| Feedback & Complaints channel | | √ | | | | | | | | | | √ | | |
| liquidity & size of business in the camps | | √ | √ | | | | | | | | | | | |
| Region-specific language and cultural skills | | | | | | | | | | | | √ | √ | √ |

According to Table 1, some of factors are external, including political, and regulation. Some are related to capacity of stakeholders on digitalization of CBA, while some behavioral related to refugee interest, preference, gender disparity and etc. There are also some technical and demographic factors as well that impact and need to be included in the assessment framework. As mentioned, and shown in the table,

factors are different and have different titles based on the report agenda or the key terms that have been used to identify the contextual factors or environment conditions.

## 3.1.3 Findings from the interviews

The interviews with humanitarian organizations (HOs) working with cash-based assistance in Uganda were conducted by Makerere partners and analyzed by Hanken. The analysis done following the methodology from Gioia et al. (2013). Figure 2 presents the framework and codes derived from the interviews with HOs. As our focus is on contextual requirements and the beneficiary perspective, these themes were emphasized. The 1st order concepts in the framework are the initial codes that are derived from the material, and the number of these codes can be fairly large, as the idea is to adhere closely to the data (Gioia et al., 2013). The 2nd order themes represent groupings of the concepts.
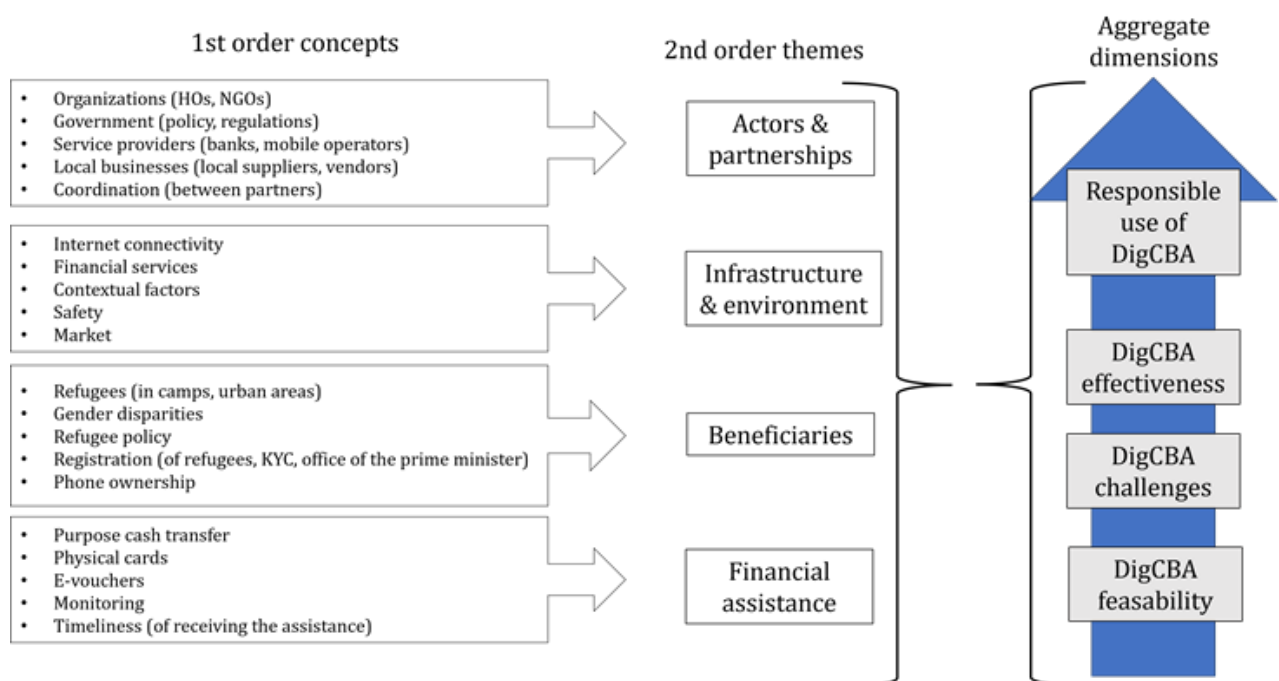


**Figure 5. Coding framework for analysing interview transcripts**

Actors & partnerships represent an integral part of the DigCBA feasibility infrastructure. While the HOs and NGOs are those who work directly with beneficiaries, there is a diverse group of stakeholders who must collaborate in order to responsibly distribute DigCBA. Government actors, local business, and service providers such as banks and mobile operators form the network upon which these services depend. There must also be an appropriate infrastructure to maintain these operations. DigCBA requires adequate internet connectivity, as well as the availability of financial services in the context of the aid. A functioning local market where the CBA can be used in an effective and appropriate way needs to be accessible, as well as safe to use by beneficiaries. The beneficiaries in Uganda are diverse, including refugees in camps as well as displaced people living in urban areas with local residents. The refugee policies in Uganda are open and function well, with registration handled in collaboration with government agencies and HOs/NGOs. However, with reference to DigCBA, there are discrepancies among for example genders, as male beneficiaries are more likely to own a mobile phone. There are also issues with digital and financial literacy of beneficiaries, as many do not have previous experience using DigCBA or other types of digital modes of assistance. Depending on the state of the local market physical cards or cash may need to be used as

financial assistance, but in terms of purpose cash transfers, where the assistance is designated towards for example food security or WASH purposes, the monitoring is much more efficient with DigCBA.
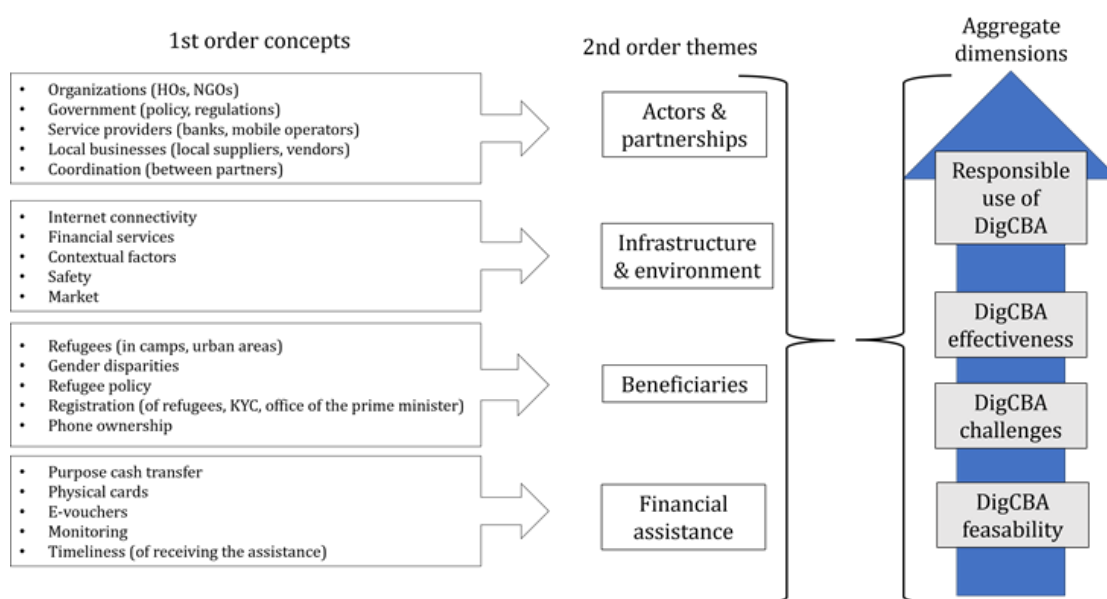


Figure 1          Coding framework

At the later stage, the inputs and resutls obtained from the secondary and primary data sources will be merged to include in the assessment framework. There are some overlaps and discrepancies among the resutls. However, having an comprehensive result as a basis for the assessment framework. The framework will help humanitarian practitioners when they plan to design DigCBA in humanitarian context concerning the need of affected communities

## 3.2     Task 2.2 Validating context assessment framework

For this task, we plan first, to analyse all interviews and iterate the key codes related to contextual assessment for targeted groups. Then the completed figure 1 results will be compared and synchronized with the findings based on Table 1. The classification and categorization of main factors will be determined under first and second order constructs. Second, the survey questionnaire which is now under working-in-progress by MUBS for data collection from the beneficiary groups. The results from the survey will be analysed. Then, we will evaluate and determine the aggregated results obtained from three source of data (secondary data; reports), primary data (interviews), and the survey results (beneficiary groups). Finally, the results will be complied and complemented. The duplicated variables will be merged, and those discrepancies will be grouped separately.

We will also look back the earlier related literature, and if any theoretical framework fits with the results and can be adapted. In either case, we will finalize and develop a conceptual assessment framework and shared with all partners for their feedback. The edited developed framework will be disseminated to the reference groups then including the humanitarian practitioner's expert in DigCBA. They will be asked to validate the framework and provide their comments with respected with criteria. After doing the comments and amending the framework, the final version of assessment framework will be submitted for the deliverable 2.2.

# 4 WP 3 and WP 4: Relative technology readiness of humanitarian actors and business partners

## 4.1 Task 3.1 Measuring the as-is situation of technology readiness in main actors

The work on WP 3 was intended to start in the fourth quarter of 2022. However, first preparatory tasks have already been started and serve as relevant first steps for the completion of the tasks and deliverables to be done during the project. WP 3 is intended to develop a framework for assessing the technology readiness of humanitarian organizations (HO), non-governmental organizations, and donors. For developing such a framework, Enterprise Architecture Management (EAM) is applied as a methodological foundation. EAM is an approach from the Information Systems discipline, aiming to provide a holistic and integrated view on organizations and thereby facilitates and guides business and digital transformations (Lange et al., 2016; Ahlemann et al., 2021). This is a relevant functionality in the context of this project as the digitalization of CBA can be considered a transformation as well. First findings of WP 3 are two-fold.

First, for advancing the knowledge on possibilities for digitalizing CBA, it is highly relevant to identify potentials and limitations of digital CBA from both an HO and beneficiary perspective. Therefore, a systematic literature has been conducted, based on the guidelines of vom Brocke et al. (2009). Scopus, Ebsco, and Web of Science have been queried with a search string to identify peer-reviewed academic publications. Google Scholar has been selected as a fourth database for complementing academic literature with grey literature as this would allow the incorporation of knowledge that is excluded when academic papers are considered exclusively and as it enables the study of recent topics that are not yet subject to extensive scientific research (Adams et al., 2017). After applying exclusion and inclusion criteria, 41 publications have been analysed. In total, a wide amount of potentials and limitations have been identified, each allocated to one of the nine following groups: infrastructure and final inclusion; literacy and digital experience; identification and verification of recipients; safety, operational risk and corruption; reliability of transaction; transparency and trust; data responsibility; cost of transaction; and time efficiency. The findings have been evaluated through two semi-structured interviews, following the guidelines of Myers and Newman (2007). The interviews have been conducted with one representative of UNICEF and with one representative of the Danish Refugee Council and helped in validating the findings from the systematic literature review. The results of the systematic literature review and the interviews will be be submitted in an academic journal.

Second, as a basis for the organization- or operation-specific modelling of the as-is situation, which is one main task of WP 3, a first case study has been conducted. This case study covers the implementation of agency banking for the provision of CBA by the World Food Program (WFP) in refugee settlements in Uganda. For this purpose publicly available documents of the WFP have been gathered and analysed qualitatively (Mayring, 2000). Based on this qualitative analysis, several enterprise architecture-specific models have been created with the aid of the ArchiMate modelling language (The Open Group, 2017). These models visualize the way of how CBA is implemented at WFP and are used to analyze weaknesses and improvements potentials. The as-is analysis serves for a more desired and advanced future scenario(s).

In the next months, the work on WP 3 will mainly focus on identifying factors for the selection of appropriate technologies for and the overall selection and adaptation process ofadigital CBA. This is intended to be complemented by developing a readiness assessment framework through a (reference) process model, which is based and inspired by guidelines and tools of EAM.

## 4.2 Task 4.1 Developing technology readiness assessment framework for vendors

For this task, a systematic literature review has been conducted. To be able to gain an understanding and knowledge on technology readiness frameworks, the following questions are formulated to guide the review study:

1 What frameworks are used to assess technology readiness of business partners?
2 In which fields have these frameworks been applied to assess technology readiness?
3 What measurements are used to develop the technology readiness frameworks for business partners?

Following steps provided in Figure 6, 37 documents have been reviewed and then analysed.
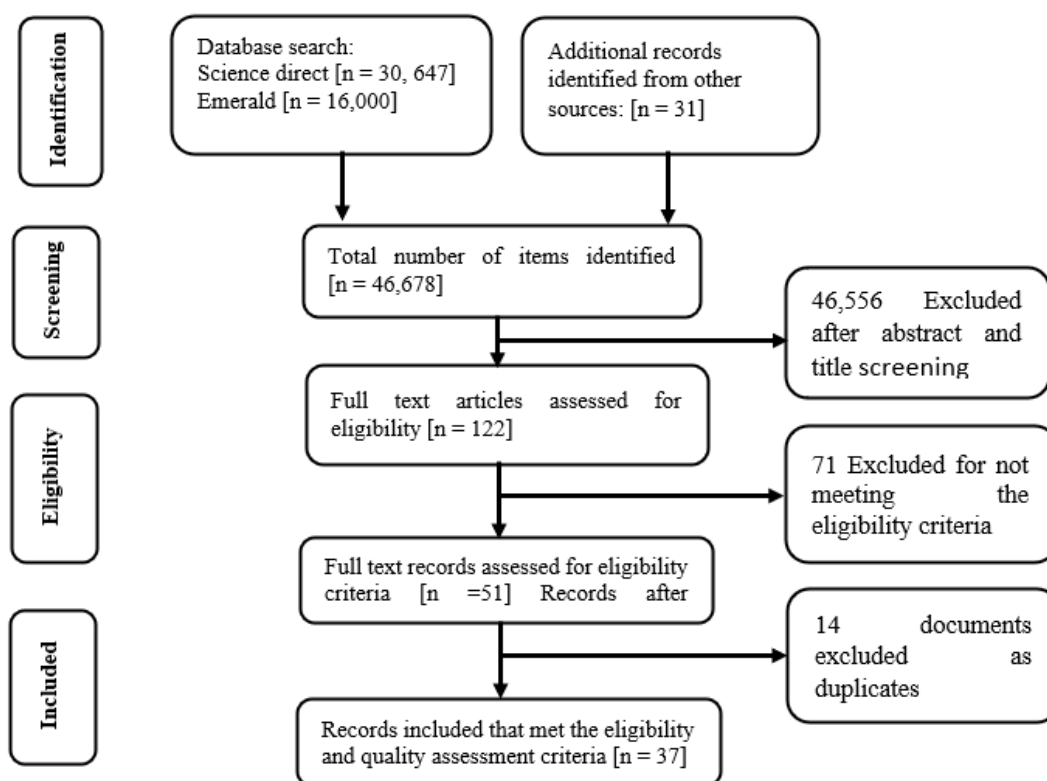


**Figure 6. Review strategy**

The analysis shows that four frameworks (Technology –Organization – Environment framework, Information Technology Infrastructure, Network Readiness Index and Technology Readiness framework) are commonly used to assess the readiness of vendors, organization and individual users to accept and use technology. Each of the frameworks identified in the literature has both the original measurements. For instance, Technology –Organization – Environment framework assesses the technology readiness based on three key aspects; technology context (current systems, systems integration, technological practices, connectivity, compatibility and complexity, ICT skills and infrastructure, Security concerns); organizational context (Top management support, size and financial resources, strategic plans, Top management vision etc.) and environmental context (Competitive advantage, Partnerships, External support, Regulatory environment, Collaboration with competitors). Interestingly, none of the above frameworks have been used directly to assess technology readiness of the vendors to develop and or provide digital cashed based technology products and services.

# 5 WP 6: Project management, engagement and dissemination

## 5.1  Task 6.2 and 6.3 Popular and scientific dissemination

Table 5 shows a summary of dissemination activities in the first year of the project. The PM has registered the project on the Cristin and will ensure that all dissemination activities are recorded there.

**Table 5. Summary of dissemination activities**

| Partner | What | Where | who |
|---|---|---|---|
| MUBS | Systematic literature review paper | Potentially JHLSCM | Sheila and Joseph |
| UiA | EUROhope 2021: presenting of the project | EUROHope 2021 | Hossein |
| | DigCBA workshop | HNPW 2022 | Naima and Ahmed |
| | Special issue editorial | IJDRR | Hossein |
| | AidEX presentation | Brussels | Aima and Hossein |
| | DigCBA review paper | IJDRR | Ahmed, Aima and Hossein |
| | Conference paper | EUROHope 2022 - Istanbul | Aima |
| WWU | Ongoing activities at ERCIS, one slide on DigCBA | ERCIS annual meeting | Adam |
| | Master thesis | WWU | Adam |
| Hanken | Journal article | IJDRR | Several Hanken researchers |
| | Master thesis | Hanken | Jamile Hamideh |
| | Field visit for further engagement with the local partners | Uganda | Virva Toumala |

## 5.2  Task 6.4

Table 6 shows a summary of engagement activities with practitioners and experts.

**Table 6. Summary of engagement activities with stakeholders**

| Partner | What | Where | who |
|---|---|---|---|
| UiA | EUROhope 2021: presenting of the project | EUROHope 2021 | Hossein |
| | DigCBA workshop | HNPW 2022 | Naima and Ahmed |
| | AidEX presentation | Brussels | Aima and Hossein |
| WWU Hanken and MUBS | Multiple interviews | Humanitarian organizations in different locations | |

# 6 DigCBA in its 2nd year: future plans

## 6.1    WP2

For the WP2, in the upcoming months, the interview data will be coded using all obtained valid interviews based on the case of Uganda. The survey from beneficary groups will be comlpeted and sent by Makrerere to Hanken. So, after recieving the surveys, the analysis part will be done by Hanken research team and key findings will be comapred with the interview data results. The finalized framework will be first shared with project partners for their kind feedback and comments. The lessons learned and their feedback will be taken into account to edit the framework. At the later stage, the results will be sent and dissemintaed with the reference groups for the validation.  The validated assessment framwork will be further piloted and localized at the field with the close engagement of local partners and actors, not limited to but including MUBS, humanitarian practitioners and camps representatives. Any additional observation from the field will be considered and modified to the conceptual assessment framework. To do this, a member of the Hanken research team will aim to do a research visit to MUBS, in order to familiarise better with the context and collaborate with the team for further observation. The visit will also strenghthen potential future research collaborations in the field of humanitarian and disaster aid, as Uganda is an central and relevant context for this type of activity.

## 6.2    WP3

In the second year of the project, the work on WP 3 will mainly focus on identifying factors for selecting appropriate technologies for a digital CBA. This is intended to be complemented by developing a readiness assessment framework through a (reference) process model, which is based and inspired by guidelines and tools of EAM. This work will be based on findings of other work packages as well as on a systematic literature review and semi-structured interviews with experts from the field.

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# Appendix

Exemplary ArchiMate model