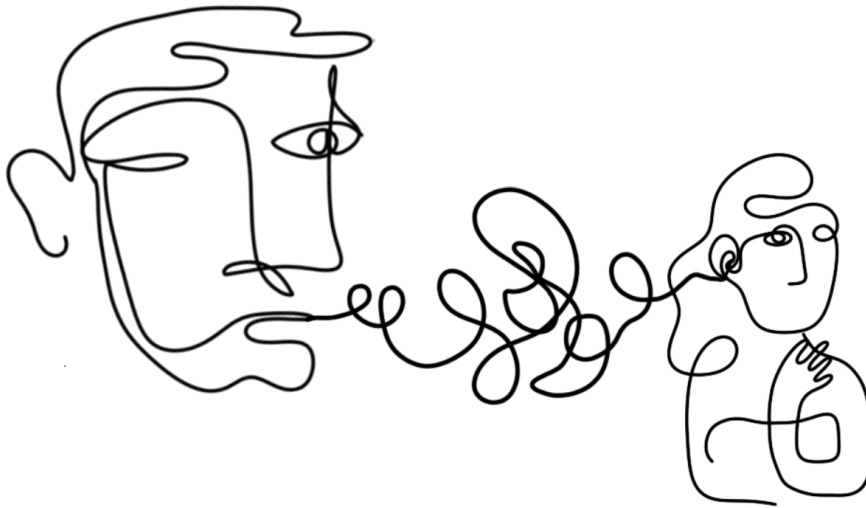




**CHALMERS**  
UNIVERSITY OF TECHNOLOGY



# **Crisis Communication in Swedish Metropolitan Suburbs**

Exploring improvements for an effective and trustful  
crisis communication system

**SIGNE SVENSSON & WILHELM WESSBLAD**

**DEPARTMENT OF INDUSTRIAL AND MATERIALS SCIENCE**

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CHALMERS UNIVERSITY OF TECHNOLOGY  
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MASTER'S THESIS 2022

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## Abstract

Crisis communication before, during and after a crisis is central in order to influence the development of the crisis. In order to succeed with crisis communication, trust for the instances providing the information is essential and the basis for trust is laid before the crisis is even a fact. Despite a general high level of trust in Sweden, it is proven to be lower in heterogeneous, metropolitan suburbs with lower socio-economic status. Therefore, the first aim of this master thesis was to identify what parameters affect the level of trust in crisis information and authorities - before crisis - amongst individuals with foreign cultural background living in Swedish metropolitan suburbs with lower socio-economic status. The second aim was to identify how the current crisis communication system may be improved to increase the level of trust in crisis information and reach the user group more effectively.

The overall methodology of the thesis had a workflow in four phases(1-4). In order to investigate the first aim, (1) an exploratory literature study and (2) multiple user studies including cultural probes and interviews with communicators, other experts and the target group was performed and summarised with six different personas. The second aim was explored with (3) individual idea generation activities, idea generating workshops and an elimination process, resulting in (4) a conceptual design with four slightly different variations. Lastly, the design proposals were evaluated through a survey, where the answers were qualitatively analyzed.

This study shows interpersonal two-way communication to be most efficient to increase the target group's level of trust in crisis information and reach the user group more effectively. The study also conveys that there is an information gap between the target group living in the investigated metropolitan suburbs, and the instances communicating crisis information. However, it may be possible to reduce this gap with the help of facilitators; multilingual and multicultural individuals living in the given area. The result of the study presents a design proposal consisting of a process aimed at reducing the information gap between multiple social and cultural local target groups and the communicators via facilitators. The facilitators are individuals who have insights into this target group and thus provide the communicators with information about the target group with the help of a data collection service. The design solution provides the communicators with accessible information about the target group, to be used to reach them more effectively and thereby provide the target group with trustful and comprehensible crisis information.

Keywords: Crisis Communication, Information Gap, Trust, Socio-economic status



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# 1

## Introduction

This chapter introduces the master's thesis, including an exposition of the project's background and aim.

### 1.1 Background

A crisis is an event in peacetime that threatens basic functions and values in society, such as electricity supply, human health or freedom. Crisis communication before, during and after a crisis is central in order to influence the development of the crisis. The Swedish Civil Contingencies Agency, MSB [1] defines Crisis communication as *The exchange of information within and between authorities, organizations, media, affected individuals and groups before, during and after a crisis*. Municipalities and regions must devote time and effort in crisis communication as part of their crisis management in order to meet the needs of the public and the media, as well as with other actors. In order to succeed with crisis communication, Trust to authorities providing the information is essential and the basis for this trust is laid before the crisis is even a fact. Factors such as openness and competency are key [2].

#### 1.1.1 Definition of vulnerable areas & socio-economic status

Vulnerable areas is a term applied by the Swedish Police to geographically delimited areas that are characterized by a low socio-economic status and where the criminals have an impact on the local community. The impact is rather linked to the social context in the area than the criminals' studied will to control the local community. The residents in vulnerable areas often experience insecurity, which in turn leads to a reduced tendency to report crimes and to participate in the legal process. [3]. Socio-economic status is a classification that in Sweden is mainly based on information about individuals' occupations. The term includes the economic and social status of individuals in relation to others. A low socio-economic status is often associated with for example poverty and poorer care [4]. For example, studies have shown that serious illness and death in Covid-19 are more common in socio-economically vulnerable groups, where, among others, foreign-born people are more common [5].

### 1.1.2 Definition of trust & an interest in vulnerable areas with low level of socio-economic status

Many researchers agree that trust acts as a social glue that holds together families, communities, organizations and companies [6][7][8]. The term Social trust has often been described as (1) General, for people in general and (2) Particular, for people you already know. In his book from 2013, Lars Trägårdh [9] presents research about Swedes' Social trust through a new, third dimension, (3) Local Community Trust (*English translation of the Swedish term Lokalsamhälletillit*). Local community trust is a product of experience in a defined area and may be used as a tool to carry out an analysis that can offer a more in-depth understanding of the trust's roots and character and the conditions under which it can flourish and be preserved or undermined and destroyed.

Generally, Sweden has a high level of social trust (General, Particular and Local Community Trust). However, the level of trust is generally lower in areas with low levels of Socio-economic status due to a number of reasons. Some reasons for a lowered level of trust may be a residential area's relatively low income level compared with other areas within the same municipality, leading to a perception of being treated unfairly. Groups with lower incomes perceive themselves as being treated unfairly and thus a lower level of trust could follow. Also, residential areas with low condition and neglected buildings affect the sense of safety in a negative way, and lower sense of safety often leads to a lower sense of trust. Last but not least, the literature suggest that citizens living in an area characterized by diversity have lower levels of trust than the average. Reasons such as different social norms, cultural differences in trust level, large social distances leading to skepticism between the groups and a feeling of being treated unfairly are mentioned [9]. However, the reasons for lack of trust for authority instances during crisis might be beyond these presented examples.

### 1.1.3 Issues during the Covid-19 pandemic

During the pandemic, it became clear that some groups were not reached with sufficient information about the virus. Several reports and articles show that individuals living in multi-cultural socio-economically weak metropolitan suburbs had higher mortality and lower vaccination coverage [10][11][12]. For example in Stockholm, the individuals with the lowest degree of vaccination are found in metropolitan suburbs with a low level of socio-economic status such as Rinkeby, Tensta and Fittja, where around 50 percent have had at least one dose of vaccine, in comparison to the average of 80 percent [11]. Similar figures are found in other metropolitan suburbs in Sweden. Furthermore, the corona commission [13] appointed by the Swedish Government, presented that half of those who died in the beginning of the pandemic with the coronavirus as a cause were Swedish Somalis living in Järva in Stockholm.



## 1.2 Aim

The aim of this master thesis is to identify what parameters affect the level of trust in crisis information and authorities before crisis amongst individuals with foreign cultural background living in Swedish metropolitan suburbs with lower socio-economic status. Furthermore, the master thesis seeks to identify how the current crisis communication system may be improved to increase the level of trust in crisis information and reach the user group more effectively.

### 1.2.1 Research Questions

The main research questions which ought to be answered through this master's thesis are:

RQ1: What parameters within the Swedish crisis communication system affects the given target group's trust for the information given?

RQ2: How may the Swedish crisis communication system be improved to make the system more effective and increase the target group's trust in crisis information?

### 1.2.2 Deliverables

The deliverables of the project are:

1. Personas and Scenarios that illustrate the user group(s) and their experiences to be used during the design process of an improved crisis communication system and as an aid for crisis communicators.
2. Design suggestions for how the current crisis communication system may be improved to suit the user group.



# 2

## Theory

In this chapter, related theory relevant to understanding the master thesis project is presented.

### 2.1 Swedish Crisis System

The principle of Sweden's crisis preparedness is that society's normal activities are to prevent and deal with accidents and minor disturbances. In the event of serious events or crises in society, everyday resources can be strengthened. Crisis preparedness is thus the capability that is created in the daily activities of many actors and not a designated organization or an actor. Instead, it is an integral part of the regular activities of various actors. This approach has laid the foundation for the principles of responsibility, proximity and equity (*swe: ansvars-, närhets- och likhetsprincipen*). An overview of these principles may be viewed in table 2.1. The principles of responsibility, proximity and equity means in practice that different crises are handled by different parts of society. Being responsible for drinking water, rescue service, elementary school and more, the municipalities are most often affected by social disturbances, crises or events. If several municipalities are affected by the same event, the most relevant County Administrative Boards of Sweden are responsible for coordinating the information. The regions are first and foremost responsible for healthcare as well as infection prevention and control. At the state level, there are a vast number of agencies [14].

#### 2.1.1 Crisis Communication at the event of a crisis

Crisis communication is defined by MSB [1] as "*The exchange of information within and between authorities, organizations, media, affected individuals and groups before, during and after a crisis*" (translated from Swedish). In the same report, it is argued that the communication between citizens, media and authorities is first and foremost about confidence in democracy. Secondly, the skills in crisis communication is about defining target groups and adjusting the communication thereafter. It is important to point out that people make their own opinion and interpretation of the crisis, which affects how the citizens trust the authorities.

In the same report, MSB points to four major factors in crisis communication; (1) Trustworthiness (*Trovärdighet*), (2) Openness (*Öppenhet*), (3) Accessibility (*Tillgänglighet*), (4) Competence (*Kompetens*) and (5) Understanding (*Kompetens*). Open-

ness, honesty and competency lays the basis for trustworthiness and the basis of trustworthiness is preferably laid before the crisis is a fact. Creating good relations through everyday life is therefore vital. Being open is important for the people to not distrust the authorities. It is important to be open towards media and other actors in order to enable efficient coordination. It is also important to be open when *not* knowing everything about an event to decrease the risk of disinformation. Accessibility is important for the public to reach the information and the citizens must know where to find the information and what to do with it. Competency is a factor often leading to a basis for trustworthiness. Last but not least, Understanding for how individuals read and interpret a crisis and how the people handle it is important in order to know what measures to take during the crisis.

**Table 2.1:** The principles of responsibility, proximity and equity

The principles of Responsibility, Proximity and Equity		
Responsibility	Proximity	Equity
Whoever is responsible for an activity during normal circumstances also has a corresponding responsibility in the event of disturbances in the society. The extended responsibility principle means that the actors must support and collaborate with each other.	Societal disturbances must be handled where they occur and by whom are most affected and responsible.	Actors should not make larger changes in the organization than the situation requires. Activities during societal disruptions must function as during normal circumstances, as far as possible.

### Locally

There are 290 municipalities governed by elected politicians in Sweden. The municipalities are responsible for the majority of the community services available, such as preschool, school, social services and elderly care. The work is governed by the Local Government Act and various special laws. The highest decision-making body is the municipal council.

### Regionally

Sweden is divided into 21 counties, each with its own regional authority: the county administrative board. The County Administrative Board is the government's representative in the county. The counties and county councils/regions cover the same geographical areas and these are therefore usually seen as the regional level. The county councils/regions are led by elected politicians and governed by the Local Government Act.

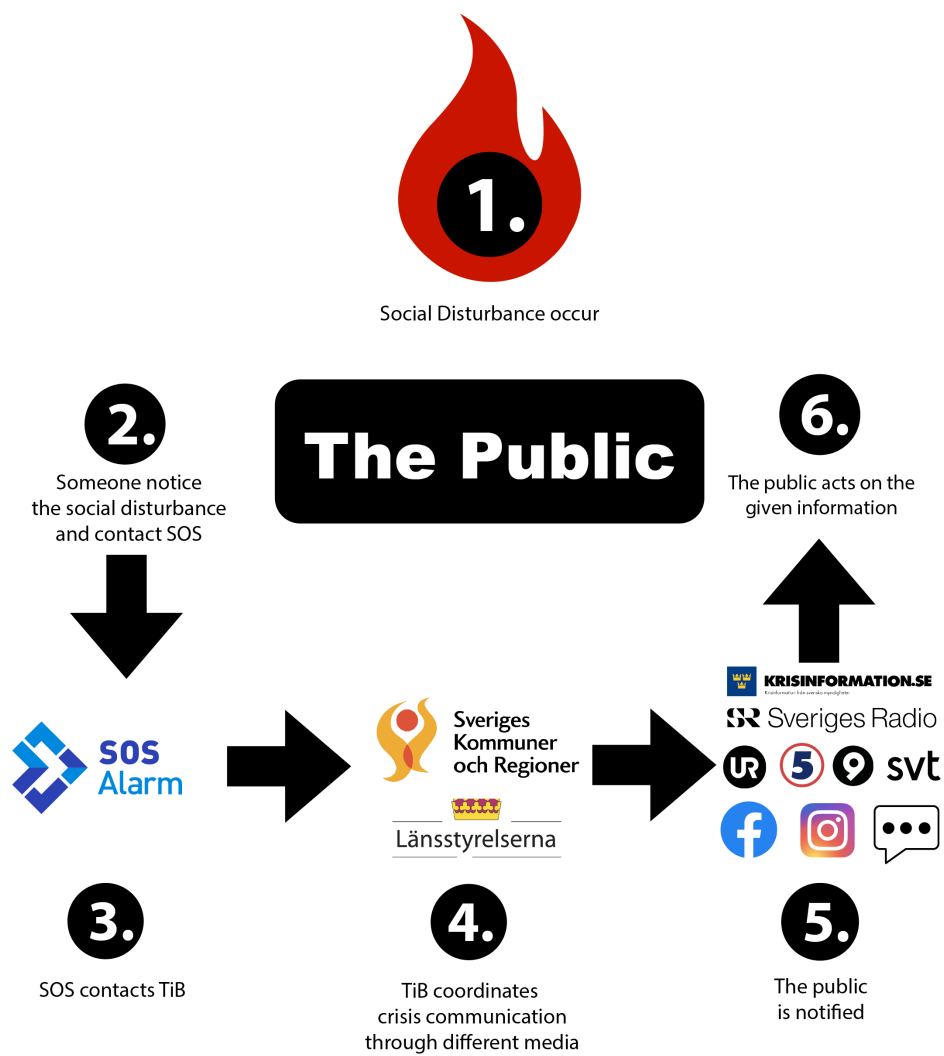
### Nationally

Nationally, there is a parliament, government and authorities. The parliament has the power to legislate and represents the people at the national level. The Government governs Sweden by enforcing the parliament's decisions and proposing laws and amendments to the law. To assist in the work, the government has the Government Offices and almost 400 government agencies.

### Example: Order of events during a crisis

The following text and figure below constitutes a basic example of the order of events during a crisis (such as a fire, storm or power outage).

First of all, SOS is notified by the event. It may for example be a citizen notifying the event and calling SOS. In turn, SOS contacts the so called *Official on call* (Swe: *Tjänsteman i Beredskap, TiB*) who coordinates the crisis management - and communication. The official on call contacts the media in order for them to notify the public about the event and what they should do. Furthermore, different social media may be used to reach the public. For example, the county administrative boards' or municipalities' social media pages. It is important to point to the fact that every crisis is unique. If for example the electric company notices a power outage before a citizen has contacted SOS, the electric company may contact the media before the official on call does, however, the official on call has the firsthand responsibility to coordinate the crisis management- and communication. Image 2.1 illustrates this process.



**Figure 2.1:** Order of events during a crisis.

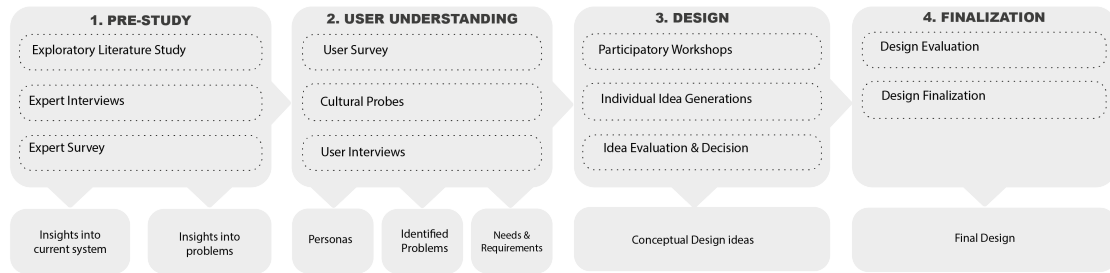
# 3

## Methodology

The following chapter presents the methodology used during this master thesis project. The chapter is divided into the four phases the project followed.

### 3.1 Overall Workflow

This master thesis consisted of four main phases, namely, (1) Pre-study Phase, (2) User understanding Phase, (3) Design Phase and (4) Finalization Phase. An overall workflow of the master thesis project, consisting of the four phases, is presented in Figure 3.1 below.



**Figure 3.1:** The overall workflow of the master's thesis, visualizing the project's phases and respective sub-phases.

### 3.2 Phase 1: Pre-Study

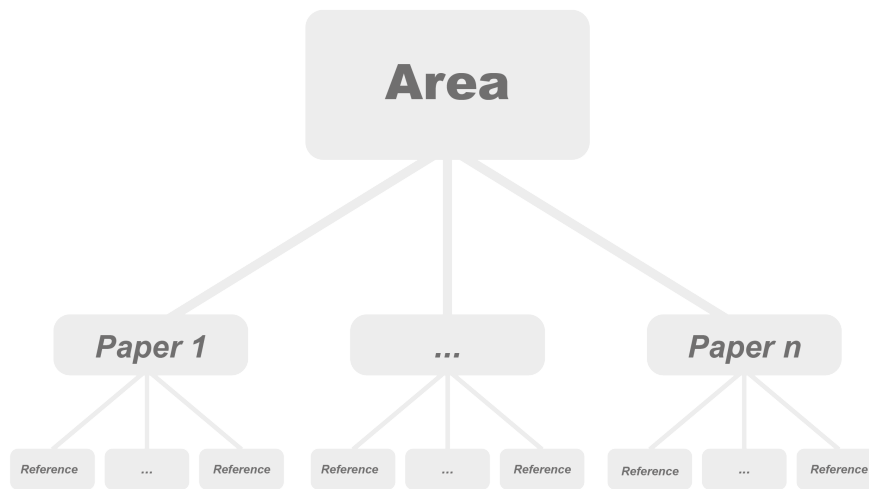
The first phase aimed at creating an understanding for the current crisis communication system in Sweden, what issues the current system may entail and what issues its stakeholders and users may come across. In order to achieve this, an exploratory literature study and expert interviews were conducted. The following section presents the methods used.

#### 3.2.1 Exploratory Literature Study

The purpose of an exploratory literature study is to provide a broad approach to the topic area and is often used in the beginning of a project in order to shape a general view of an area that is not clearly defined [15]. The initial study was general and open, but grew in direction and depth with time. Areas of interest and relevance

were decided chronologically. With a "snowballing" approach, related articles were explored thematically and an understanding for the area grew, visualized in Figure 3.2. The final study was defined by four themes titled as:

- Crisis Management in Literature
- Language and Communication
- Crisis and Language Through History
- Social Trust in Sweden



**Figure 3.2:** Schematic illustration of the snowballing approach of an area during the exploratory literature study.

#### 3.2.2 Expert Interviews and E-mail Surveys

User Interviews aim at collecting data about users, the system, products, processes and more. An interview may be structured, semi-structured or unstructured. A structured interview is prepared with a clear interview template containing all questions that are to be asked [16]. In order to learn more about the Swedish crisis communication system, communicators at different instances who manage crisis communication were contacted via e-mail with a few questions about how they manage crisis communication and how they target different user groups in their municipality or county. An overview of the participating expert interviewees is found in Table 3.1. The e-mails ended with a question on whether or not they would like to participate in an interview. 11 out of 26 answered the questions via e-mail and 5 out of 11 were also willing to participate in an interview. Furthermore, two communication experts with a background in anthropology and information technology were interviewed. The interviews were conducted with communicators at private companies, municipalities and county administrative boards and aimed at creating an understanding for how communicators work and what user groups they struggle



reaching and their perception on why it may be so. The interviews enabled a deeper understanding for the communicators and their work more than the e-mails hence probing was possible. The interview structure can be found in the appendix.

**Table 3.1:** The list of participating expert interviewees

Interview Participants	
Title	Organization
1. Crisis Communicator	Municipality
2. Crisis Communicator	Municipality
3. Crisis Communicator	Municipality
4. Crisis Strategist	County Administrative Board
5. Crisis Manager	County Administrative Board
6. Crisis Communication Researcher	University
7. Marketing Expert	Private Company

### 3.2.3 Analysis of phase 1: Affinity Diagram

Affinity Diagram is a tool for compiling and providing an overall picture of a large amount of data. In short, quotes from interviews and surveys are written down on notes, where each note contains only one unit of data. The notes are placed in groups based on the themes of the notes and each group is given a headline. The tool was conducted in the digital online software Miro and quotes from all interviews and surveys from the pre-study were used.

## 3.3 Phase 2: User Understanding

The objective with the second phase was to create an understanding for the users by qualitative and quantitative data. The overall goal was to illustrate the results in Personas and Scenarios.

### 3.3.1 Digital Recruiting Survey

In order to get a first basic understanding for the users and recruit participants for the follow-up user study, a digital survey was created. After the mandatory question about consent to save and analyze the survey answers, the survey began with demographic questions about the participants' living area, educational level, first language, income and their parents educational level. These questions were considered relevant since the literature showed a lower level of trust amongst individuals living in exposed, multicultural areas, with a lower income and with other cultural backgrounds. Part three to five handled questions about the respondents' experienced level of trust in general as well as for media and authorities. The questions were asked in general as well as in the applied context of the Covid-19 pandemic and in relation to fictional scenarios. In the final part, the respondents were given the opportunity by their own words to describe where they search for their news and their relationship to social media. In the last question, the respondents were asked to participate in the upcoming study. The survey was spread via spokespersons and organizations in the relevant areas, in Facebook groups and on Instagram. There were a total of 92 respondents. Table 3.2 presents the outline for the digital recruiting survey.

**Table 3.2:** The outline of the digital recruiting survey.

Digital Recruiting Survey outline	
Part	Method
1. Consent	Tick Box
2. Demographics	Multiple-choice question
3. Habits and Perceptions	Three-point likert scale
4. Perceptions about the Covid-19 pandemic	Three-point likert scale
5. Media, News and crisis information habits	Free text
6. Final questions	Free text
7. Recruiting Question	Free text

### 3.3.2 Cultural Probes

Cultural probes is a tool which aims at gathering inspirational data about people's lives, values and thoughts. The probes are often small letters or packages including any sort of artifact (such as a map, postcard, camera or diary) together with tasks, which are given to participants to allow them to record specific events, feelings or interactions [17]. The cultural probes in this study had a digital format and progressed for five days. They aimed at providing a deeper understanding for the user group's lives, values and habits in their neighborhood in general and during crises. A further aim was to explore the user group's opinions and habits regarding media channels and crisis communication and also inspire the creation of personas. There were 14 participants and for each day, they received an e-mail with new tasks. Table 3.3 below briefly presents the cultural probe outline for each day.

**Table 3.3:** The outline of the cultural probe

Cultural Probe outline	
Day	Aim & Example question/task
1	Create basic understanding for everyday life <i>E.g. Describe a usual day, from morning to night, using the timeline.</i>
2	Create basic understanding for living area <i>E.g. What do you like and dislike about your area?</i>
3	Create basic understanding for news and habits during crisis <i>E.g. Log all news channels you use during the day, using the timeline.</i>
4	Create understanding for user values <i>E.g. List the top 3 things you are proud of.</i>
5	Create understanding for media habits during crisis and trust levels <i>E.g. If you had the opportunity to ask a question to someone with a lot of influence, what would you ask and whom?</i>

### 3.3.3 Interviews about and with the user group

In order to understand the user group and their needs and behaviours in crisis, in-depth interviews were conducted both with individuals within the user group, as well as different spokespersons for the user group. The spokespersons were children to the user group, but also different individuals part of an initiative called Invånarguiderna (Resident Guides) who have insights into and contact with the user group. It was considered interesting talking to relatives and spokespersons, hence it sometimes is easier to talk about others than yourself, but also since the target group was difficult

to reach. There were five interviewees and they were found via the recruiting survey, different organizations and contacts.

#### 3.3.4 Analysis of phase 2: Affinity Diagram

The results from phase 2 were analyzed with an affinity diagram, as described in phase 1.

#### 3.3.5 Personas

In this master thesis project, the results from phase one and two was summarized through personas, a tool used to illustrate the users and their needs in an accessible way. Personas are fictitious characters based on the results from methods conducted during user studies. The persona may be considered a summary of the users and is often used with the goal of increasing the designer's empathy and understanding for the user and providing all participants in the project with a joint understanding of the user [18]. Nielsen [19], describes Personas like this:

*“A persona is a description of a fictitious user. A user who does not exist as a specific person but is described in a way that makes the reader believe that the person could be real. A persona is based on relevant information from potential and real users and thus pieced together from knowledge about real people.”*

*(Nielsen, 2019).*

First of all, a template was constructed to be used on all personas. As described by Nielsen [19], the personas should include an image, psyche, personal traits, background and emotions and attitudes towards the technology which in this case was considered crisis information. The template is presented in Figure 3.3 below. The template includes three section - a background section, a skills and personality traits section and a section including user stories and attitudes and habits regarding crisis communication. Nielsen argues that it is advantageous to have as few personas as possible, but enough to portrait the users. Since the given target group of this project is very heterogeneous, it was decided to construct six personas in line with Nielsen's framework to cover all users.

NAME

Quote representing the persona

INTRODUCTION

- Age
- Living situation including family
- Occupation
- Background

IMAGE

SKILLS AND PERSONALITY

- Personality traits
- Skills
- Extrovert/introvert
- Driving forces
- Linguistic abilities

DIGITAL CAPACITY
1 2 3 4 5
COMMUNITY TRUST\*
1 2 3 4 5
SELF-CONFIDENCE TO LINGUISTIC ABILITY
1 2 3 4 5
KNOWLEDGE IN SWEDISH CRISIS MANAGEMENT
1 2 3 4 5

USER STORIES

As a resident...

As a user...

During a social crisis, I think...

ATTITUDES

- Media habits
- Crisis information habits
- Crisis information habits in relation to relatives
- Attitudes during the Covid-19 pandemic

IMAGE

\*Community trust (swe: lokalsamhälletillit) is defined as trust in people and authorities in the area where you live.

miro

Figure 3.3: The template constructed and used for the personas.

#### 3.3.6 Context - Gårdsby

In order to put the personas in a context, a fictional metropolitan suburb called Gårdsby was constructed. A fictional context was chosen to reduce potential bias from the participants in the upcoming workshop, described in 3.4.1. The source of Gårdsby is defined by quantitative and historical descriptions [20][21][22] and anecdotes (Cultural Probe) of three metropolitan suburbs defined by the Police as Vulnerable Areas [3]. The areas - Angered, Biskopsgården and Husby - are located on the outskirts of the cities Gothenburg and Stockholm.

#### 3.3.7 Identified Problems

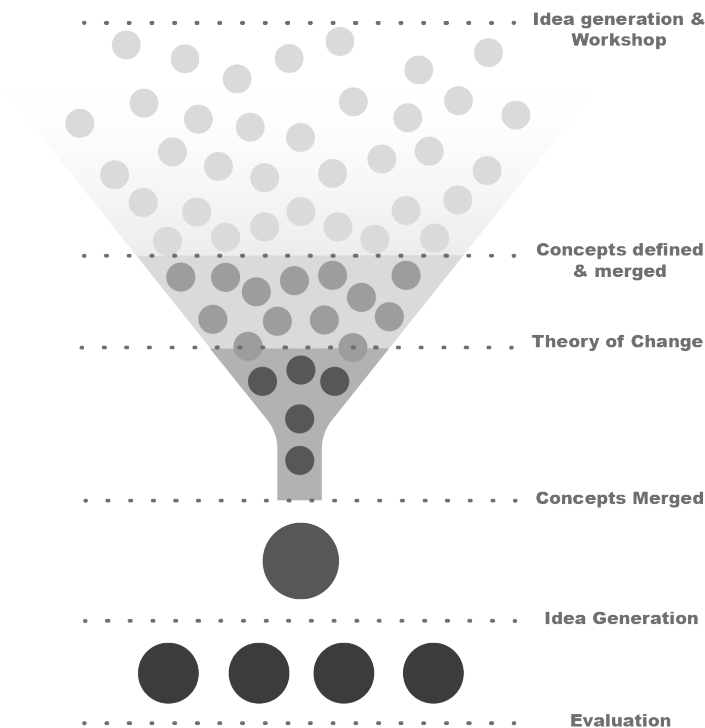
In order to analyze the root causes of the identified problems and visualize them, a fishbone diagram was used. A fishbone diagram is a causal diagram consisting of a "spine" that at one end has a "head" where the problem is entered, of "bones" that start from the "spine" and end in (possible) main causes of the problem and of smaller branches on the legs where increasingly detailed causes can be entered [23]. A template may be viewed in Figure 3.4.



**Figure 3.4:** Template of a Fishbone diagram

### 3.4 Phase 3: Design

The overall aim of the third phase was to develop design suggestions that solve the identified problems by generating a number of ideas individually as well as in participation with other designers. The design phase also contained evaluating and eliminating the ideas through the tool Theory of Change. Being an iterative process, the amount of ideas was at the beginning large and decreased step by step, in order to make room for more specific idea generations later on. All of which is presented in the following section and a schematic illustration of how the ideas were defined, merged, eliminated, may be viewed in Figure 3.5.



**Figure 3.5:** Schematic illustration for the iterative idea generation - and elimination process

#### 3.4.1 Workshop 1 and 2

The primary aim of the workshops was to generate many ideas with designers without any pre-knowledge about the area and thereby decreasing the risk of being limited by known problems or frictions. Furthermore, the workshops aimed at investigating if the content of the personas is sufficient enough for the designers to create empathy and understanding for the user group.

The participants were Industrial Design Engineering students at Chalmers Uni-

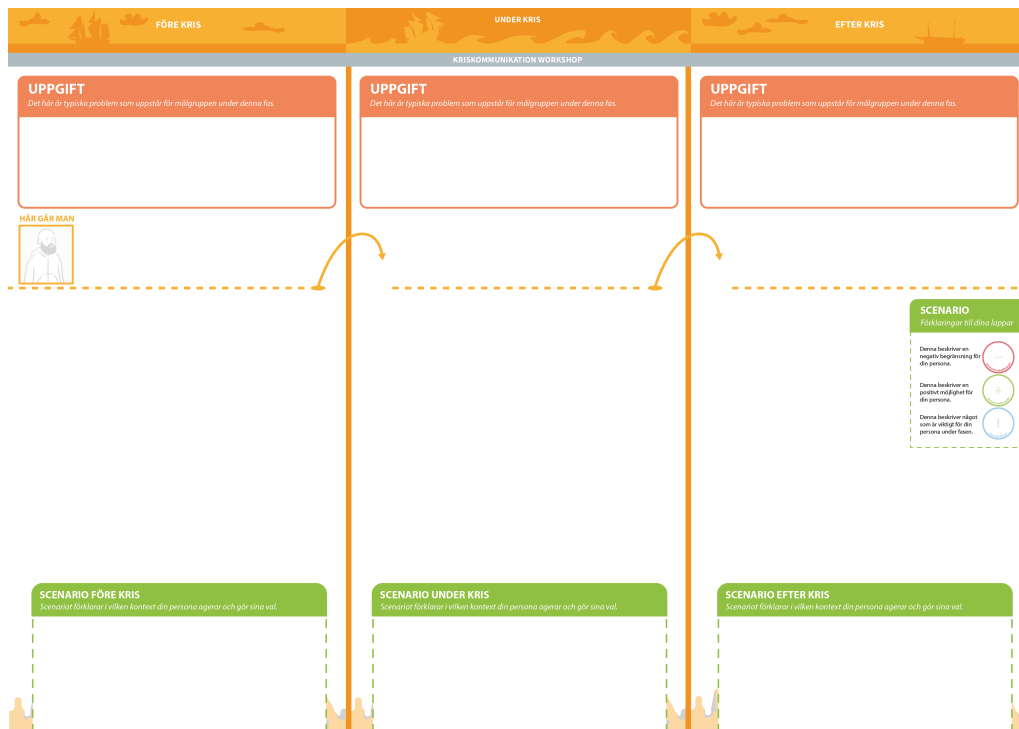
versity of Technology. They were recruited via posters at the Chalmers Campus, Facebook groups with Industrial Design Engineering students and through personal messages. Before the workshops, the participants were sent a description of the project, the workshop and the personas to be read beforehand.

The workshop was divided into two parts, conducted for one hour each. The reason was for the participants to get the chance to let the first part sink in before the idea generation. Another reason was that it was easier to recruit participants during lunch hours.

The first part was structured like a board game and inspired by the methodology User Enactment [24] and Use2Use [25]. User Enactments is a design approach that aids design teams in making conceptual leaps through the form of multiple enactments. Designers construct both the physical form of the social context of simulated scenarios, and ask users to enact loosely scripted scenarios involving situations they are familiar with as well as novel technical interventions designed to address these situations. The participants were familiarized with the personas and the context in the days prior to the workshop. Use2Use is a design toolkit that focuses on how to enable people to circulate products between users, i.e. from use to use. The toolkit aids development of products and services for circular consumption processes. Elements from this toolkit, e.g. note cards and reflective notes, were derived to fit a crisis context and aid the participant to reflect on the actions of the persona in a scenario. The elements of the board game and the texts given to the participants to introduce the workshop are presented in the appendix.

The board game in this workshop consisted of a game plan, persona characters and cards/sheets to write notes or sketch on, visualized in Figure 3.6. The board game was constructed with three phases; before a crisis, during a crisis and after a crisis and in each phase a square with the word “scenario”. The scenarios were defined as "physical" or "social" crises, meaning that they either treated an event that triggered physical response, e.g. forest fire or tornado, or one that created social unrest, e.g. riot or disinformation campaigns. First, the participants were each assigned a persona according to which they acted throughout the course of the workshop. Secondly, they were presented with a part of a scenario. Subsequently, participants were asked to write their personas’ possibilities, limitations, what their personas think is important as well as different thoughts and ideas during each crisis on the assigned cards/sheets. A new part of the scenario was presented gradually. The participants were asked to think for themselves but also discuss together after each phase. One of the authors of this master thesis moderated and the other one took notes of the participants’ comments and actions.





**Figure 3.6:** The gameplan used for the first part of the workshop.

The second part of the workshop was conducted the following day and started with a debrief and summary from the previous day. Thereafter, the ideating method 6-3-5 was used as described by Wikberg-Nilsson et al. [18]. This "conventional" method was chosen to generate a lot of ideas and to be familiar to the participants, not to get engulfed by additional rules and information. Each participant were given a piece of paper and were told to divide it into three sections. In five minutes, all of the participants were to write three ideas on the paper. Thereafter, the paper was handed to the person to their left, and in five minutes they were supposed to develop the previous person's idea. This continued on until all participants had made changes to all of the other participants' ideas. Afterwards, the ideas were discussed.

### 3.4.2 Individual Idea generation

The individual idea generation was performed by the authors of this report and conducted during several sessions. The main aim was to generate as many ideas as possible, without any boundaries regarding a physical, digital, digi-physical or service solution. Conventional idea generation methods were used, including Brainstorming, 6-3-5 and SCAMPER. All three inspired by the explanations made by Wikberg-Nilsson et al. [18]. Being conducted digitally, the digital tool Miro was used for ideation and storing ideas.

As the relative knowledge of the subject in this phase greatly differed between the authors and the participants of the workshop, the second aim was to more easily discern their evaluative depth and holistic understanding of the target group and

crisis communication with an already established group of concepts that are based on defined contextual problems. The workshop concepts could therefore be analyzed more nuanced.

#### 3.4.3 Sixteen concepts

All ideas - from both workshops and individual idea generations - were gathered. Similar ideas were merged and all ideas were clarified in to sixteen different concepts. The methodology *Theory of Change* [26] was performed as described below to objectively review the concepts and reduce the amount of ideas.

#### 3.4.4 Theory of Change

Theory of Change [26] is a design tool used to make decisions about which prototypes and concepts to take forward in a final service or product. In this project, the theory of change tool was used to reduce the amount of ideas by an objective review.

Firstly, the desired outcome from a new design was stated. Secondly, shifts from current problems to desired outcomes were listed horizontally and all sixteen concepts were listed vertically, creating a matrix. The most important shifts were marked with a star and the rest were not included in the compilation which was the next step. In order to find the concepts that to the highest extent drive towards the desired outcome, all concepts were reviewed against the listed shifts based on to which extent the concept fulfilled the shift. The grades were +1 for *Driving towards the shift*, -1 for *Not driving towards the shift* and 0 for *Perhaps driving towards the shift*. Five concepts with the highest grade passed, merged in to one and further developed in to four different variants, in the finalization phase.

### 3.5 Phase 4: Finalization

With the chosen ideas as a basis, the Finalization phase aimed at exploring several variations of the design, evaluate the ideas with experts and users and finalize the concept. This phase also aimed at listing user needs and design requirements for future design development. The ideating process consisted of brainstorming as described in phase 3 and finally resulted in four different small variations on the same basic design idea.

#### 3.5.1 Evaluation survey

In order to evaluate different design suggestions with communicators and other experts, a survey was created and sent out via e-mail to individuals contacted during the pre-study phase. The experts were professional communicators and managers within authority positions. The survey was forwarded to more instances than was initially contacted by the authors as it was deemed interesting and more stakeholders wanted to participate. Finally, eight communicators were reached. The survey included questions about the respondent's role, impression of the design, what they

think could work well and less well and also some variants on the design and follow-up questions about those. The template is presented in Appendix A.

### **3.5.2 User Needs and requirements**

Based on results from phase one to four, user needs for all users taking part of the given design was listed. Also, requirements for technical elements of the given design was listed, for further development.

### **3.5.3 SWOT Analysis**

SWOT analysis is a technique used to help a person or organization identify Strengths, Weaknesses, Opportunities, and Threats that an organization, design or concept may encounter in both internal and external contexts. Strengths may enhance performance while weaknesses may inhibit performance. These are internal and within the control of the organization or concept developers. Opportunities may enhance, and threats may inhibit performance. However, these are outside the control of the organization or concept developers [27]. This technique was used in this project to identify the Strengths, Weaknesses, Opportunities, and Threats of the design solution.



# 4

## Results

In this chapter, the master thesis results and analysis is presented. The result is presented in the same order as in the methodology chapter and thereby following the order of the four phases.

### 4.1 Results from Phase 1: Pre-study phase

This section presents the results from the pre-study phase and begins with results from the exploratory literature study, followed by results from expert interviews. As described in Methodology, the exploratory literature study had a snowballing approach and the four areas chosen in the beginning to investigate further were Crisis Management in Literature, Language and Communication, Crisis and Language Through History and lastly Social Trust in Sweden.

#### 4.1.1 Crisis Management in Literature

This section addresses crisis management from an organizational, strategic and directly involved perspective. It also discusses the implications of culture on crisis communication and presents alternative strategic routes to the current Swedish model.

##### **The hierarchical Swedish management system**

Literature presents a norm for centralized authorities and organizations to deliver one-way professional communication through traditional mass media channels. The logical response to make this system effective is to build a centralized and tight system to gain control over message formulation and transmission [28]. The Swedish State currently utilizes this strategy with an hierarchical structure to deliver coherent messages from state level to municipal levels [29]. However, there is still a lack of unified analysis and response to the disaster or crisis. This leads to a less than optimal use of combined organizational resources. The argued contrasting strategy to this is a pull culture environment, where the messages are not solely in the hands of a centralized communication group, but also other actors using social media. This part of the “new media environment” is still considered novel and a risk factor for “social unrest”, nevertheless, the perks of applying a form of this strategy have been acknowledged and is suggested to research further according to literature published by MSB [30]. Such centralized structures may not be the most appropriate in times of crisis as they have a tendency to create bottlenecks in terms of information flow

and decision-making power as they diminish the possibility of flexibility and speed in which they reach their target audience. Further, these structures have a higher tendency of neglecting instances with relevant expertise and therefore diminish the possible effect of the produced message [31].

### **Crisis management in the new media environment**

In the new media environment, trust is the new currency and people expect authentic transparent conversation in a human voice, not company messages delivered in a corporate tone. From a democratic perspective, there is a risk that the extensive use of market-driven top-down communication, which stands in contrast to symmetric dialogue, undermines citizens' trust in public organizations [32]. With the rapid transmission of social media, a negative dialogue or a wrong time to interact might quickly arouse a social-mediated crisis instead of preventing the risk. This action requires a deeper understanding of reputation-oriented communication and operational communication, and how these two can be carried out in a pull media culture by extensively using new media technologies.

Crisis communication scholar Eriksson [32] argues that we are entering a new paradigm where the role of strategic crisis communication is diminishing because of the increase of improvised online activities conducted by experienced operational experts who often are the ones closest to the event.

Some new Disaster Risk Reduction (DRR) models define that alternative routes for crisis communication in the new media should allow for more organic organizations [32]. Monitoring, analyzing and understanding stakeholder's needs and desires in crises might be the first step before making any decisions on crisis responses. There is currently a lack in audience-perspective research on this matter.

Again, looking at alternative systems to the centralized top-down system, there is bottom-up crisis response. This addresses the area of community resilience and citizen involvement. Swedish approaches are primarily focused on consuming information in the pre-crisis phase, rather than on producing information and engaging citizens and affected experts in the response phase. It is also stated that it is important to promote joint projects involving both community members and experts. There might be negative consequences for resilience to rely on a single strategy as this inhibits the adaptive capacity. A large number of studies underline that emergency management agencies should take advantage of citizens' active participation during extraordinary events. There are several ways in how this could be expressed, e.g. the strategic collection of skills, knowledge and experiences during the pre-crisis phase. However, a too large abundance of volunteers may make the work of emergency personnel more complicated unless a strategy to harness their engagement and involvement is planned in advance [33].

### **Crisis perception and culture**

Culture seem to influence crisis perceptions and interpretations, and even local crises have the potential to trigger multicultural effects. Therefore, multiculturalism poses a challenge to crisis communication. Multicultural approaches to this area are underdeveloped in literature. From the perspective of international crisis response intervention, local communicators and social leaders could act as a mediator, adapting messages and providing channels of communication. These actors can be viewed as facilitators and can be in the form of private companies, volunteer workers or Non Government Organizations. These may relay information from a centralized authority communication system to locally affected multi-cultural areas. Scholars pose a relevant question looking at the issue from an organizational point of view. They question if the increase in geographical and social distance makes communicators more sensitive to the cultural diversity of the message recipients or if they rather take for granted that those who live and work in the country are assimilated into the local language and culture [34].

Generally, crises require a short response time, even shorter during the new media environment. Meanwhile, intercultural communication requires empathetic engagement, active listening, and reviewing one's own cultural views to understand the perspective of others [35]. It is then fair to argue that some of the best practices of crisis communication contrasts the best practices of intercultural communication.

#### **4.1.2 Language and Communication**

This section addresses language and its effect on crisis communication. It also outlines the potential and risks of social media in the context of crisis communication.

Communication through multiple languages is seen as a possible inhibiting factor in concisely delivering a message to a given receiver. Further, language barriers may decrease work efficiency since it makes communication time consuming which in turn may increase frustration levels and decreases empathy [36]. Alternative possible solutions to improve communication in such a context promotes a culture of multilingualism. This includes language education as a part of professional development.

The new media environment, described in the previous section, implies novel channels of communication and limited documentation on how they are used during a crisis. In times of crisis, the two largest platforms, Facebook and Twitter, have previously been assigned distinguishing characteristics by communications professionals and citizens regarding their use and perceived usefulness. The parameters describing their particularities are not congruent nor consistent between the two groups. Communication professionals report more far-reaching visions and perceived usefulness regarding Facebook's potential as a strategic tool. Similar results can be seen regarding Twitter. That is, different people, belonging to different demographics will assign separate characteristics, benefits and drawbacks to the same social media platforms. In practice, social media congruence in larger populations will be

hard to achieve. The literature concludes that the fluidity that characterizes social media will likely shape the conditions for future crisis management and strategic crisis communication [37].

A study reviewing Twitter messages and communication tools during the Asiana Airlines Crash Crisis in South Korea substantiated previous research on the subject of social media and its use in crisis communication [38]. The review compared the Company's crisis communication strategies conveyed to two different national and cultural populations, South Korea and the USA. Conclusively, the result showed that a passive response allows others to "own" the situation on social media platforms as well as to redefine the crisis narrative for the public. Through different means of communicating crisis messages, the two populations likely defined the airline crash crisis differently. The study highlights that the passive response reflects unrealized potential of social media.

In the new media environment there are several possible strategies to improve the role of social media during future crisis scenarios. An important role of social media is fast communication through appropriate channels. Due to the fluid nature of such platforms, disinformation occurs often, and therefore it is important to counter such communication quickly to prevent disinformation [28]. First, the crisis communicators and the public need to be trained in how to properly evaluate social media resources. Currently, there is likely an incongruence between the two which causes risk of online information communities that do not overlap, creating a surge of alternative information that is based on hearsay, bias and contradiction. This bodes the way for a larger platform of social unrest. One approach for this could be tutorials and educational online applications with examples from social media. Another approach could be to vet outlets by a third party to ensure accurate information. It should also be easy to reach experts in times of crisis. Communication platforms should be fit for all groups within the public and should be adapted to fit the users. In this, the limitations of social media needs to be taken into account and that due to its free speech nature, not all information can flow through it [29][39].

### 4.1.3 Crisis and language through history

The following section presents past crisis effects on current communication and historical development and inclusion of culture and language in user study tools.

#### **Past crises effects on current crisis communication**

Whether an organizations' previous crisis events influences external perception of that organization is a field that has been discussed in many instances and contexts with differing conclusions. Depending on the industry, the public's perception will likely vary. If a corporation experiences a crisis and resides within an industry with a history of similar crises it is likely that such an extra-organizational crisis history will protect that corporation's reputation more than an unknown crisis history [40]. This follows the Velcro effect, which states that a positive performance history, i.e. a halo, does not help an organization when faced with a crisis, but that negative per-



formance history will still be associated with an organization during future crisis [41].

Further, a history of similar crises within the corporation may intensify the reputational threat of a current crisis even if the event was accidental or intensified due to the victimization of the organization, contrasting to an event that transpired due to the organization's intentional acts. The reputational threat is then rather direct, through perceived responsibility for the crisis. Corollary, an organization that had no history of past similar crises versus those for whom there was no available information the difference in perception was minimal. This is likely due to the fact that the public expects organizations to operate safely. When news outlets do not present previous crises within a company, stakeholders are likely to presume that there were no past crises. Research on this subject should adhere to a framework of crisis definitions, e.g. micro- and macro level events. Absence of a crisis is always the best defense against reputational threats [40].

### **Intercultural Personas**

Personas, as described in the methodology section, are portrayed as mainly researched on development and use, less on their validation and effective value for product development. This is especially reported when the personas and their use concern contexts and cultures far away from the design context. A participatory design approach may reduce these problems, by including validation in the participatory process. There is also an issue of creating a sense of ownership, which such a design approach may also solve. For a group of people to adopt and use a solution, most prominently technological, a sense of ownership is often beneficial [42].

The reason why it is difficult to validate personas in an unknown context is often due to a lack of familiarity. This often applies where the context is socially, culturally and geographically unknown to the designer. This is why developing and using personas as a tool may be especially useful when designing for a foreign culture.

Miaskiewicz et al [43] illustrates an approach to developing personas that combines quantitative and qualitative research. An application of the approach led to the resulting personas gaining organizational credibility and adoption. This credibility allowed the personas to be centrally integrated into the product development process and adopted by the broader corporate culture. One of the benefits that the company experienced was an increased focus on user needs when making design and development decisions. The organization uses interaction data points to define user attributes. They use Cluster Analysis to identify user segments. They also incorporate qualitative research to create deep and meaningful personas that are applicable to the corporate culture. This is a way to empathize with a cultural Target Group to which the designer does not belong [44].

To further address the limitations of qualitative data from “traditional” persona development, a UX research team presents a quantitative bottom-up data-driven approach to create personas. They incorporate use behavior via telemetry data related to actual products in the field, i.e. the personas are based on large data

samples. By doing this it is possible to better understand a user's behavior, goals, needs, wants and frustrations. However, data that does not directly relate to the user's behavior tends to weakly reflect a user's actual workflow, and may be outdated as the workflow strategies and tendencies evolve. [45].

### 4.1.4 Social Trust

Many researchers agree that trust acts as a social glue that holds together families, communities, organizations and companies [6], [7], [8]. The term Social trust has often been described as (1) General, for people in general and (2) Particular, for people you already know. In his book from 2013, Lars Trägårdh presents research about Swedes' Social trust through a new, third dimension, namely (3) Local Community Trust (*English translation from the Swedish term: Lokalsamhälletillit*). Local community trust is a product of experience in a defined area where you live and may be used as a tool to carry out an analysis that can offer a more in-depth understanding of the trust's roots and character and the conditions under which it can flourish and be preserved or undermined and destroyed [9].

Generally, Sweden has a high level of social trust in comparison to other countries. However, there is a significant difference in level of Local Community Trust between different municipalities and local areas. Consequently, the researchers present three different main aspects for trust in Sweden; Geography, Inequity and Diversity. The following section presents a summary of the factors that affect trust in relation to these aspects and how the Local Community Trust differs in Sweden and why. [9].

### Geography and Local Community Trust

Swedish municipalities are at the center of the investigation of trust in relation to geography. Trägårdh et al. point to the importance of social ties linked to the local environment and business structures in order to feel trust. A high level of local community trust may be reflected in the fact that it is easier to get citizens to cooperate to solve local problems, while lower levels of local community trust may to a greater extent be characterized by having higher degree of difficulty to get people to cooperate locally

Statistically, municipalities with a high level of local community trust have relatively few inhabitants and the business community is characterized by a low proportion of employees in industry and the income differences are relatively small within the municipality. Municipalities with low local community trust, on the other hand, are characterized by economic inequity and higher immigration. The surveyed municipalities with the lowest local community trust belong to the metropolitan regions of Stockholm and Malmö.

Economic structures seem to be important since people in societies with a high degree of economic inequity and with a larger proportion of employees in industry tend to have lower local community trust. These may be cities that have had a history of a large dominant workplace, such as an industry, which characterizes the

locality long after the workplace has decreased in size or no longer exists in the locality. A collective memory is created, a story about the local place, which can live on for a longer period of time by, among other things, parents passing the story on to their children.

Furthermore, the design and condition of the residential area also seem to affect social trust. Security and insecurity are phenomena that are intimately intertwined with trust and lack of trust respectively. Areas that are littered or where the maintenance of buildings is neglected can affect security and also trust. Furthermore, social networks and meeting points are important to create social ties and build trust.

Overall, these connections indicate that the communities that are characterized by a high degree of local community trust are also communities where citizens feel relatively safer, where they pay more attention to each other and where residents feel connection to and a shared responsibility for what happens in their environment.

### **Inequity and Local Community Trust**

The theory that inequity affects trust is based on theories that it is easier to trust people who are similar to oneself than people who are different from oneself. Based on these theories, humans are considered to have an inherent aversion to heterogeneity or difference. Anything that increases the social distance between the people in society tends to destroy trust while anything that decreases the social distance tends to increase trust. There is a general negative link between economic inequity and trust. However, it would be too simple to state that differences in income make people more different from each other and thus less trusting. The greatest variations in local community trust seem to exist to a greater extent precisely at a more local level.

The authors point to three variations of inequity, namely (1) Difference (Swe: olikhet), (2). Perceived Injustice (Swe: upplevd orättvisa) and (3) Area Poverty (Swe: områdesfattigdom). Research shows that the negative outcome of low income was based on a sense of injustice rather than on actual inequity. This interpretation was further supported by analyzes which showed that the effect of income was only found in those who stated that they believed the income distribution in the municipality was far too unequal.

The most statistically robust explanatory factors for local community trust and general trust, however, turn out to be a residential area's relatively low income level compared with other areas within the same municipality. Thus, trust in the local community and in people in general decreases both because individuals themselves are low-income earners and because living in low-income earner areas causes these differences. In line with this, possibly the groups with lower incomes could perceive themselves as being treated unfairly and thus a lower level of trust could follow. One can also expect a sense of injustice affects low-income earners more than others, because according to this reasoning they belong to a group that probably feels that they earn less than they deserve. At the same time, the importance of taking into account inequalities between different areas as well as inequalities within areas

is emphasized.

### **Diversity and Local Community Trust**

Even though "immigrants" often are spoken of in general terms as if they were a homogeneous group, this does not correspond to reality. The immigrant population itself is very heterogeneous when it comes to, for example, the level of education and the proportion of employed. Immigrant-dense areas have (with few exceptions) a multi-ethnic character. The effect of increased diversity on trust and social integration is complex and open to different interpretations.

About 60 percent of the foreign-born and people with a so-called immigrant background live either in the larger cities or in their suburbs. The remaining 40 percent is relatively evenly distributed across the country. The proportion of foreign-born is therefore more extensive in metropolitan areas.

As previously stated, Sweden is a high-trust society and the people in most (non-Nordic) countries that constitute the most apparent countries of origin for immigration have generally seen lower levels of general trust. The researchers state that different groups have different social norms and different views on which behavior is appropriate, the consequence will be that cooperation and trust are less likely.

Many immigrants in Sweden, especially refugees, come from countries with lower general trust, even much lower trust - and here it is appropriate to remind that Sweden is a high-trust society. These immigrants can be assumed to have been brought up to trust others to a lesser extent than people in general do in Sweden.

Furthermore, perceptions of justice can have an impact in several different ways. Minority groups may perceive themselves as being treated unfairly, and this can directly affect their willingness to trust others. Furthermore, large social distances and cultural differences between groups can increase skepticism between the groups, and thereby it becomes more difficult to create and maintain common social norms.

Overall, the results show that there is a negative relationship within the municipalities, meaning, if you live in an area characterized by diversity, the levels of trust are on average lower. The results also show that local community trust decreases for both foreign-born and those born within the country. Immigrant-dense housing areas are often characterized by the fact that the inhabitants have low incomes and that the housing is to a large extent municipal. It is therefore possible that the negative correlation is caused by such factors.

### **4.1.5 Results from Expert interviews**

The following section presents the results from interviews with experts and communicators. The result is divided into categories based on those that appeared during the Affinity analysis.

## Target Groups

Regarding target group-adapted information, all interviewees found it difficult to reach individuals in vulnerable areas. Additionally children and elderly were mentioned as being difficult to reach for different reasons. Children, because they use other digital platforms than those the communicators use and elderly because they do not use digital platforms to the same extent. Partly the youth is missed because they are not actively addressed and there is a view among some communicators that the youth are nonchalant to their messages. When asked if the communicators have a geographical division of target groups, they generally answered no - instead it is more common to divide by demographic - but mentioned despite this that individuals in vulnerable areas within the municipality are difficult to reach. Several interviewees mentioned that the difficulty in reaching individuals in vulnerable areas probably is due to more reasons than linguistic - it may be due to the fact that the individual come from countries where there generally is a lower level of trust for authorities. However, the main reason is thought to be socio-economic. *“The older generation of immigrants is better documented than the new generation. They can be foreign-born or of foreign families. Together they represent 30% of the Swedish population. Very few of these people are part of SCB statistics, or user research statistics. Decisions are often made based on majority perspectives when developing new models, services and products.”*, says one marketing communicator. One communicator describes that as marketers, they do not have sufficient data on these minority groups and it is hard to compile. Some groups are unsure and unfamiliar with the government structure and which instances are available - including what they do and can offer individuals.

## Social Media

The interviewed communicators mentioned that they use the municipality webpage and social media pages to reach the public. All interviewees mentioned Social Media is an efficient way to reach out, but their methods and opinions on how to answer questions or comments in Facebook posts differed. There are also thoughts that Social Media should not be used in the initial phase of a crisis as it requires too much resources to moderate. One interviewee felt it important to be transparent and answer all comments, whilst another said that their policy was to never answer comments. Several interviewees mentioned that individuals with foreign cultural backgrounds living in vulnerable areas are difficult to reach. Some communicators mentioned that they, as communicators, in some sense become “lazy” and “comfortable”, when thinking it is enough to post information in Social Media and at the same time knowing they do not reach everyone.

## General Difficulties

Some common issues were highlighted by the interviewees. For example, all interviewees mentioned that it is important that the public have confidence in authorities and that vulnerable groups often have a lower level of confidence than the average. Many communicators referred to the issue of adapting the information for certain

groups, to a lack of resources. They also mentioned that there is a mental model within the public that there always is electricity and internet. The same goes for communicators in some sense, hence they mentioned uncertainty of how to communicate messages when there is a power, and possibly, internet outage.

### **Plain Language and Translations**

All the interviewed communicators mentioned they sometimes use "Plain Language" in their crisis communication and that they have templates and frameworks to use. Plain Language is a framework for texts in simple Swedish that is meant to reach a larger portion of the population. Regarding translations, there were different opinions on whether or not the information should be translated. Some mentioned that the target group wants to learn Swedish, and translating may therefore be counter-productive. It is also resource-intensive to translate information. The communicator is often forced to leave the message in the hands of a translator and have little to no control if the information is correct or not.

### **Power Failures**

The general consensus from the interviews on Municipal and CAB levels is that there are flaws in the current strategy if a large-scale power failure were to occur. Many crisis communicators express that they will have to resort to very limited physical communication if that were to occur and that strategies about where to physically gather if the citizens want to receive updates are outdated and poorly communicated. There is, however, continuous work to improve this. The communicators often feel paralyzed and have difficulties feeling heard. They express that radios are essential for much crisis communication but that the citizens are not inclined to use them as an everyday information channel. Several interviewees indicate that SMS-systems are on the rise in the future.

### **Homogeneous organizations**

The crisis communicator group does not commonly belong to all the demographics or target groups of the society. This creates non-representative bias to what is deemed appropriate to communicate. This translates to what services or organizations the instances utilize when organizing informational campaigns. They collaborate with marketing companies that they believe have the perspectives that are needed but that is not the case. This in turn results in a loop of poorly targeted information campaigns.

### **Ignorance within Municipalities**

It has been considered, independently by several interviewees, that there is a lack of municipal analysis of their citizens. However, there is available open statistics that are not used to adapt communication to specific demographics. Therefore, the problem is not considered to be a lack of money or resources. Instead, the funds that are available are not used effectively. Conclusively, there are voices among the communication community seeking a behavioral change of citizens to

perceive authority communication in a way that aligns with their own vision of their contribution during a crisis, but there is little evidence that such strategies are in the works on a national level. *“There is a need to understand groups within communities. How do they work? What behaviors do they have? If that is understood the municipalities will have a much easier time to communicate.”* one interviewee proclaims. Another states that there needs to be a more inclusive structure to make a behavioral change. There is a difference between forcing and inducing behavior. Filter bubbles exist among specific groups within the society, but the idea that they solely belong within vulnerable groups, they say, is wrong. They exist within all socio-economic levels of the society.

### **Flaws in Authority Collaboration**

The studies have shown signs of friction among collaborating authority instances. Larger city regions have wider co-operations to make a clear picture of the situation compared to smaller regions. If there is a risk of large societal impact, crisis meetings will be arranged between many actors, regions and authorities. Historically when the crisis has concerned a private company, e.g. an electric company, the communication has been more effective when disregarding the county administrative board (CAB). During the pandemic there was frustration within municipalities because they received little information on the decisions made on higher levels. One interviewee reminisces that orders could come on a Friday evening to then communicate new information on Monday. There were signs of information vacuums as the deadlines could change rapidly and there were times where little information was communicated to the public.

### **Organization during crisis**

There are overall guidelines on how to organize during a crisis for different authority instances. However, they differ somewhat depending on several factors (e.g. geographical location, region size, homogeneity and number of citizens). All levels have a WIS-system (web-based information system) where they share information and can triangulate events during a crisis. It also functions as a log book. The Police Authority organize in specific crisis groups during the event of an extraordinary incident. They emphasize that, by experience, they have learned that communication is the core of everything and should be involved early and fast to reduce rumors. Rumors are hard to reduce in the hands of the public. In the early events of a crisis media is seen as a positive co-force to reduce side effects, e.g. rumors. This may change as the crisis progresses and more sources take part in the information-sharing. MSB is mainly responsible for mediating information pre-crisis. This phase emphasizes trust in the communication. Municipalities have no direct contact with MSB - the information flows through the CAB. They are the link between the higher instances, e.g. MSB, FHM and Socialstyrelsen. The hierarchy has been described as “Government - MSB - CAB”. The TIB (English: Civil Servant on Standby) is the first point of contact for most government instances during a crisis. Each municipality and CAB have their own standby. They often receive the first message from the source, e.g. SOS.

### Trust in Crisis Communication

The general attitude within the Swedish Crisis Communication organization is that everything communicated should be fact-checked and correct to keep a high trust in the information. All communication should be assumed to create trust for the municipality, the brand, and the authority crisis communication as a respectable source of information. Most instances measure trust and make evaluations after each incident. However, the communicators express that it is difficult to analyze what is good or bad about the communication specifically. Most instances also want to take the lead in communicating an event or crisis to positively affect the trust in the source and minimize disinformation. Nevertheless, there are no national guidelines nor sufficient resources to continuously do this over the whole course of each incident with satisfactory results. Some communicators explain that depending on the national-cultural background of the communication recipient, the trust in authorities may be lower. They also express that there are some community groups that actively try to lower the trust in authorities and government instances.

A crisis communicator reflected on the situation of the target group. They asked, *“Who mediates the situation to them and how is it understandable? Maybe a way is to take advantage of the people that are the link between the local community and authorities. These are things that we need to do better.”*

During the pandemic, the constant changes in information directions have made it difficult for the municipalities to sustain a high level of trust in the eye of the public. There have been internal struggles. Most municipalities do not mediate their own information, but relay information only from higher instances. This makes flexibility and adaptability difficult.

One comment pinpoints the success factor in communicative trust - how it is transmitted to those who are affected by the crisis, also to counter misinformation. Thirdly, to mediate information continuously, even if new information has not occurred, to reduce the spread of rumors.

One marketing communicator, independent from authority communication, states that the creation of trust has never been a target aspect in Sweden. They said that *“politics has always been assimilation and not inclusion, and that strategy does not always bring good things.”*

One communicator states that the large differences between levels of trust in Swedish society is largely founded in education and socio-economic status - not specifically country of origin. The public majority also has groups of filter bubbles due to the large influx of digital channels, not only the target group.



## **Disinformation**

The general consensus is that disinformation is hard to handle, especially if the channels that such information is portrayed can take form in multiple languages. Many communicators use the strategy to, in detail, tell their view of the crisis or incident at hand. This is to reduce rumors. The same communicators have seen a decline in rumors if they are first to describe the event.

One communicator states that there is no use to try to deny disinformation in Arabic, as there are no resources to effectively do so.

Some communicators do not publicly deny disinformation or try to reduce inaccuracies, hence the perception is that it is more effective to stay silent. Similarly, some communicators do not seek disinformation and only try to rectify a narrative when it gets within their sphere of communication channels. The objective is then to relay authority information and not formulate messages on their own.

The core rule is to be clear, concise and short, and give the citizens the possibility to learn more from the responsible authorities, alternatively, guide them to misinformation.se. Speed and regularity is emphasized. Conclusively, disinformation is handled very differently depending on which authority instance receives it, and what resources they have to handle it. There is no overarching national framework.

### **4.1.6 Summary of Phase 1 results**

This section summarizes the learning outcomes from phase one, including the literature study and the expert interviews.

#### **The hierarchical Swedish management system**

Interviews show that the current system seems to lack dynamic reach of the heterogeneous group that is Swedish citizens. This is partly due to the fact that a larger portion of the communication instances are homogeneous organizations which tends to create non-representative bias to what is deemed appropriate to communicate. This translates to less effective services and informational campaigns when reaching out to the public as the receiver may have difficulties effectively perceiving the message or even be reached by the message. There are signs of friction among collaborating authority instances during periods of longer crises when many actors, regions and authorities are involved. Frustration occurred during the pandemic because the hierarchical order of information sharing meant that some municipalities experienced delays and received little information on the decisions made at higher levels until it was practically too late to act.

#### **Social media and the digital shift in crisis communication**

Seeing the rise of digital media as a major part of crisis communication, the two large groups of children and elderly are often not reached by important information,

even though they are mostly sufficient, or able to, use digital communication. This leads back to literature, that different groups likely assign differing characteristics and qualities to the different types of media platforms that are most common. The youth demographic does not generally look for crisis information, and they are not as represented on the platforms that are used by crisis communicators. Instead, they have a larger presence on other platforms. This is known by most crisis communicators, however, they do not have the skill or resources to reach them. The elderly demographic are instead not aware of what resources are available on the internet and use them to a lesser extent.

### **Past crises and how it affects trust**

The standard for the Swedish crisis communication organization is to always perform a needs analysis after every special event, or crisis. However, it is conveyed that this analysis is not always effective as it is portrayed by many interviewees that it is difficult to discern what is good or bad about the information that they mediate. There is also a perceived difference of demographics regarding this. The interviewees express that depending on the national-cultural background of the recipient, the trust may be initially lower independently of past crises. What is considered a past crisis by the citizens is also very different depending of what social and historical context they belong. Literature highlights that there is no significant benefit, or "halo" effect, to an organization even if information indicates no past crisis. A possible explanation for this is that people expect that organizations will operate safely. However, extra-organizational crisis history, i.e in this context that could mean crises within other authority organizations, protected the reputation of organizations more than an unknown crisis history. Contrary, a history of similar crises intensified the reputational threat of current crisis even though the organization was not at fault, e.g. if due to an accident. This indicates that it is important to repair historical crises within an organization even after the event has transpired. Again, the perceived trust may greatly differ between demographics. Therefore, it is important to reach and target the groups that especially experience a low trust in the crisis organization to minimize the distribution of rumors and disinformation, and finally highlight that trust is difficult to maintain independently of the public's cultural or social belonging, especially regarding organizations that mainly orchestrate disaster reduction strategies as they are constantly vulnerable to criticism.

### **Quantitative data-driven approaches to creating personas**

A lack of familiarity often applies to situations where the context is socially, culturally and geographically unknown to the designer, or in this context - the crisis communicator. Personas as a tool could therefore be especially useful when designing for a foreign culture. Further, combining quantitative and qualitative research, the personas may gain organizational credibility and adoption. In this scenario, where communicators often belong to a homogeneous context this may especially be valuable. From expert user studies it is shown that it is uncommon for the crisis communicators to belong to all the demographics or Target Groups of the society. This creates non-representative bias to what is deemed appropriate to communicate.

Literature describes a possible effective quantitative, data-driven approach to creating personas where use behavior is incorporated through telemetry data related to the actual field, i.e. the personas are based on large data samples.

### **Social Trust and its effect on crisis communication**

A high level of trust is considered important both in interviews and literature, to effectively convey a message. Literature shows that an ability to be transparent and take responsibility for a crisis is positive. Interviewed communicators are positive about this and explain that such a strategy has effectively improved the trust in their communication. This relates to literature showing that a maintained high confidence in the communication channels will reduce negative effects of future crises, especially relating to trust. It is especially confidence-inspiring for the message receiver to be able to retrieve feedback from questions and concerns arising during a crisis. The Swedish communication system rarely allows sufficient two-way communication and therefore the arguments presented by the communicators that do not want to participate in online discussions, seem contrasting to what they want to achieve, namely a complete trust in their communication. This could be due to an insecurity to not always convey a message in line with communication directives from higher instances. This relates to the flaws in authority collaboration, that there is friction among collaborating authority instances. There is a characteristic difference between larger and smaller regions in this regard, where larger regions have a wider and more structured co-operation on a national level.

### **Disinformation**

Interviews with communicators convey that it is considered difficult to handle disinformation and that there are insufficient resources to do so. The general framework for crisis communicators is to be clear, concise and short in all their communication and mediate informational sources where the receiver of the message can learn more. Speed and regular message intervals are emphasized by the experts. This is supported by literature due to the fluid nature of digital platforms and the high risk of disinformation blooming if no accurate sources exist. However, literature also points to communication through appropriate channels, i.e. reach the audience through platforms that they normally visit. It is also important to underline the limitations of digital platforms and that due to the free speech nature of it, not all information can flow through it without being affected by external commentary.

### 4.2 Results from Phase 2: User Understanding phase

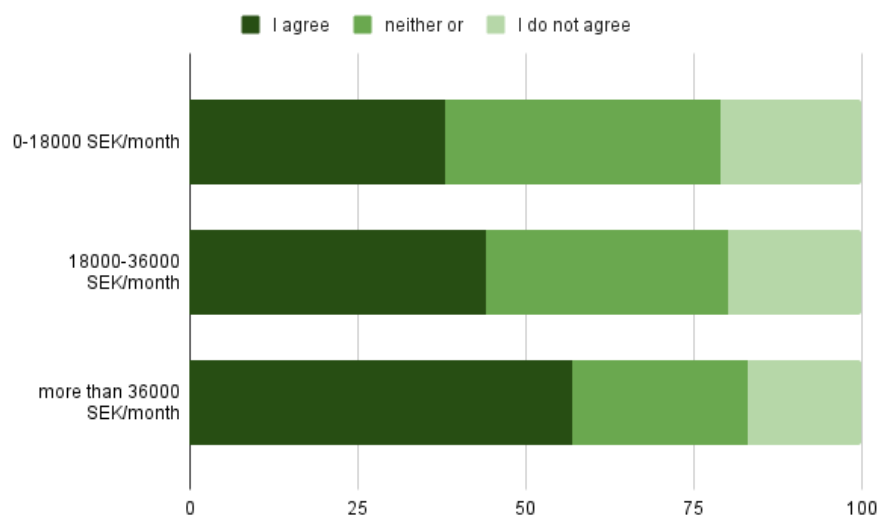
The following section presents results from the user understanding phase, which consisted of a digital survey, digital cultural probes and telephone interviews and was summarized in six different personas and ten identified main categories of problems.

#### 4.2.1 Results from Digital Survey

The survey resulted in both qualitative and quantitative data from 92 participants. However, the majority of the result consisted of quantitative data, which was divided and analyzed in three parts; Level of Income, Level of Education and Origin/Mother Tongue.

##### Level of Income

The majority of the respondents answered they had an income of 18000-36000 SEK per month. The number of respondents that had lower and higher income respectively were similar with a small predominance of respondents with a lower income level. View the statistics about the income level amongst the respondents in Table 4.1 The results presented in Figure 4.1 show that higher levels of income seem to correspond to a higher trust in authorities telling the truth during the pandemic.



**Figure 4.1:** Statistics on the respondents answer to the question "I trust that the Swedish authorities have been truthful during the pandemic".

**Table 4.1:** Statistics on respondents' level of income in the digital survey

Level of income	
Level of income	Nr of respondents
0-18000 SEK/month	25
18-36000 SEK/month	45
36000SEK/month or more	22
Number of respondents	92

### Level of Education

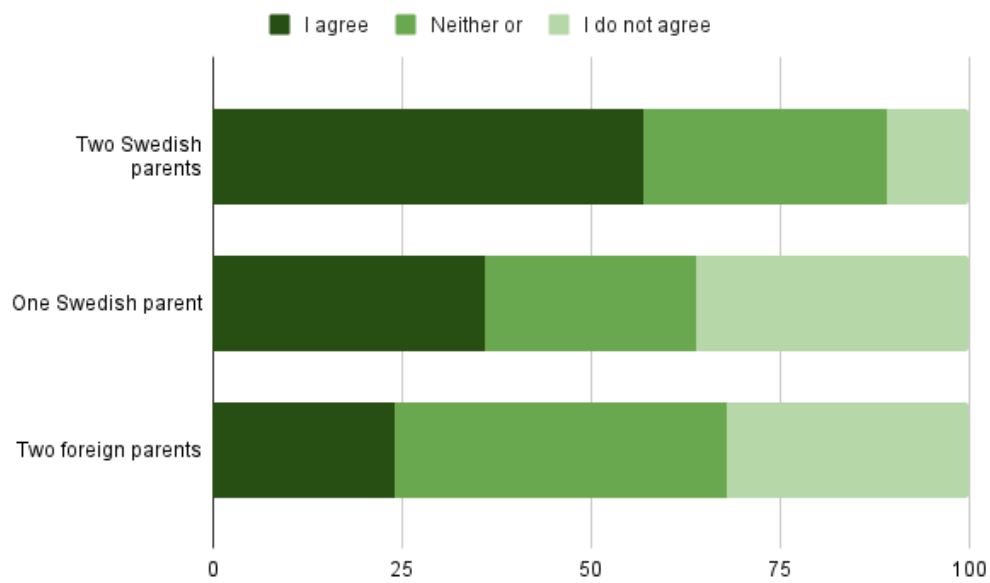
The majority of the respondents had a university education or similar. The next biggest group had an exam from upper secondary school (Gymnasium) or similar. Individuals with another level of education were very small. A larger proportion of the respondents with an upper secondary school education or higher answered that they trust that the Swedish media told the truth during the pandemic, but those with a lower level of education answered to a greater extent "neither or" or "I do not agree". However, the proportion of respondents with an education lower than upper secondary school was very low and the result should therefore be considered critically.

**Table 4.2:** Statistics on respondents' level of education in the digital survey

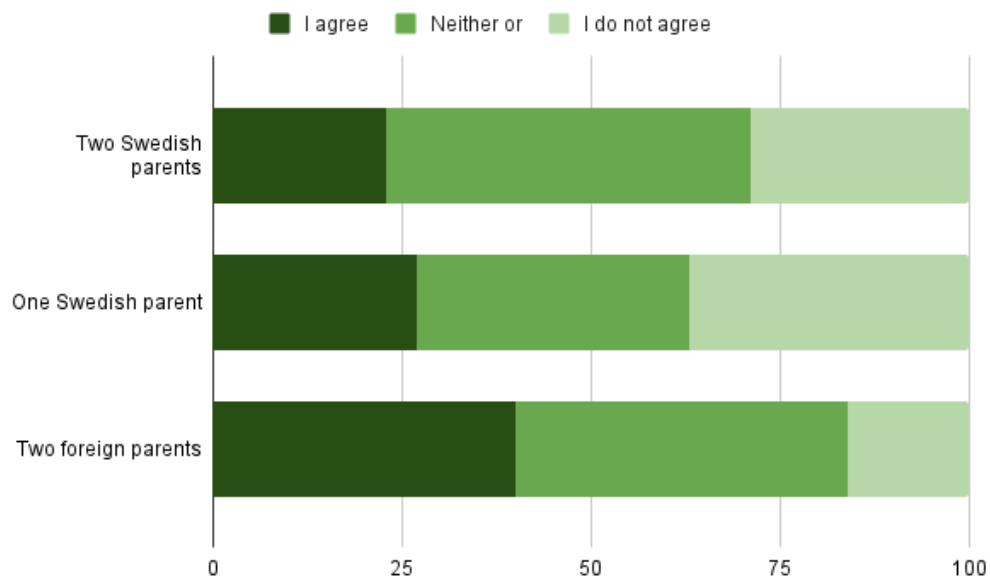
Level of education	
Level of education	Nr of respondents
Less than primary school	2
Elementary school	4
High school, folk high school or equivalent	35
Secondary school, primary school or equivalent	5
University, college or equivalent	46
Number of respondents	92

### Origin and mother tongue

The majority of the respondents (61%) answered that both of their parents were born in Sweden and also stated Swedish as their mother tongue. The second biggest group consisted of individuals with none of their parents being born in Sweden and having another mother tongue than Swedish (27%) and with none of their parents born in Sweden. View the statistics in Table 4.3. Image 4.2 shows that larger proportion of respondents with one or two foreign parents feel lower confidence that the authorities been truthful during the pandemic than respondents with two Swedish parents. Furthermore, Image 4.3 shows that a larger proportion of the respondents with one or two foreign parents sought information about the pandemic from organizations in the immediate area than respondents with two Swedish parents.



**Figure 4.2:** Statistics on the respondents answer to the question "I trust that the Swedish authorities have been truthful during the pandemic".



**Figure 4.3:** Statistics on the respondents answer to the question "I have been searching information about the pandemic in my local area".

**Table 4.3:** Statistics on respondents' origin and mother tongue in the digital survey

Origin		
Origin	Mother tongue	Nr of respondents
Both my parents were born in Sweden	Swedish	56
One of my parents were born in Sweden	Swedish, Polish	11
Non of my parents were born in Sweden	Swedish, Persian, Yugoslav, Arabic, Somali, English, Greek, German, English, Polish, Spanish, Serbian. Lithuanian, Kurdish, Norwegian, Bosnian, Turkish	25
Number of respondents		92



### 4.2.2 Results from Cultural Probes

There were 14 participants in the digital cultural probes from around Gothenburg and Stockholm. It was a mixed age group, where the youngest was between 16-19 year of age and the oldest 65+. A majority (12 participants) were women. In terms of level of income, the majority (50%) stated an income level of 18000-36000 SEK/month and 37% stated 0-18000 SEK/month. 14% had an income level above 36000 SEK/month. A majority (57%) stated that their parents were not born in Sweden and the second largest group (29%) stated that both of their parents were born in Sweden. The rest, 14% had one Swedish and one Foreign parent. As described in methodology, each day focused on different aspects of their lives which resulted in insights regarding a variety of aspects, such as values, opinions on their local area, their feeling of safety, habits regarding crisis communication and media channels as well as more specific experiences during the pandemic and in relation to the ongoing conflict in Ukraine (2022). The cultural probes were as described in the methodology chapter analyzed with an affinity diagram. Together with insights from interviews, surveys and literature study, the detected problems were compiled in a fishbone diagram and the complete result was illustrated with personas, presented further down in this section.

### 4.2.3 Results from interviews about and with the Target Group

During the interview study, the so called Invånarguiderna (translation: “The Resident Guides”) were contacted. The Resident Guides was initiated as part of a relatively new project, started in the year of 2020 in Biskopsgården, which is considered an vulnerable area in the the Gothenburg region. They have now expanded their area and are also present in Lundby and Backa. The areas were chosen since they have a low level of election participation and low socio-economic standard. The Resident Guides consists of a heterogeneous group with individuals of different ages and origins. The guides have good knowledge about the area and good connections in the area. The Resident Guides were initially hired to spread information about activities within Biskopsgården, but during the pandemic they got a vital role spreading information about the Corona virus, restrictions and vaccination. One interviewee mentioned that They spread this information by standing on local squares, handing out informational flyers and talking to the residents. The informational flyers are designed by communicators but sometimes modified by the The Resident Guides in terms of decreasing the information and translations, in order to suit the people they meet.

Interviews with the Target Group or relatives to the Target Group, shows that the Target Group often asks relatives for help to understand written information from authorities. The reason is a feeling of uncertainty whether the information is correctly understood and therefore many within the Target Group feel a need for two-way-communication with someone they trust, such as a family member. Some account for the fact that it is almost put in the system to ask relatives for help. It

may not necessarily be viewed as a problem since it is considered a habit for many, but some account for it being a problem from a democratic point of view. It was also mentioned by an interviewee that individuals turn to organizations and/or persons they trust if there is some information they does not understand - not only family members:

*"You go to the one you trust. You go to associations, a specific person in the school, civic office. And now we have also noticed that there are more to the residents' guides. When you see them, you know that you can approach them and talk, ask questions. We have very strong associations in the bishop's courtyard and that is something we want to work with"*

The interview study shows that despite proficiency in Swedish, there is often an insecurity in understanding written information from authorities. The Resident Guides pointed to the fact that written information is important as a complement to the oral information, since it worked as a reminder for the individuals, when bringing the material home. Also, written, physical information is preferred for individuals who are not very digital.

Most of the interviewees mentioned that the user group consume media and news from their country of birth as well as from Sweden. They mentioned it was difficult to understand why Sweden acted in such a different way than their country of birth during the pandemic and that it caused confusion. Some mentioned that they trusted the news from their home country more than the Swedish media during the pandemic. The following quote is from an interview with a residential guide, describing why some they have met did not trust the Swedish Crisis Information during the pandemic.

*"Some trust their homeland for several reasons. Have no knowledge, illiterate, older people just trust what their home country says. They do not trust Swedish authorities. They have not really entered society"*

The Resident Guides explained that one reason for why some does not trust the Swedish strategy during the pandemic, might be that some does not trust Swedish authorities and a reason for that might be that they are not integrated enough in general. The following quote is translated from an interview with a residential guide on the question if the residential guides had come across any misconceptions about the pandemic or the restrictions:

*"There are some who have misunderstood because they do not have Swedish news or old information. They had not updated themselves or misinterpreted, listened incorrectly. We try to always provide the correct information based on updates, what applies in the current situation. We have met many who had misunderstood [the restrictions] because they had listened to other media from their home country and believe that it applies to the whole of Sweden or the whole world"*

### 4.2.4 Target Group Definition

In this phase, the final parameters of the Target Group were defined as a result of Phase 1: Pre-study and Phase 2: User Understanding. The quantitative and qualitative data from literature and interactions with members of the initially defined target group, i.e. solely individuals with a foreign cultural background, was compiled into a set of criteria consisting of several areas, i.e. emotional, socio-economic, linguistic, ethnic and age criteria. This conclusion arose because the study showed that more parameters than was initially presumed were relevant to the group and that excluding these criteria might be misleading to the result, defined in Table 4.4. In the following chapters, User Group and Target Group are used interchangeably.

**Table 4.4:** An explanation of the Target Group parameters.

Target Group Definitions	
Criterion	Parameter
Emotional	Individuals who do not feel like they have been reached by sufficient crisis information during the pandemic.
Socio-economic	Individuals who are part of income quartile 1 as defined by SCB (2017) [46].
Linguistic	Individuals with Swedish as a second language, or Individuals who experience that their parents or close relatives do not fully grasp the Swedish language.
Ethnic	Individuals with a minimum of one parent of non-Swedish origin.
Age	Individuals of age 16 and over.

### 4.2.5 Summary of phase 2 results

The result from the second phase in turn resulted in six personas and a list of identified problems. In order to put the personas in a context, a fictional suburb scenario was constructed. The personas, the fictional suburb and the identified problems are presented below.

#### Gårdsby

The fictional suburb, Gårdsby, was as described in methodology, based on existing suburbs in metropolitan areas in Sweden and used to put the personas in a context. The Gårdsby description, presented in Figure 4.4, is outlined in four paragraphs representing the historical, social and geographical setting of the suburb.

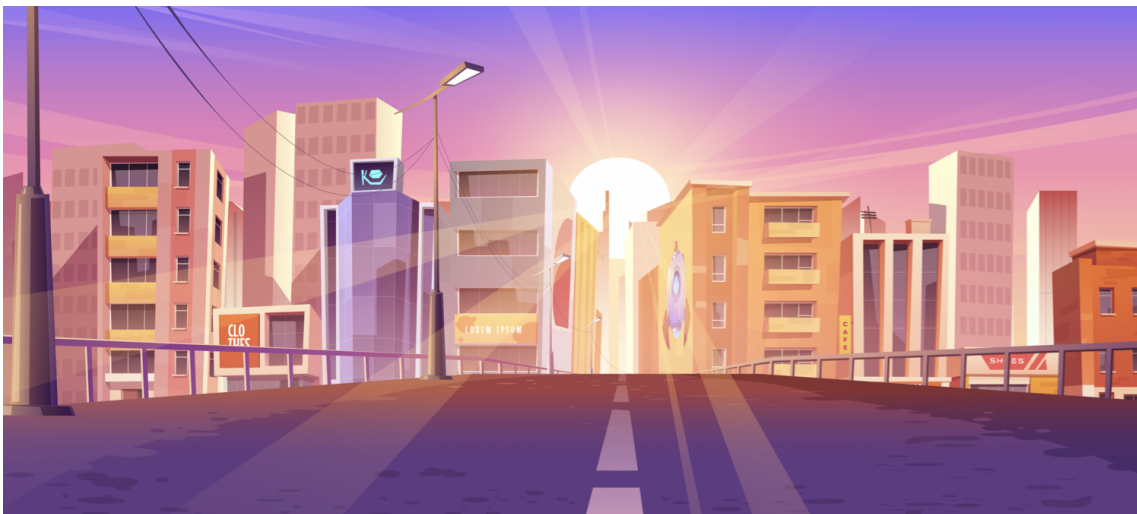
# GÅRDSBY

Gårdsby is a district that emerged during the 1960s and is part of a metropolitan municipality. It was built within the framework of the Million Program. By 2020, the district had 23,000 inhabitants. The plan of the city planners was to create a new suburban environment with greenery, spaciousness and freedom from disturbance.

The district has many rental properties and a large proportion of foreign-born, but many have lived in Sweden for a long time. There is a great variety of ages in the area. The district has few high-income earners, high numbers of income support, high unemployment and a lower level of education than the average in Sweden.

The area is filled with many different associations that create a positive feeling of belonging among many residents. There are many green areas nearby.

There is a feeling among residents that the area is neglected and not prioritized. In some areas there is insecurity in the evenings and at night. The district is classified by the Police as an "exposed area".



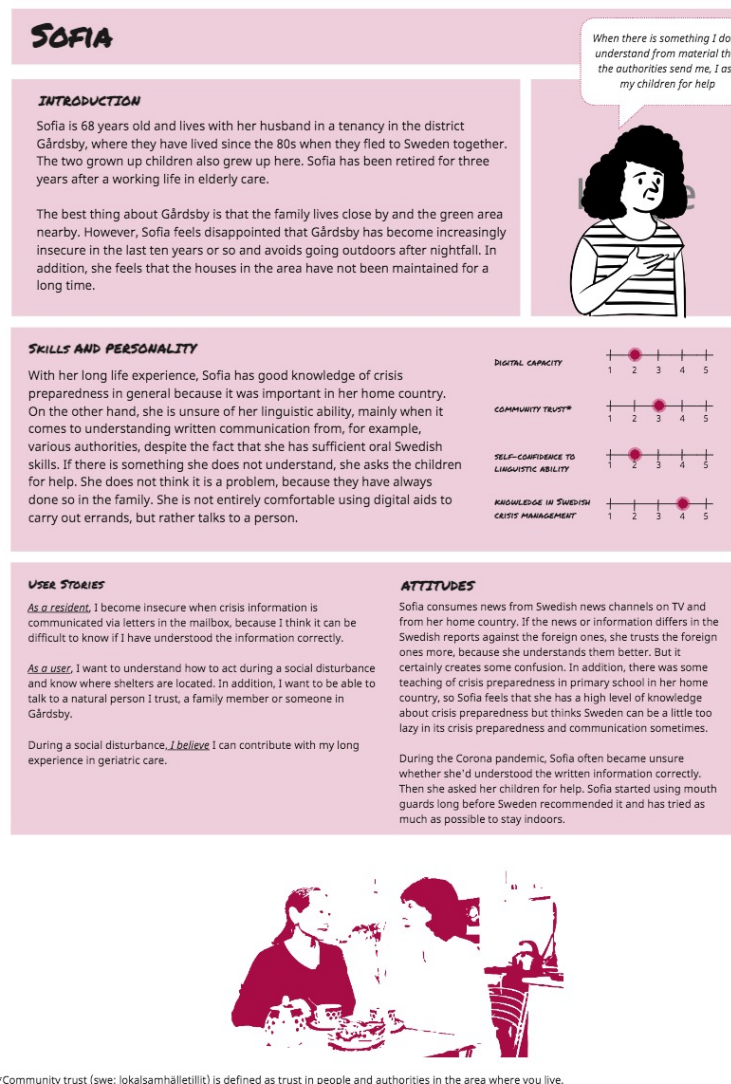
**Figure 4.4:** The description of the fictional suburb Gårdsby, constructed for the Workshop

## Personas

Six personas were developed based on insights from the pre-study and user understanding phases. The content of the personas were based on the research of Nielsen [19] as described in the methodology chapter. They were all given a name, an illustration of their appearance and a speech bubble to give the reader a first understanding of the persona. Secondly, there is a section with an introduction about the persona's living situation, family and occupation. Thirdly, there is a text box with the persona's Skills and Personality including linguistic skills, hopes and dreams and a 5-point-scale on their level of (1) Digital Capacity, (2) Community Trust, (3) Self-confidence to linguistic ability and (4) Knowledge in Swedish Crisis Management. The persona's last text box includes information about the personas' Attitudes in a Crisis situation and some short user journeys. Table 4.5 is a short description of the six personas and figure 4.5 shows the persona called Sofia.

**Table 4.5:** A short description of each persona character.

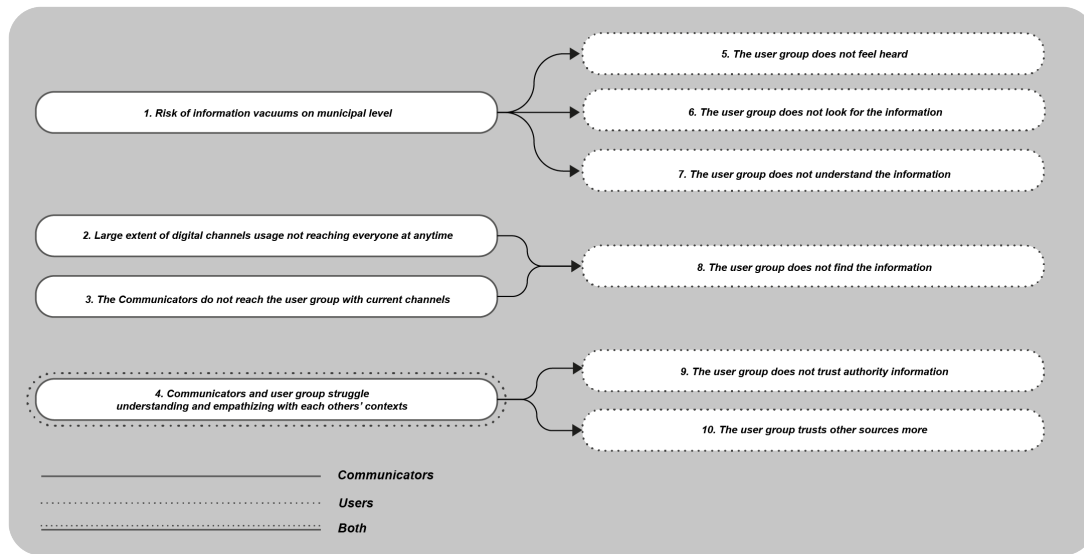
Personas	
Name	Short Description
Sofia	Sofia is a 68 year old woman. She has a low level of digital capacity and dependent on relatives for understanding crisis information, due to her low self-confidence in her Swedish capacity, despite many years in Sweden and sufficient knowledge. Sofia prefers two-way (oral) communication. Sofia consumes news from her country of birth and Sweden.
Ali	Ali is 49 years old man. He has high confidence in his linguistic capacity, is a social person and views himself as a spokesperson in the community. He has access to and understands Swedish crisis information, but during the pandemic he was critical to how the Swedish crisis management differed from his country of birth.
Mira	Mira is a 36 year old woman. She studied political sciences at the University and is very driven to make things better in Gårdsby. She has a high level of self-confidence in her linguistic ability and digital ability. Furthermore, she has a lot of insights in the Swedish crisis communication system.
David	David is 37 years old and lives a bit outside Gårdsby. Being born in Sweden, his level of confidence in Swedish ability is high. David think the society has a big responsibility during a crisis. Generally, his view is that the Swedish way during the pandemic was fine, but do not think the whole view was presented in media.
Fatima	Fatima is 17 years old. Fatima has a high level of digital capacity and social media is her foremost source of information, however, she knows it is important to be critical of sources but finds it difficult to be so.
Mahdi	Mahdi is a 29 years old man. He came to Sweden five years ago. Mahdi is a social person - in his own mother tongue but has low level of self-confidence in his Swedish capacity. Mahdi do not take active part in Swedish news or Swedish crisis information.



**Figure 4.5:** One of the six personas, Sofia, is 68 years old and lives in the fictional suburb Gårdsby with her husband. She has been living in Sweden for many years, but is despite this dependent on her children clarifying written authority - and crisis information.

### Identified Problems

As described in methodology, a Fishbone diagram was used to map all problems and furthermore compile them into the list of ten problem categories. Figure 4.6 below presents the ten problems and how they are connected to each other. The arrow between suggests how one problem leads to another. The Fishbone diagram is presented in the appendices.



**Figure 4.6:** The ten problems and how they are connected.

#### 1: Risk of information vacuums on municipal level

It was shown in interviews with communicators that there is a risk of information vacuums on municipal level as the communicators have to await information from higher instances before communicating to the public, which may exacerbate and increase the severity of a crisis and may induce rumor and gossip. Furthermore, due to an extra delay when information has to be translated, the risk of information vacuums is even higher for the target group.

#### 2: Large extent of digital channels usage not reaching everyone at anytime

Many Crisis Communicators interviewed in this study reported that the main channel used to communicate their information are digital, such as a municipality web page and social media. Many of the interviewees mentioned this as a problem during larger power failures, since the digital channels cannot be relied upon during these events. Also, user groups who do not use digital communication methods risk missing a lot of information. It may be elderly or people within the target group who uses other channels than those of the communicators.



**3: The Communicators do not reach the Target Group with current channels**

Many of the Crisis Communicators interviewed mentioned that they find their current digital channels - social media and websites - effective to reach a large portion of the population, however, they were also aware that not all groups are reached through their current channels. The interviewees point to factors such as not having enough resources and lack of knowledge about the Target Group and their media channel habits and needs.

**4: Communicators and Target Group struggle understanding and empathizing with each others' contexts**

An interview with an expert in inclusive communication and interviews with both communicators and the Target Group concluded that both communicators and users struggle understanding each others' contexts. In summation, it is difficult for many individuals to see the bigger social government functions and instead view things from their own personal and local context. Further, communicators seem to struggle understanding the users and their contexts, looping to the problems above, of not reaching the users.

**5: The Target Group does not feel heard**

When discussing the current war in Ukraine (2022), several interviewees mentioned that they perceive an uneven reporting, since other conflicts from, e.g. their countries of birth is not given the same attention in media. As a cause, it was shown that some within the Target Group often feel unheard and de-prioritized. This category of problems may be linked to problem 1 and problem 4, the problem of informational vacuums as well as the communicators having a different view on what is important to communicate than the target group.

**6: The Target Group does not look for the information**

The interview study show that in some extreme cases, the Target Group does not look for the information and take help from relatives instead who may be more sufficient in the Swedish language and authority structures. Additionally, the Target Group may not always know what rights they have to access information and services from authorities. One can argue that if the target group does not look for information, the communicator is responsible for mediating the information in a more accessible way, however, the information may fade into the eventual informational vacuum if it is not mediated in time.

**7: The Target Group does not understand the information**

The interviews with Residential Guides, the cultural probes, the survey and the corona commission report [13] made it clear that the Target Group does not always understand the crisis information due to often very complex language despite efforts to communicate in plain language. In addition, there is sometimes a lack or delay of

translations. At the same time, the group sometimes have a lack of self-confidence in their ability to understand Swedish. Especially written government documentation often require help from a third party, and interviews show that the Target Group prefers oral communication over written communication. This problem is partly related to problem 1 and problem 6 because if there is a delay in translations and if the language is not adapted enough, there is a risk the target group does not understand the information.

### **8: The Target Group does not find the information**

Interviews with communicators and Residential Guides show that the Target Group does not always find the information. Reasons might be that the authorities use other media channels than the target group, that some within the Target Group are not digital enough or do not understand Sweden's government systems. This problem can be viewed as a cause of problem 3, hence the communicators does not manage to reach the Target Group, as described above.

### **9: The Target Group does not trust authority information**

All communicators and residential guides interviewed point to a lack of trust in authority information amongst many individuals in the Target Group. For example, many interviewees mentioned that the Target Group seems to trust information from their country of birth more than the information given in Sweden when the information was contrasting. Similar results is shown in the survey, where respondents with lower level of income and respondents with one - or two foreign parents mentioned a lower level of trust for Swedish authorities being truthful during the pandemic. Further, as presented in results from Phase 1, literature shows a lower level of Local community trust amongst this group in general.

### **10: The Target Group trusts other sources more**

As presented above, the survey and interviews showed that the given Target Group often take part in news from their country of birth in addition to Swedish news. During the pandemic this was problematic since the news and restrictions differed between different sources and countries. Also, it was mentioned in interviews that when not being integrated enough into society, the Target Group does not feel that the information is relevant to them and, in turn, do not feel affected by it.

## **4.3 Results from Phase 3: Design phase**

The following section presents results from the Design phase, which consisted of individual idea generations conducted by the authors of this report, two workshops and a conceptual design of an improved communication system.

### 4.3.1 Results from individual idea generation

The first session of this phase consisted of free idea generation of five minute spans in three periods. The authors were allowed to continue the development of one concept or be inspired by the frame of crisis communication issues to develop new ones. The frame of issues consisted of "the 10 problems" defined in this report, Bottom-Up communication theory [33] and arbitrary communication scenarios. The work resulted in 16 tangible concepts that were taken through the SCAMPER method.

The concepts were grouped in the seven categories of SCAMPER, i.e Substitute, Combine, Adapt, Modify, Put to other use, Eliminate and Reverse. The authors were allowed to add notes to each phase in five minute spans with continuous discussion.

The final session consisted of a group analysis of each note and assembled into ten detailed concepts with largely varied characteristics, described in Table 4.6.

**Table 4.6:** Final concepts from the Individual Idea Generation

The Individual Idea Generation Concepts	
Nr	Short Description
1	Expert Video Call Service
2	A template for Crisis Communicators to reach the Target Group
3	An informative Mobile Game to learn how to handle a crisis
4	A service where the Crisis Communicator can filter which Communication Channels the Target group use
5	A physical crisis-aid service for the Target Group
6	QR-codes in the everyday physical post that provides crisis resources
7	A digital bulletin board at a central location
8	An application to gather the local citizens knowledge and resources to use during crisis management strategies
9	A service for the Target Group to more easily compare the source and validity of crisis information
10	A digital bulletin board at the entrance of residential buildings

### 4.3.2 Results from Workshop 1

Six Industrial Design Engineering students participated in the first workshop, shown in Figure 4.7, which primarily aimed at reviewing the personas and thereby mainly resulted in insights to what worked well with the personas and how the personas could be developed further to create deeper understanding, empathy and analysis. Participants started thinking about ideas, which developed in the follow-up Work-

shop 2.

The overall results of the workshop were positive. The participants seemed to understand the personas' opinions and personality traits, for example one participant expressed "This scenario will be tougher depending on which week it is as I am divorced and am co-parenting our child". Seemingly, the participants created empathy for the personas, however, it was expressed by one participant that it was hard to distinguish if they emphasized well, or if the persona was just so similar to their personality that they acted how they themselves would have in such a scenario. Furthermore, the participants expressed that they were given sufficient information to understand the personas, that the information about their situation was extensive and well-rounded, however, some information seemed superfluous for the given scenario.

There was also some potential for improvement regarding the personas. Due to time constraints the Workshop did only include one scenario. This led to the participants only reflecting over a "physical crisis" and not a "social crisis". It is unclear if the cognitive ideation process would have been more nuanced with one more scenario or if it would have been overwhelming. Most participants stated in the end that it was hard to relate their ideating to just one persona but instead related to the overall scenario. It is therefore likely that the "social crisis" scenario could give other results. Furthermore, it was mentioned that it was hard to distinguish the needs of the personas for each crisis phase, most participants prescribed an overall analysis. Each persona was also analyzed based on the comments and actions made from the participants, a summary of that analysis is presented below.



**Figure 4.7:** Overview of Workshop 1

### **Sofia**

The participant had a generally nuanced analysis. The participant may have been limited to the scenario context of not being able to develop more as much of the persona concerns written communication with the authority, which in this scenario was not as relevant. Less focus on where the character could help during a crisis.

### **Ali**

The participant based a lot of analysis on association activity. A lot of reflection on how the person would act in this scenario, what it focuses on and what disturbs it. The participant made observations about the character and their own conclusions based on it. Generally a nuanced observation. There was less focus on the limited trust in authorities and that the character more trusts the media from their home country. "We" might have interpreted his action differently because there are similarities with war when "flight alarms" were used. It is likely that this event would have affected him more emotionally than described. The analysis might have been different in a different scenario.

### **Mira**

The participant largely focused on the person being able to pass on information. They expressed that their persona wants to create security in society and for family

and friends. There were no focus on foreign background or the persona's low suspicion of the media. There was little focus on being dissatisfied with authorities' communication, which is emphasized in the speech bubble. That she is dissatisfied was seldom mentioned during the work. It is mainly about a "solution situation" - to create new opportunities and solutions with the information provided.

### **David**

The participant mentioned similarities in themselves with the character. Therefore, it is possible that he could make a more nuanced analysis and link it to aspects of his own life. There was a low focus on the area of "lack of solidarity in Sweden", but they generally showed depth in their conclusions.

### **Fatima**

The participant took elements out of the person well. Simpler conclusions are drawn about source criticism and public trust. The authors of this report may not draw the same conclusions about this. Does low source criticism mean that the character panics more easily? It is a lower analysis of social media, how to be source critical and the platforms that are available online. There is also no analysis of low affiliation to government information. Perhaps it would have been more nuanced in an additional scenario based on a social crisis.

### **Mahdi**

The participant tried to get acquainted with the mood of the character. Focused on broadly developing the personality of the character. They wanted to know more about what communication restrictions there were in the scenario. They focused on communicating physically and tried to come up with solutions for the situation. No or little focus on potential negative thoughts about the situation. A little focus on being careful and not trusting government information nor that it is complicated and difficult to understand. A little focus on the fact that he shares information without a sufficient source from abroad. The result may depend on the scenario and that not all parameters have been relevant to this persona.

### **4.3.3 Results from Workshop 2**

There were a total of five participants at the second Workshop. Two participants from Workshop 1 participated in Workshop 2. There was one new participant and the authors of this report participated as well. This was because several of Workshop 1's participants were unable to attend the second session and the time did not allow arrangement of any other sessions. 75 ideas (5x5x3) were generated in the workshop. The session concluded in some new insights and ideas, but also prevalent idea tracks that had been thought of and discussed before. The ideas were only on a very basic conceptual level which lead to not so much sketches, but mostly written ideas. The Figure 4.8 below shows one paper sheet with ideas.

Given the previous individual idea generation phase conducted by the authors it was possible to discern that the participants level of contextually relevant and empathetic concepts was high and periodically overlapped with concepts that had already been defined. However, since the authors interfered in the generation process it is hard to evaluate what level of influence their participation caused.

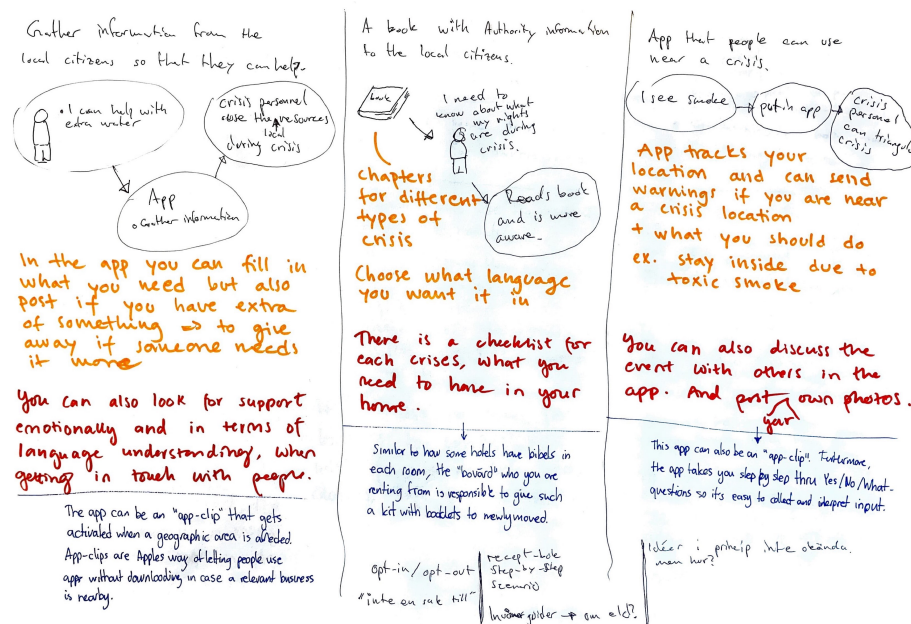


Figure 4.8: One of five sheets of paper with ideas from workshop 2

### 4.3.4 Results from Theory of Change

After idea generating individually and in workshop, 16 concepts were taken further for the Theory of Change process. There was a wide range of ideas, ranging from physical products directed towards citizens, to processes enabling more effective knowledge transfer to communicators. However, five concepts received the highest grade. It was made clear through reasoning that the five concepts could be combined in to one joint concept, and doing so, many of the shifts were fulfilled. This merge could be performed since the ideas were very similar and complemented each other. However, being on a conceptual level, the ideas were further developed to four variations, to be tested in the finalization phase.

### 4.3.5 Summary of Phase 3 results

Phase 3 aimed at producing various design ideas and concepts with an open minded approach based on the insights from phase 1 and 2. To do so, individual idea generations, conducted by the authors of this report and two participatory workshops with design engineering students were performed. The first workshop aimed at making the participants familiar with the area. The personas from phase 2 was used to create empathy for the target group since the participants had no previous knowledge about the project. The workshop also aimed at evaluating the content of the personas. The results suggest that the personas served their aim well and the participants seemed to empathize with the target group. However, some details were considered superfluous and the participants were already familiar with the concept of Personas. The second workshop aimed at converting the insights from workshop 1 into solutions through conventional idea generation. The participants came up with ideas similar to previous ideas of the authors of this report but also some new ones. All ideas from both individual idea generation and the workshops were gathered and defined. Similar ideas were merged. In order to choose the concepts that fulfill the user needs and solves the identified problems the best, the Theory of Change tool was performed. Five elements, summarized in a new knowledge-transfer process, received the highest scores and were first merged and thereafter developed into four variations and taken into the final phase.

## 4.4 Results from Phase 4: Finalization

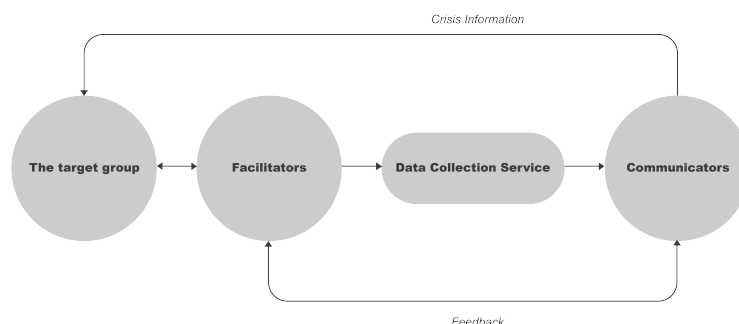
In the following section the conceptual designs that were tested in the evaluation survey is presented. This conceptual design is an example of how the identified insights may be applied, hence the research findings can be used for other range of design solutions both on community work and policy making levels. The presented design suggestions consists of the same basic concept, namely a process aiming at reducing the information gap between the target group and the communicators, but with a few variations. Furthermore, results from the evaluation survey and suggestions on how to further develop the design is presented.



### 4.4.1 A Conceptual design of an improved communication system

The design consists of a process which aims at reducing the information gap between multiple social and cultural local target groups and the communicators via facilitators - individuals who have insights into this target group and thus provide the communicators with information about the target group with help of a data collection service. Figure 4.9 shows an overview of this process which consists of the target group, meaning, the researched decoders and facilitators aiming to bridge the target group to the communicators via a service. This process thereby fulfil the needs of the target group to receive two-way, oral communication in numerous languages and in the same process, communicators is presented with up-to-date data about the target group and their needs in order to more efficiently communicate important crisis information.

Below, the process is presented step by step. There is also a presentation of a variation on step 2, 3 and 4 which were developed in the last iteration. All of these were evaluated in the evaluation survey. Figure 4.10 presents the process as a series strip, with all steps that received the best results in the evaluation survey.



**Figure 4.9:** A schematic illustration of the design suggestion of an improved communication system

#### Step 1: Target group meets the Facilitators

The facilitators stand in the local square. They were recruited on a municipal level to spread information and answer questions about the Swedish authorities and different possible crises. They do this in several different languages.

They meet people almost all day and deliver pamphlets and answers questions.

The facilitators as a group knows more than ten languages and belong to different demographic groups. Questions that they answer concern many different areas, e.g. vaccination and bomb shelters.

### **Step 2: Facilitators document their knowledge and experiences**

A workday has passed. Now the facilitators bring out a software, "The process app". There, they answer a set of questions about the circumstances that they have worked that day and what questions they have received. Each facilitator does this after each working day.

### **Step 3: Information is compiled in a database**

The information provided by the facilitator is compiled in a database.

Software combines quantitative, demographic questions with qualitative answers. It views patterns and combines common answers and questions to a demographic. E.g. if 100 facilitators fill in "the process app" multiple conclusions can be drawn and paired.

The answers are grouped according to the different communication needs of "the public", i.e. media and digital habits, local community trust and everyday patterns.

### **Step 4: Information is presented as personas**

The combined analysis that is done by the software produces several personas that represent what "the public" has communicated to the facilitators and what they have recorded in "the process app".

Eg. Under the sub-title "User stories" the software has defined a combination of the three most common problems or needs of the demographic: Woman: Age 65-70, Location: Gårdsby, Crisis: Fire.

These defined needs touch on "as a citizen I need...", "as a receiver of crisis information I need...." and presents alternatives how the demographic will likely act during different types of crisis.

### **Step 5: Communicators take part in data and act on it**

The crisis communicators act according to these characters.

For example, the communicators realize that there is a need to contact people that are living in a certain local area in the suburb Gårdsby. There is currently a high risk of fire and these citizens need to be aware of how to act if that were to happen.

Through the software they filter down the local area and receive the needs of a certain number of personas. The software tells the communicators of their needs and typical channels of communication.

With this, the communicators take out a strategy that reaches these people and strengthens their capabilities in the event of a fire.

**Variant on step 2: Citizens report their knowledge in a database**

Instead of facilitators filling in a digital database, the process app is filled in by randomly selected locals, similar to a survey.

On certain days of the week, the "app" asks the holder questions about their personality, opinions and media habits. The information is encrypted and anonymous and can not be traced to a specific individual. The user is a private person who lives in the area.

**Variant on step 3: One facilitator communicate**

As a variant to the information being compiled in a database, the local facilitators instead have weekly meetings where they discuss how the work has gone. Good and bad. Who they have talked to and what their opinions have been. A trained coordinator compiles the information and forwards it to relevant instances.

**Variant on step 4: Information is presented as quantitative information**

Instead of the empathy building personas, the crisis communicators have access to a database of *quantitative* target group information. Here they can filter what they need to know about the target group to effectively reach out to the residents.

If, for example, there is a fire and the communicator wants to spread the information in a certain vulnerable area, they log in to the website and choose geographical area and what target group(s) to reach. The website shows which communication channels are effective to use here, and what is important to think about communicating in the event of a fire to a specific target group.

## 4.4.2 Evaluation Survey Results

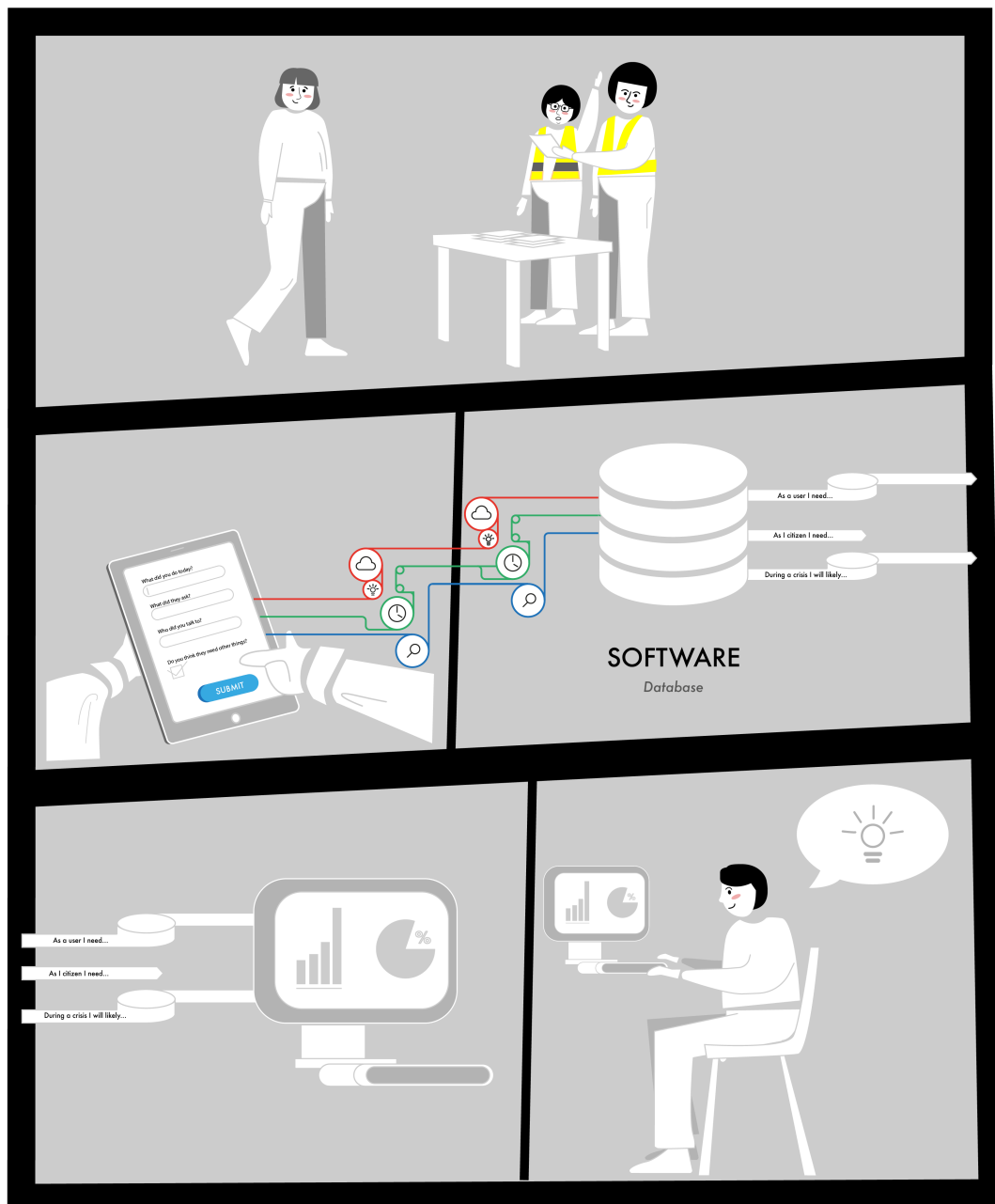
The results show overall positive comments on the design proposal. Many respondents found the idea to be simple and clear. It was mentioned to be positive that the Target Group receives the information from people they trust in their area - both in long term and short term. It was also mentioned that the design process in general would provide data, not only guesses. Also the physical meeting was mentioned as a positive factor. When asked to reflect on factors that could be challenging, the respondents mentioned that it might be difficult to motivate the facilitators to fill in the digital form properly. Furthermore, it was mentioned that it might be more challenging in smaller municipalities, since the big volumes of people needed simply does not exist. Other eventual challenges mentioned was to catch the Target Group on the street. Finally, one respondent thought it might be a costly process.

When asked to compare the different variants, a majority preferred the concept with facilitators more than having a survey app, asking the target group questions. Reasons mentioned was that the target group is tired of surveys. The second variant, having a facilitator coordinating the data instead of a database, received both

positive and negative comments. Many respondents found it resource demanding, however, some mentioned it positive with personal meetings between the facilitators and the communicators. It was also mentioned to be favorable to have a coordinating facilitator if the facilitators are not very proficient in the Swedish language. In regards to the third variant, a majority mentioned that quantitative data is more tangible and interesting for the communicators than empathy building personas, hence it was considered to be more useful and effective. When asked what information they are in biggest need of, the communicators mentioned what channels the target group uses, the target group's needs and Swedish language level, other language knowledge, interests, level of education and what sender of information they trust.

The communicators, having been presented the five phases, reviewed the variants with great interest. They, as professional communicators, looked at the process from their perspective and presented valuable aspects that had not been acknowledged or presented earlier in the study, due to the shortage of available interviewees. The variants of steps 2 through 4 produced mixed comments, in the following paragraph now described as variant 2 through 4. Overall, the communicators were pleased with the process, nevertheless, variant 3 and 4 were seen as more effective and positive, while variant 2 was seen as less effective and reliable.

The result of variant 2 showed that most problems initially appointed would remain, however, it is likely that it would reduce staff costs. Variant 3 pointed to a contextual and personal addition that this would give, which was seen as positive. However, it was deemed costly and demanding. Variant 4 was seen as the most positive, with no negative comments. The communicators preferred not having to do the analysis by themselves. Although, it is likely that the respondents did not fully grasp the variability and analytical aspects of the persona concept. One respondent said that "this (variant 4) should not be instead of the other, but in addition to the persona."



**Figure 4.10:** Illustrative series strip of the conceptual design of an improved communication system, including all five steps described

### 4.4.3 Identified Needs and Requirements

As part of the process described, needs for the different actors involved were identified and listed. Furthermore, as a result of the different needs from the users, initial requirements on the Data collection service was identified for future development. The needs from the Public, the Facilitators and the Communicators are derived from results and analysis of the User Understanding Phase, as well as final findings from the design evaluations. The list, defined by two columns, is constructed in the form of "The actor need..." and "in order to..." to fully grasp the background of each parameter. Further, the list shows an additional section showing "The Public (Relatives), showing likely needs of a process variant involving close relatives to the target group. The full list of needs and requirements can be found in Appendix A.

### 4.4.4 SWOT Analysis

This section highlights the SWOT analysis that was performed to indicate the future status of the concept and what it likely would face in a realistic context considering the reported accounts of multiple stakeholders, i.e. the target group, the facilitators and the communicators.

The strengths of the concept points to the elements that are not present in the current system. The process includes social, economic and cultural aspects to modify the communication model. It also takes advantage of knowledge that is already present, but not currently allocated allocated to and by the communicators. It also does not require the target group to adapt any new type of technology and therefore, the behavior change required amongst the population is limited. Finally, the ability to give and receive feedback on current communication is given a great boost for both the target group and the communicators as the facilitators becomes and active resource and the citizens become less dependent on their relatives.

Since the concept is on a conceptual level, it can be attributed many weaknesses. Some of the most important ones concern time, availability, resources, understandability and a view of uneven allocation of resources.

Opportunities depict possible realistic outcomes of the concept. Due to the large current interest in crisis information because of recent global events, i.e. the pandemic and the security situation in Europe, there is a large interest in new development in the field. Since the process is very dynamic in its current form it can inform about more practices than specifically crisis information. It is also inclusive and can include larger portions of the population.

Finally, the current external threats that are present for the concept are, amongst other things, the ever changing needs of the public. The concept is potentially variable and quick to adapt to upcoming new needs. However, the need and interest in crisis information is likely very situational and the interest may only sustain while there are active threats present for the population. Likely, a majority of the general interest may be subdued in years of little crisis. This may result in a lack of political

consensus that the Swedish system should adopt a new system, as political interests in times of "no crisis" may lead to policy makers not seeing the benefit of the process or the facilitators. There is also little to no revenue for the process as it is, however, it may introduce job opportunities for new facilitators.

#### 4.4.5 Summary of Phase 4 results

The master thesis results suggest that there are many different issues in the given crisis communication system. Firstly, the given target group generally have a lower level of trust for Swedish authorities and the crisis information they deliver. Reasons such as different social norms, cultural differences in trust level, large social distances leading to skepticism between the groups and a feeling of being treated unfairly are mentioned [9]. In addition, the target group often has a lower level of Swedish proficiency and/or self-confidence in the Swedish language and struggle understanding challenging authority information. Furthermore, the target group may have other habits in regards to news and media intake. Secondly, the interviewed communicators in this study mentioned that they have a lack of resources and knowledge as their main problems to reach the target group, and given the Swedish top-down crisis communication system described in this report, this is troublesome.

When designing a more effective and trustful crisis communication system, the results presented in this thesis show that the target group probably is not receptive to a new device to enhance their crisis information intake, but rather should the informational gap between the target group and the communicators be decreased. In this report, it is suggested that this informational gap could be decreased with the help of facilitators - people whom the target group trusts and belongs to the same social context as the target group. These facilitators help the communicators inform the target group about important crisis information. However, in order to simultaneously enhance the communicators knowledge about the target group, the facilitators should transfer their knowledge about the target group to the communicators. This is an important part of the process, since the interviewed communicators in this study mentioned lack of resources and of knowledge as their main problems to reach the target group. In addition, the target group is presented with two-way communication with people in their neighborhood that they trust. If the facilitators can transfer their knowledge to the communicators, the communicators may develop communicative material that is target group adapted to a larger extent than it is now. Doing so, the communication may in the long run become even more effective.

With this system, the facilitators do not only enable two-way communication - something this study have showed that the target group have a need for - but also provide the communicators with knowledge about the group - insights that the communicators lack at the moment, through bottom-up communication. How the bridge between the communicators and the facilitators should be designed - e.g. with a database software or human coordinator - to be as effective as possible, is a topic for future research, debated in the Discussion chapter.





# 5

## Discussion

In the following chapter, aspects affecting the project outcome are discussed, where the result, sustainability and ethics, the methods performed as well as future research is included.

### 5.1 Results

This master's thesis investigated what parameters affect the level of trust in crisis information and the sender of this information within multi-cultural metropolitan suburbs with lower level of socio-economic status. Thus, a trust-building and knowledge-transfer process to managing this has been investigated throughout the study. The initial aim of the master thesis was to identify what parameters affect the level of trust in crisis information and authorities before crisis amongst individuals with foreign cultural background living in Swedish Metropolitan Suburbs with lower socio-economic status. Furthermore, the master thesis sought to identify how the current crisis communication system could be improved to increase the level of trust in crisis information and reach the user group more effectively.

The first research question connected to the first half of the aim- and project is: *"What parameters within the Swedish crisis communication system affects the given target group's trust for the information given?"*. The literature study and survey pointed to a lower level of Social trust in multi-cultural areas with a lower level of socio-economic status. The research pointed to factors such as a residential area's relatively low income level compared with other areas within the same municipality, leading to a perception of being treated unfairly. The authors also argue that groups with lower incomes perceive themselves as being treated unfairly and thus a lower level of trust could follow. Furthermore, residential areas with neglected buildings affect the sense of safety in a negative way, and lower sense of safety often leads to a lower sense of trust. Last but not least, the results in the literature study suggest that citizens living in an area characterized by diversity, the levels of trust are on average lower due to different social norms, cultural differences in trust level, large social distances leading to skepticism between the groups and a feeling of being treated unfairly are mentioned. Several reports also mention that this target group was not reached with important crisis information during the Covid-19 pandemic due to a lack of proficient translations, the insufficient supply of channels and last but not least, a low level of trust for Swedish authorities. However, these issues can not be seen as to have a direct cause and effect relationship, but points to problem-

atic areas within crisis communication.

The survey show that (a) individuals with a foreign background and (b) individuals with a lower level of income generally thought the authorities were not truthful in their crisis information during the pandemic, than individuals with (a) Swedish background and (b) individuals with a higher level of income. It was made clear in interviews that many individuals with foreign background had higher trust in crisis information from their home country than crisis information from Sweden when the information was contradicting. It also became clear that many individuals with low self-confidence in their Swedish language proficiency, often asked relatives that they confided in for help to understand authority information. In addition, oral two-way communication was considered preferable and easier to trust than written information, consequently it enables follow-up questions, and the sender was someone the individual could trust. Through interviews with communicators on municipality - and regional level, it was made clear that there is a lack of knowledge about the given target group and that the communicators use channels the target group does not use. Also, it became clear that translations often were delayed because of a lack of resources. Therefore, the aim of investigating what parameters affect the level of trust in crisis information is considered to have been fulfilled, as well as the possibility to answer the first research question. This being said, one can always investigate deeper, and further research is discussed in the last section of this chapter.

Furthermore, the second part of the study's aim has been fulfilled, and it is possible to answer the master's thesis's second research question: *"How may the Swedish crisis communication system be improved to make the system more effective and increase the target group's trust in crisis information?"*. The first part of the Master Thesis project made it clear that the crisis communicators, supposedly reaching all citizens in Sweden, do not have sufficient information about the researched target group. The consequence is that the target group is not reached with important crisis information, which during the Covid-19 Pandemic lead to higher levels of deaths and lower levels of vaccination coverage. Enabling two-way communication with someone you trust, in a language of your choice, was reasoned to be important to reach the target group. Therefore a knowledge-transfer process was developed aiming at providing the target group more effectively with information via two-way communication and also providing crisis communicators with information about the target group and thereby being able to learn how to reach the group. We believe this bottom-up strategy has the possibility of increasing the user group's level of trust, since the information is more relevant, adapted and communicated by people they trust. How the bridge between the communicators and the facilitators should be designed to be as effective as possible, is a topic for future research.

## 5.2 Sustainability and Ethics

In the following section, aspects related to sustainability and ethics affecting the project is discussed.

### 5.2.1 Crisis communication and Sustainability

This thesis has reported the importance of well functioning, trustful crisis communication before, during and after a crisis in order to influence the development of the crisis. Trust is key for the affected groups of citizens to act on the given information. Also, the target group adapted information in terms of communication channels and messages is vital for the information to reach the target group and for the group to act on it. The thesis described that well - or malfunctioning crisis communication can be a matter of life or death. As exemplified in the Background section, half of those who died in the beginning of the pandemic with the coronavirus as a cause were Swedish Somalis living in Järva in Stockholm. The reasons for why this group was affected more than the general population was a lack of proficient information and that the group generally does not take part in Swedish news channels. An improved crisis communication system for all could thereby lead to improved social sustainability. The same applies to other crises at which the citizens need to act in a certain way to decrease the risk of being negatively affected by the crisis. It was also reported in this thesis that many of the interviewed communicators mentioned lack of resources to reach the target group, but also lack of knowledge about the given target group. We think that an improved system, like the one proposed in this thesis, could make the crisis communication more effective which in turn might lead to not only higher social sustainability, but also economical, since the already allocated resources might be used more effectively. Additionally, a system that has a high level of shared resources and knowledge, should lead to not only higher trust but also better economic sustainability.

### 5.2.2 Crisis communication and Ethics

Dividing citizens into groups is always an ethical challenge due to the risk of creating negative and deceptive stereotypes. When pointing to *general* differences in for example level of trust for authorities or crisis information habits amongst different cultural groups, of course not all individuals are included. However, as stated in this master thesis, the more adapted the crisis communication is to the target group, the more effective it is. Furthermore, the option of today - *not* including all Swedish citizens - should be viewed as ethically incorrect and points to the importance of this master thesis project.

Interviews from this master thesis show a lack of knowledge amongst communicators about the target group explored throughout this project, leading to ineffective and incorrect communication. Interviews also show that translations often take time. With these examples as a basis and given the importance of correct crisis information as fast as possible, the target group explored can be viewed to be more

vulnerable during crises than other groups. However, with this said, it is important to reflect upon when cultural aspects need to be partitioning factors between groups and what types of crises that needs to consider cultural aspects of involved users. Ultimately, what demographics that target groups are divided into should be based on where issues arise in the certain situation or context. As explored in this thesis and discussed above, the given target group has been especially exposed and vulnerable during the Covid-19 crisis, which is why this division was made. Additionally, there seem to be cultural differences in how independence is valued and level of confidence in the state and authorities, which may affect the individuals' acting during crisis.

Other ethical issues to consider is the legal aspects of collecting information about people. If developing the process, it must be developed in a way that the information is anonymous, untraceable and legal. Therefore it is also vital to focus on the facilitators experiences in the data collection, rather than focus on information about the individuals. Using a secondary source or a third party to obtain experiences and behaviors from the target group, i.e. a facilitator, may have both positives and negatives. The studies, and corollary literature, show that it is easier to mediate experiences when you describe those of someone else rather than reflecting on your own experiences. However, a first point-of-view would reduce the risk of less representative behavior.

### 5.3 Methodology

This section discusses the implementation and execution of the methods performed during this master thesis project. This section is divided into the Exploratory literature study, User understanding, Analysis, Creation of Concepts and Evaluation of Concepts.

#### 5.3.1 Exploratory Literature Study

The exploratory literature study have been favorable to understand the explored area and to conclude where issues arise and for what user groups. A lot of time was given to this phase, in order to be able to address important and intricate issues. The early period of this phase allowed for some delimitation, but a more narrow scope could have enabled a more in-depth literature study. However, this broad approach was considered important to address the most important issues and understanding the complete system. A more narrow scope would have risked investigating wrong parts of the system or topic.

#### 5.3.2 User Understanding

During the user understanding phase, a number of different methods were performed - surveys, in-depth interviews and cultural probes. All of which was summarized in to identified problems and empathy building personas. The reason for this extensive user understanding phase was to attack the problems from different fronts in order to understand the very large user group in both quantitative and qualitative values.

Another reason is the recurring problem of finding respondents and/or interviewees for this project, which made us try different methods. Almost ironically, we our self became "victims" of the main problem within this project. We tried to reach the target group on digital platforms and via a large number of organizations. Finally, we got in contact with the Residential guides who became "spokespersons" for the user group. This was, however, considered very beneficial since the Residential guides meet a lot of different individuals within the target group and since it often is easier to empathize about a topic through the eyes of someone else. The survey respondents were a mixed group of people, which was considered advantageous since this made it possible to compare the data of different target groups. However, it could have been beneficial to have more respondents in the user group. Also the respondents were a mixed group of people, but the majority had foreign background and a lower level of income. However, not all participants could be considered living in so-called vulnerable areas. Having a foreign background and other media habits than those the communicators use, we reasoned that these participants could be considered to fit the target group. Our literature research also pointed to ethnically Swedish citizens having a lower level of trust toward authorities if parameters such as socio-economic status fit the criteria. Also, when interviewing one of the participants, we had it confirmed that the respondents were likely to fit well into the target group. The same interviewee seemed to more easily talk about her parents, her perception of their actions during the Covid-19 pandemic and their media habits than her own, which also confirmed it being the way to go to talk to "spokespersons" instead of directly to the user group. The difficulty in collecting participants to the different studies is another reason for why the cultural probe became digital instead of physical. We were very pleased with the high number of 14 participants in such an extensive method. However, we think the tasks could have been taken more seriously and the answers more dynamic if the tasks had been physical instead of digital. This is likely due to the idea that if you have a mediating object, or have promised to fulfill a tangible task, you are more compelled to complete it.

### 5.3.3 Analysis

An overall approach has been to use Affinity diagrams to analyze interviews and surveys. This method was partly also used when analyzing the cultural probes, even though they aimed at more giving an "overall", collected image of the user group. Mainly, the Fishbone diagram was very useful when analyzing the cultural probes, hence the Fishbone diagram gave us the opportunity to group the problems hierarchically. Furthermore, with this diagram as a basis, the Theory of Change framework became a natural next step to understand what shifts needed to be done, based on the identified problems and furthermore choose what concepts to work with and finalize the concepts. Another vital outcome of the analysis was the six personas. These were thoughtfully constructed, based on all gathered data. However, in order to follow the method completely as described by Nielsen [19], they would have needed to be verified with the user group and further developed together with the target group of the personas, meaning the communicators.

### 5.3.4 Creation of Concepts

When ideating design solutions, a broad approach was considered important, since a more narrow approach would have risked ideating "in the wrong end". On the other hand, a narrow ideation would of course have enabled a more finalized concept and not as conceptual as the one presented in this report. However, the design is now suitable for further research with an elaborate framework consisting within this thesis.

### 5.3.5 Evaluation of Concepts

The evaluation made in this project was admittedly hypothetical, hence the respondents needed to imagine very conceptual ideas. Even so, the evaluated designs were not futuristic or strange and clearly described. Furthermore, the evaluation only gathered eight participants, but these eight participants answered engagingly and gave well reflected responses. The respondents' large interest for the project and their ability to visualize the issues and solutions described in their professional context validated the associated project aim and its results.

## 5.4 Future Research

The following section will discuss and explain recommended future research recommendations.

This master thesis has applied a broad approach in order to understand the Swedish crisis communication system and its problem in the explored context and for the given user groups. There were no expectations or requirements on how a design solution should appear (physical/digital product, service etc). This approach has enabled a conceptual solution, aiming at changing the given system, rather than developing a new product or digital service for the users to incorporate into their lives, hence the solution will not require a change in user behavior with the target group, but with the communicators and policy makers. However, being a conceptual design, there are many unaddressed issues that remain. First and foremost, it must be investigated how feasible it is to involve this many physical people who depend on each other. It is a matter of both resources and interest amongst future facilitators and communicators. The initial surveys and data received from the Residential Guides, however, showed promising viability. With the communicators' very positive response in mind, we believe that there is an interest and need. However, as some communicators mentioned in the evaluation survey, smaller municipalities might not have the resources to apply this suggested process. Nevertheless, depending on the final structure of the process, they, as smaller municipalities, may not need such a large representation of their own facilitators and can instead rely on data from larger regions. Who the facilitators should be is also a topic for future research. Perhaps it would be possible to involve individuals from the private sector as facilitators, since they might have a strong position and influence within the area. This being said, we suggest that a starting point for future research is to involve the

Residential Guides in Gothenburg, to learn from their experiences. We also suggest that in order to further develop the data collection service and what to include in it, the identified needs and requirements should be reviewed and used as a framework.

In future research, it could also be interesting to explore how the private sector's crisis management can inspire the crisis management in the public sector. We have come to the conclusion that private organizations are more protective of their brand and care for their customers trust, due to strong economical incentives. Through this report we also found that intercultural communication seem to contrast optimal crisis communication - could there be a combined model that gathers an holistic view of the stakeholders? Could perhaps organizations' trust building activities be applied in Swedish authority crisis management and could their combined forces create a stronger and more flexible crisis response?

Finally, what is the likely landscape of future crisis communication? We believe that the future will remain digital, but will need physical pillars of contact to effectively convey information in all types of crises. As the population and its needs are constantly and rapidly changing the current hierarchical model is slow to adjust and remains flawed in which citizens it reaches. Due to the digital landscape in which we live, the need for two-way, bottom-up communication will grow. From what we now know, the process presented in this master thesis is more inclusive and can likely include larger parts of Swedish society than the current strategy. It is based on urban and suburban data, but can likely be applicable to most Swedish regions in this conceptual stage. In the end, our hope is that those whose needs are not fulfilled will have equal availability of information.





# 6

## Conclusion

Through this study, the Swedish crisis communication system in multi-cultural suburbs with lower socio-economic status, also called *Vulnerable areas*, has been investigated. Additionally, the possibilities of a design proposal that enhances the target group's - individuals with a foreign cultural background living in these areas - level of trust for the instances communicating the information and a more efficient communication has been explored. Following conclusions were made:

- Communicators often lack knowledge about, and insights into, the social and cultural contexts the target group belong to.
- The target group often have a lower level of trust for Swedish authorities in general.
- The target group's sometimes low level of Swedish language proficiency or self-confidence in their Swedish language proficiency, leads to an uncertainty when reading written authority information.
- A knowledge transfer process was developed and it was concluded that this process could be part of a solution for the following reasons:
  - By giving the communicators the tools to understand the needs of the target group in order to reach it, this process will contribute to a more inclusive crisis communication system.
  - The target group's level of trust for the instances could be increased if the instances reach the target group in a user group adapted way, initially through people in the social and cultural context they belong to.
  - With two-way communication in a variety of languages and with an increased understanding for the target group, the target group's crisis communication needs are more likely to be met.
- Eventual future research may entail further development of the presented variations on the process, with the goal of more effective, trustful and user adapted crisis information



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# A

## Appendix

### Phase 1: Expert Interviews Template

#### Intervju Länsstyrelse/Kommun

Vi läser Teknisk Design på Chalmers och gör nu vårt exjobb inom krisberedskap. Vi arbetar mer specifikt med kriskommunikation inom Sverige. Syftet med det här mötet är att vi ska lära oss hur kriser hanteras och kommuniceras på kommunal nivå.

1. Vill du berätta lite om din roll och vad dina arbetsuppgifter är?
2. Skulle du vilja berätta om hur ett händelseförlopp ser ut inom länsstyrelsen när det sker en samhällsstörning, extraordinär händelse eller kris?
  - a. Hur får Länsstyrelsen reda på att någonting hänt och av vem?
  - b. Vad gör Länsstyrelsen?
3. Hur ser samarbetet ut med kommun, region och stat?
4. Hur ser ert samarbete/kommunikation ut med MSB vid kris?
5. Vilka är er största informationskällor under kris?
  - a. Vad fungerar bra?
  - b. Är det något som du önskat hade fungerat bättre där?
6. Har länet/kommunen något sätt (ex. riktlinjer, rutiner, planer) för att nå olika målgrupper?
  - a. Hur särskiljer ni grupper?
  - b. Vilka grupper är svårast att nå?
  - c. Hur når ni allmänheten vid elavbrott?
7. Har du någon uppfattning om vad de som bor i regionen/kommunen upplever för förtroende för de olika myndigheter som finns på regional och kommunal nivå och den information som kommuniceras ut?
  - a. Finns det någon skillnad på upplevt förtroende inom olika grupper? Vilka isf?
  - b. Vilka problem finns?
8. Arbetar länsstyrelsen/kommunen direkt med att upprätthålla tillit och förtroende från allmänhet?
9. Anpassar ni språket beroende på vilka ni vill nå med ett meddelande?
10. Hur arbetar ni med sociala medier? Är det ett effektivt sätt att kommunicera med allmänheten?
11. Får ni någon respons på ert arbete av allmänheten?
  - a. Analyserar ni responsmönster vid olika event?



## Phase 2: Digital Survey Template

### Rekryteringstext

Vid en kris behöver alla människor i Sverige få relevant, tillförlitlig och begriplig information för att kunna hantera krisen. Information måste nå alla medborgare före, under och efter krisen. Inte minst Corona-pandemin har gjort det tydligt att inte alla grupper nås av viktig information.

Vi som skriver detta heter Signe och Wilhelm och vi gör ett masterexamensarbete på Chalmers Tekniska Högskola om kommunikation under kris. Målet med arbetet är att i framtida kriser kunna nå fler människor med viktig information. Med hjälp av följande enkät vill vi få en första förståelse för människors uppfattning om Sverige, svenska myndigheter och svenska nyheter.

Enkäten tar 5-15 minuter att genomföra och du kan välja att vara helt anonym om du vill.  
Du hittar enkäten genom att trycka på den här länken: <https://forms.gle/CekuifaFKtzz8qFq7>

Alla svar är viktiga. Stort tack för din medverkan!

Har du några frågor, kan du skriva till oss på [ssigne@student.chalmers.se](mailto:ssigne@student.chalmers.se) eller [wessblad@student.chalmers.se](mailto:wessblad@student.chalmers.se)

### Kommunikation under kris i Sverige

Hej,

Vi heter Signe och Wilhelm och vi gör ett masterexamensarbete på Chalmers Tekniska Högskola om kommunikation under kris inom utsatta områden i Sverige.

Målet med arbetet att i framtida kriser kunna nå fler individer med viktig information.

Med hjälp av denna enkät vill vi få förstå människors uppfattning om Sverige, svenska myndigheter och svenska nyheter.

Enkäten tar bara 5 minuter att genomföra.

Ditt svar är anonymt, och du kan när som helst under enkätens gång välja att avbryta, eller hoppa över en fråga om du inte känner dig bekväm med att svara. Data som samlas in kommer sammanställas och ligga till grund för vårt examensarbete som kommer publiceras. Vi behandlar inte personuppgifter. Enskilda svar kommer inte gå att koppla till den enskilde individen. Ditt svar kommer sparas tills examensarbetet är avslutat, och kommer därefter tas bort. Stort tack för hjälpen!

#### Introduktion

**1. Godkännande av behandling av ditt svar**

Jag samtycker till att mina svar lagras tills examensarbetet är avslutat.

**2. Hur gammal är du?**

- a. 7-15 år
- b. 16-19 år
- c. 20-29 år
- d. 30-49 år
- e. 50-69 år
- f. 70+ år

**3. Vad är ditt modersmål?**

- a. Svenska
- b. Arabiska
- c. Persiska/Farsi
- d. Somaliska
- e. Spanska
- f. Polska
- g. Engelska
- h. Ryska
- i. Annat

**4. Vilket område bor du i?**

**Göteborg**

- a. Hammarkullen, Göteborg
- b. Hjällbo, Göteborg
- c. Lövgärdet, Göteborg
- d. Biskopsgården, Göteborg

**Stockholm**

- e. Husby, Stockholm
- f. Rinkeby/Tensta, Stockholm
- g. Fittja, Botkyrka
- h. Hallunda/Norsborg, Botkyrka
- i. Alby, Botkyrka

**Malmö**

- j. Södra Sofielund (Seved), Malmö
- k. Nydala/Hermosdals/Lindängen, Malmö
- l. Rosengård, Malmö

5. Hur ofta åker du till nya platser utanför vardagliga aktiviteter?

6. Är dina föräldrar födda i Sverige?

- a. Ja, båda mina föräldrar är födda i Sverige
- b. En av mina föräldrar är född i Sverige
- c. Nej, ingen av mina föräldrar är födda i Sverige

7. Hur många bor du tillsammans med? (fri text)

8. Vilket av följande är din främsta sysselsättning?

- a. Jag studerar i skola eller på universitet
- b. Jag jobbar
- c. Jag är arbetslös
- d. Jag är sjukskriven
- e. Jag är föräldraledig
- f. Vill inte uppge

9. Vilken är din högsta utbildningsnivå?

- a. Mindre än grundskolenivå
- b. Grundskola
- c. Realskola, folkskola eller motsvarande
- d. Gymnasium, folkhögskola eller motsvarande
- e. Universitet, högskola eller motsvarande
- f. Vet ej

10. Vilken är dina föräldrars högsta utbildningsnivå?

- a. Mindre än grundskolenivå
- b. Grundskola
- c. Realskola, folkskola eller motsvarande
- d. Gymnasium, folkhögskola eller motsvarande
- e. Universitet, högskola eller motsvarande
- f. Vet ej

11. Vad är din månadsinkomst (innan skatt)?

- a. 0 - 18 000 kr/mån
- b. 18 000 - 36 000 kr/mån
- c. 36 000 kr/mån eller mer
- d. Vill inte uppge

#### Vanor och uppfattningar

Betygsätt följande uttryck utifrån dina egna åsikter och erfarenheter.

(Håller inte alls med - Håller inte med - Håller varken med eller håller med - Håller med - Håller helt med)

- 12. Jag känner att man kan lita på de flesta människor
- 13. Jag känner att man kan lita på de flesta myndigheter
- 14. Jag känner mig trygg med att gå utomhus i mörkret
- 15. Jag känner tillhörighet till det svenska samhället
- 16. Jag känner ingen rädsla för att bli utsatt för olika typer av brott (Ex. rån eller övergrepp)
- 17. Jag känner att svenska myndigheter (Ex. Kommuner, arbetsförmedling, Polis, folkhälsomyndighet) behandlar mig rättvist
- 18. Jag tror att information i svensk media (Ex. TV och Radio) är sanningsenlig
- 19. Jag tror att information i internationell media (Ex. TV och Radio) är sanningsenlig

#### Vanor och uppfattningar om Corona-pandemin

Betygsätt följande uttryck utifrån dina egna åsikter och erfarenheter.

(Håller inte alls med - Håller inte med - Håller varken med eller håller med - Håller med - Håller helt med)

- 20. Jag litar på att Folkhälsomyndigheten talat sanning i sin rapportering under corona-pandemin
- 21. Jag litar på att svensk media (Ex. TV och Radio) talat sanning i sin rapportering under corona-pandemin
- 22. Jag har ofta sökt information om corona-pandemin hos utländska nyhetsrapporteringar istället för från svenska myndigheter och nyhetsmedia
- 23. Jag har ofta sökt information om corona-pandemin hos organisationer eller trossamfund i mitt område

24. Min tillit till svenska organisationer, myndigheter och media har förbättrats under corona-pandemin

Vanor och uppfattningar om andra händelser

*Det har skett ett elavbrott i ditt bostadsområde och allt är mörkt.*

25. Var letar du information om detta?  
(FRI TEXT)
26. Var tror du att din familj letar information om detta?  
(FRI TEXT)

*Du ser flera brandbilar och ambulanser köra förbi ditt fönster i ditt bostadsområde.*

27. Var letar du information om detta?  
(FRI TEXT)
28. Var tror du att din familj letar information om detta?  
(FRI TEXT)

*Du har hört talas om att det kommer ske en demonstration senare idag.*

29. Var letar du information om detta?  
(FRI TEXT)
30. Var tror du att din familj letar information om detta?  
(FRI TEXT)

Avslutande frågor

31. Var brukar du leta efter nyheter i vardagen?  
(FRI TEXT)
32. Vem brukar du fråga om hjälp när det är någonting du inte förstår i en nyhet?  
(FRI TEXT)
33. Söker du någonsin efter information i sociala medier (ex. Facebook)? I sådana fall, hur och var?
34. Har du eller någon i din närhet upplevt något problem med Sveriges kriskommunikation?
35. Tyckte du att detta var intressant? Vill du delta i en uppföljande studie och få möjlighet att diskutera det här ämnet med andra och påverka kriskommunikationen i Sverige till det bättre och dessutom få en biobiljett som tack?

Fyll i dina kontaktuppgifter nedan så kontaktar vi dig inom kort  
(Vi använder dessa uppgifter endast för att kunna kontakta dig).

Phase 2: Digital Cultural Probes Template

Dag	Syfte	Uppgift	Vykort	Saker vi behöver
Måndag	Grundläggande förståelse kring vardagen så som jobb och familj	<b>Journey Map:</b> Vill du beskriva en vanlig dag, från morgon till kväll? Skriv på tidslinjen.	Vill du berättat om vad du tycker är en perfekt ledig dag?	Utskriven tidslinje Pennor Utskrivet vykort
Tisdag	Grundläggande förståelse kring deltagarnas bostadsområde	<b>Karta:</b> Markera med ett klistermärke följande - Var du brukar träffa dina vänner - Var går du om du vill vara själv? - Var undviker du att gå? - Var går du om du vill vara bland människor? - Vilken är din favoritplats? - Var går du och handlar mat? - Var går du för att uppleva kultur?	Vad tycker du är (inte) bra med ditt bostadsområde?	Utskriven Karta Klistermärken Pennor Utskrivet vykort
Onsdag	Förståelse kring nyhetskällor som används och hur deltagarna agerar vid elavbrott	<b>Journey Map:</b> Logga alla nyhetskällor du använder under dagen. Skriv på tidslinjen.	Allt ei slutar att fungera i ditt hem. - Nämn tre känslor - Nämn tre saker som du tycker är jobbigast att vara utan - Nämn tre aktiviteter du gör vid ett längre elavbrott	Utskriven tidslinje Pennor Utskrivet vykort Ev. klistermärken (vita)
Torsdag	Förståelse för deltagarnas värderingar	<b>Deltagarna får ett antal (tomma) listor.</b> - Topp X vad jag är stolt över - Topp X viktigaste (materiella) saker - Topp X livsdrömmar som jag vill uppnå inom 10 år - Topp X saker som jag önskar att jag var bättre på - Topp X viktigaste läromärken - Topp X resmål		Utskrivna listor
Freitag	Förståelse för hur deltagarnas medlevnor skiljer sig från vardag till kris, hur de tar till sig informationen, vilken information de litar på, känslor kopplade till media och kris...	<b>Deltagarna presenteras inför ett krisscenario.</b> <b>Deltagarna får ett antal (tomma) listor.</b> - Topp X personer jag litar på har mest trovärdig information om en händelse - Topp X känslor som uppstår när jag får reda på händelse - Topp X källor där jag inhämtar mer information - Vilken (vilka) bilder tycker du passar in på det här scenariot och/eller representerar dig i scenariot?	Om du fick ställa en fråga till .... vem hade du frågat då och vad?	Utskrivna bilder Utskrivna listor Utskrivet vykort Färdigskrivet kuvert med frimärke (20 st totalt) Beskrivning av veckan och hur de hanterar uppgiften.

## Phase 2: Telephone Interview Template

### Intro

1. Vill du berätta lite om dig själv, hur du bor, vilka du bor med och vad du har för sysselsättning?
2. Vill du beskriva en vanlig dag, från morgon till kväll?
3. Hur skulle du beskriva en perfekt ledig dag?
4. Vill du beskriva vilket område du bor i?
  - a. Vad tycker du är det bästa med ditt bostadsområde?
  - b. Vad tycker du är det sämsta med ditt bostadsområde?

### Information och nyheter

5. Vill du beskriva hur du konsumerar nyheter en vanlig dag?
  - a. Vilka nyheter tar du till dig och hur?
  - b. Vilka kanaler?

### Om vi tar corona-pandemin som exempel,

6. Vill du berätta lite kring hur du konsumerat nyheter och information om pandemin?
  - a. Har du sett några förändringar över tid?
7. Vad tycker du har **fungerat bra** i kommunikationen från myndigheter under corona-pandemin?
  - a. Känner du dig förstådd?
8. Vad tycker du **inte har fungerat bra** i kommunikationen från myndigheter under corona-pandemin?
9. Vilken **åsikt** har du märkt att **andra människor i din närhet** haft om svensk nyhetsrapportering (om corona-pandemin)?
10. Vilka **missuppfattningar** har du märkt att **andra människor i din närhet** haft (om corona-pandemin)?
  - a. Varför?
11. Vad har **andra människor i din närhet** i området **uttryckt oro** för (under pandemin)?

### Om vi istället tar ett ännu mer aktuellt exempel, nämligen kriget i Ukraina:

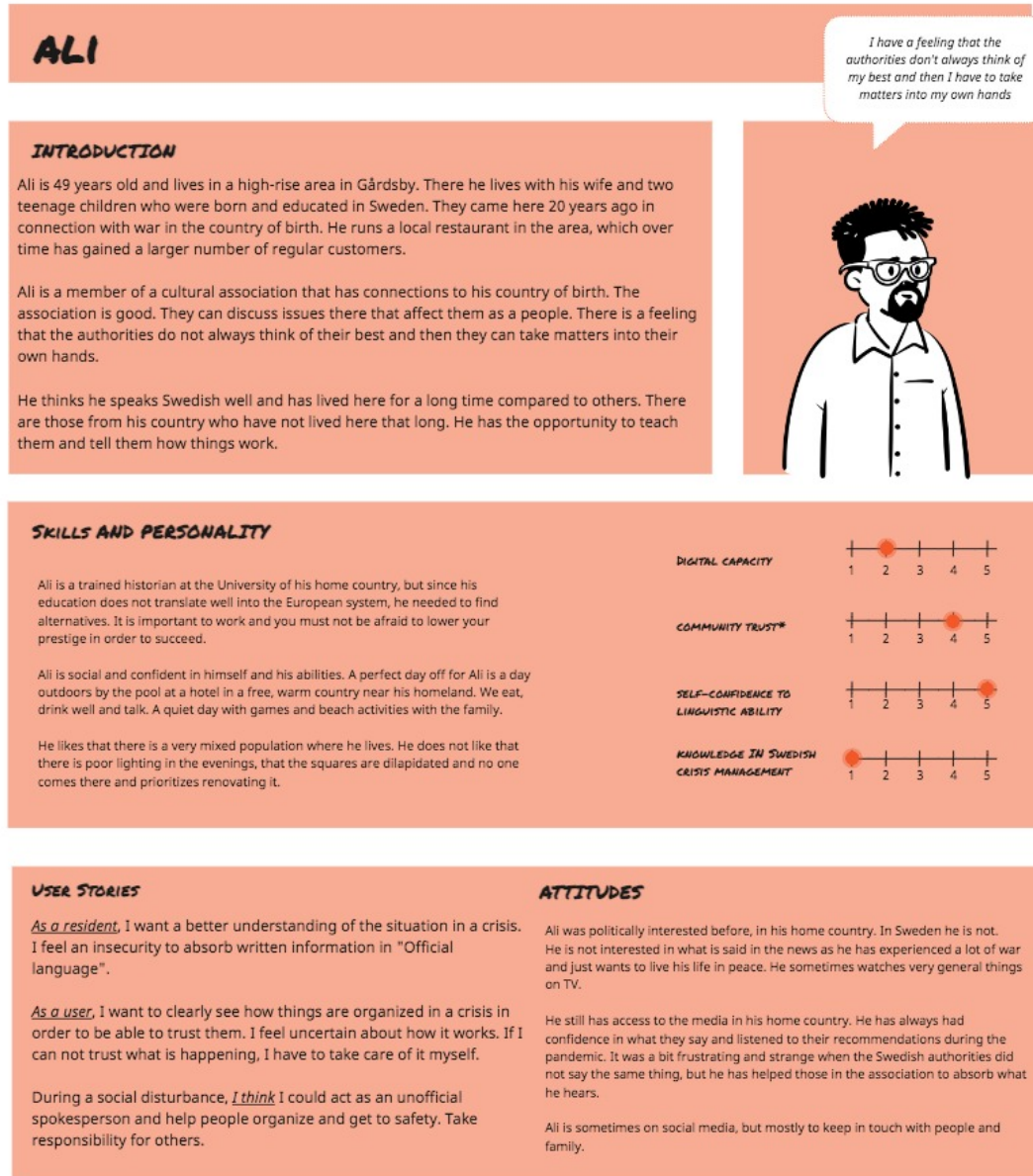
12. Vill du berätta lite kring hur du konsumerar nyheter om kriget i Ukraina?
13. Vilka mediekkanaler litar du på har mest trovärdig information om kriget?
14. Vad tycker du är bra i rapporteringen om kriget i Ukraina?
15. Vad saknar du i rapporteringen om kriget i Ukraina?
16. Hur urskiljer du falsk information, eller desinformation, i de nyheter du ser?

### Avslutande frågor

**Vi skulle vilja veta lite om vad du har för värderingar. Skulle du vilja nämna,**

17. Någonting som du är stolt över?
18. Någon livsdröm som du har?
19. Någonting som du önskar att du var bättre på?
20. Någon viktig lärdom?
21. Vad önskar du vore bättre i hur man kommunicerar ut information och nyheter om kriser och andra händelser i ditt område?
22. Om du fick ställa en fråga som handlar om krisinformation till någon med mycket inflytande, vem hade du frågat då och vad hade du frågat den personen? (Ex. en politiker, en polis...)

## Phase 2: Personas



\*Community trust (swe: lokalsamhälletillit) is defined as trust in people and authorities in the area where you live.

miro

### DAVID

#### INTRODUCTION

David lives a bit outside Gårdsby in his own house. He sees it more as "the countryside". He is 37 years old, has a university degree and works for a major central authority. He has a son who lives with him part time, but otherwise lives alone with his dog and they spend much of their free time together.

David was born and raised in the nearby big city, but his parents moved to Gårdsby in the 60s. There is a continuous contact with the parents as they still live inside the city, and they are happy to visit to get outside the city.

He is deeply concerned right now because of the war in Ukraine. If necessary, he will try to help in some way.

I'm pleased with how important information was communicated in the media during the pandemic, but I don't think the whole picture is presented

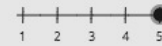


#### SKILLS AND PERSONALITY

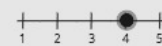
David sees all the positive things in being at peace and not being disturbed by others, but he lacks a good grocery store in his immediate area. He is proud of the development he has made as a person, his child's achievements and aims to be financially independent before retirement. A perfect day would be in a warm country with sun and swimming on the beach and good food.

He considers himself to be quite handy and would do quite well if something were to happen, for example in a power outage. He also cares about others and is willing to help where neighbors need help. He thinks that the individual has a personal responsibility to learn the language spoken in the country you come to.

DIGITAL CAPACITY



COMMUNITY TRUST\*



SELF-CONFIDENCE TO  
LINGUISTIC ABILITY



KNOWLEDGE ON SWEDISH  
CRISIS MANAGEMENT



#### USER STORIES

*As a resident*, I get frustrated when I only get one picture in the media presented to me during a crisis. I want to be able to compare different points of view.

*As a user*, I want a lot of transparency in all communication and I want to get it quickly! I want to know what the crisis plan is for me and my area.

During a societal crisis, *I think* I can contribute with physical help and a deep water well to residents in the immediate area.

#### ATTITUDES

During a crisis, it is society's responsibility to show solidarity, something which he thinks Sweden has generally lost but which he himself would contribute where possible.

David follows both Swedish and foreign media. On a normal day, it is mainly from Aftonbladet's mobile app and the local newspaper on the mobile, sometimes international websites and forums if it concerns something that affects him. In the evening, it can be Dagens Nyheter and TV4-nyheterna. He mainly has confidence in classic "old media".

He is pleased with how Swedish authorities have communicated important information during the pandemic. He does not think that the whole picture is always presented in the media and lacks Russia's point of view and wants to know more about ongoing racism against non-whites in the war in Ukraine. This makes David feel distrustful of the news source.



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## FATIMA

It is difficult to be source critical and sift all information on the internet.

### INTRODUCTION

Fatima is 17 years old and is studying the second year at the high school in Gårdsby, where she also lives with her parents and grandmother and younger siblings in a tenancy. Fatima was born in Sweden but both her parents and grandparents fled their homeland before the children were born.

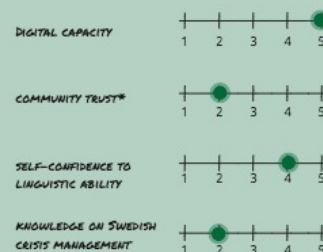
The best thing about Gårdsby is the nearby green area. Fatima avoids going outdoors in Gårdsby during the evening. Drug sales and other crimes are going on at night and it does not feel safe.



### SKILLS AND PERSONALITY

Fatima is good at school and she wants to make the best of the opportunities she has, which her parents did not have. Sometimes Fatima feels quite isolated in Gårdsby and longs until graduation. Then she wants to study at University and eventually become financially secure.

In the event of a power outage, she feels quite handcuffed and shocked and does not really know what she should do. She is used to being able to charge her mobile phone and toothbrush whenever she wants and always have access to the internet. Fatima is very worried about the war in Ukraine and has a need to keep up with the reporting, but at the same time she does not really have the strength, because there will be too much emotion.



### USER STORIES

*As a resident*, I mainly receive information in various forums on the internet.

*As a user*, I want accessible information, quickly and easily via social media.

During a social disturbance, *I believe* I can contribute by not spreading fake news.

### ATTITUDES

Fatima's news consumption is almost exclusively digital. She reads information in her feed on Tiktok, Instagram and Facebook, but she has learned in school that you have to be a little critical of sources, but it is difficult sometimes and she does not really know how to be that.

The news she receives is in Swedish, the home language and English. During the Corona pandemic, she passed on a lot of information from her various feeds on the internet to her parents, information they would otherwise have missed. She became frustrated when the information changed quickly and does not understand why Sweden did not shut down to the same degree as other countries.



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miro

### MAHDI

During the pandemic, informants came up on the street and told me about different rules of conduct, that I should stay home when I am sick and wash my hands often, things I would not have thought of otherwise

#### INTRODUCTION

Mahdi is 29 years old and has lived in Gårdsby for the past four years. He came to Sweden five years ago. He lives in a fairly large tenancy with his wife, two small children and his two parents. He received an internship via the Public Employment Service, which he liked a lot and has worked for the past six months. He gets the opportunity to use his craftsmanship experience from his home country. Now after the period has ended there was no permanent employment so he searches for new opportunities.



#### SKILLS AND PERSONALITY

He thinks he is a social person when he speaks his mother tongue but feels insecure and more shy when it becomes "too Swedish". The internship coffee breaks were filled with a cigarette and a discussion about football. Now that Mahdi has left he feels a bit discontent and does not understand why he can't remain there. He has a hard time understanding all the contact with the Employment Service and other authorities, and he does not really know why they do as they do. The language is still too complicated. He has family and friends in the immediate area who seem to be better at understanding and usually explain to him when it becomes unclear.

He is proud to own his car and to have taken a driver's license. He wants to be better at keeping order at home and making more money. He's bad at saving. The most important thing for Mahdi is his family, his home and his car. He likes that his friends live on the same side of town.

He does not like the availability of drugs even though it is a quiet area, he has thought about what he can do about it.

A perfect day is spend in a warm country without stress with family, good music and good food. He does not like that the highway cuts off the area where they live, it gets very loud even in the evenings.

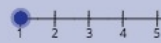
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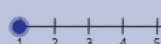
COMMUNITY TRUST\*



SELF-CONFIDENCE TO  
LINGUISTIC ABILITY



KNOWLEDGE IN SWEDISH  
CRISIS MANAGEMENT



#### USER STORIES

*As a resident,* I do not feel really bothered to look for information because I do not trust everything they say right now, but I follow others and the advices my family and friends give me.

*As a user,* I want to be able to talk about problems or when there are things I do not understand. I trust the information more when someone physically explains it. I usually say that I understand even if I do not always do it because it would have been rude to say "no".

If there were to be a power outage, *I would* get a little anxious due to trauma from childhood when there were a lot of power outages during conflicts in the country of birth.

#### ATTITUDES

Ali's wife follows the news on TV, both internationally and from Sweden and shares if it is interesting. Mahdi is worse at keeping up to date, and he seems to get enough news via social media. He follows several channels from his home country about what is happening and how things are going for the football club.

He is afraid of the escalation of the war in Ukraine, even though he does not follow the news that much, he follows them even less now. It's emotionally difficult. He wonders what the consequences are in Sweden and how he will keep his family safe.

Information from authorities can be a bit complicated. Lots of text and information at the same time. The websites are very difficult to navigate and it is confusing to try to learn anything there. Sometimes the translations are also deficient.



\*Community trust (swe: lokalsamhälletillit) is defined as trust in people and authorities in the area where you live.

miro

## MIRA

It feels undemocratic when information from authorities is poorly adapted for people in Ankeborg.

### INTRODUCTION

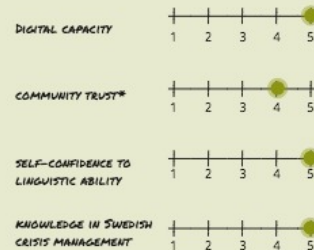
Mira is 36 years old and lives with her husband and two small children in an apartment in the district of Gårdsby, where she grew up. Mira has studied political science at the University and has been working for five years with various democracy issues at the Citizens' Office in Gårdsby. Mira came to Sweden when she was just a little girl and does not remember much of the time when they lived in the country of birth.



### SKILLS AND PERSONALITY

Mira is a social and driven person. She wants to make a difference in society in general, but in Gårdsby in particular. Mira wants security to increase in Gårdsby, that all people should have the same opportunities and that the district should be removed from the Police's list of vulnerable areas.

Mira is confident in her linguistic ability, as she talks to many different people and writes a lot in her work. She learns new things about people every day and is good at seeing things from different perspectives. Her knowledge of Swedish crisis preparedness is good, as she gets many questions about it in her work and simply has to know a lot. Especially during the pandemic, she took a great responsibility in communicating her knowledge.



### USER STORIES

*As a resident,* I get frustrated when the authorities' crisis communication material is not sufficiently adapted to the target group I meet daily in Gårdsby.

*As a user,* I want to know what information is most important to convey to other residents during a social disturbance and that the information should be expressed in simpler Swedish.

During a social crisis, *I think* I can help spread information and not misinformation

### ATTITUDES

Mira consumes news from various sources and is source critical, but not suspicious. Sometimes Mira may think that the Swedish media is a bit unbalanced, when they report events from the local area significantly more than important events in, for example, the country of birth. Sometimes Mira needs to help her parents understand the authorities' written information, which she finds problematic, because it feels undemocratic.

Mira is frustrated when municipalities' and authorities' crisis communication material is not sufficiently adapted to the target group. When Mira notices this, she contacts the responsible authority to improve the information.



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miro



### SOFIA

#### INTRODUCTION

Sofia is 68 years old and lives with her husband in a tenancy in the district Gårdsby, where they have lived since the 80s when they fled to Sweden together. The two grown up children also grew up here. Sofia has been retired for three years after a working life in elderly care.

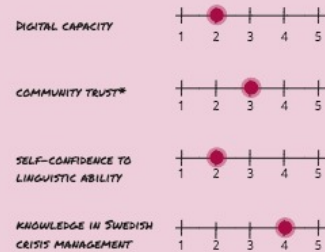
The best thing about Gårdsby is that the family lives close by and the green area nearby. However, Sofia feels disappointed that Gårdsby has become increasingly insecure in the last ten years or so and avoids going outdoors after nightfall. In addition, she feels that the houses in the area have not been maintained for a long time.

When there is something I don't understand from material that the authorities send me, I ask my children for help



#### SKILLS AND PERSONALITY

With her long life experience, Sofia has good knowledge of crisis preparedness in general because it was important in her home country. On the other hand, she is unsure of her linguistic ability, mainly when it comes to understanding written communication from, for example, various authorities, despite the fact that she has sufficient oral Swedish skills. If there is something she does not understand, she asks the children for help. She does not think it is a problem, because they have always done so in the family. She is not entirely comfortable using digital aids to carry out errands, but rather talks to a person.



#### USER STORIES

*As a resident*, I become insecure when crisis information is communicated via letters in the mailbox, because I think it can be difficult to know if I have understood the information correctly.

*As a user*, I want to understand how to act during a social disturbance and know where shelters are located. In addition, I want to be able to talk to a natural person I trust, a family member or someone in Gårdsby.

During a social disturbance, *I believe* I can contribute with my long experience in geriatric care.

#### ATTITUDES

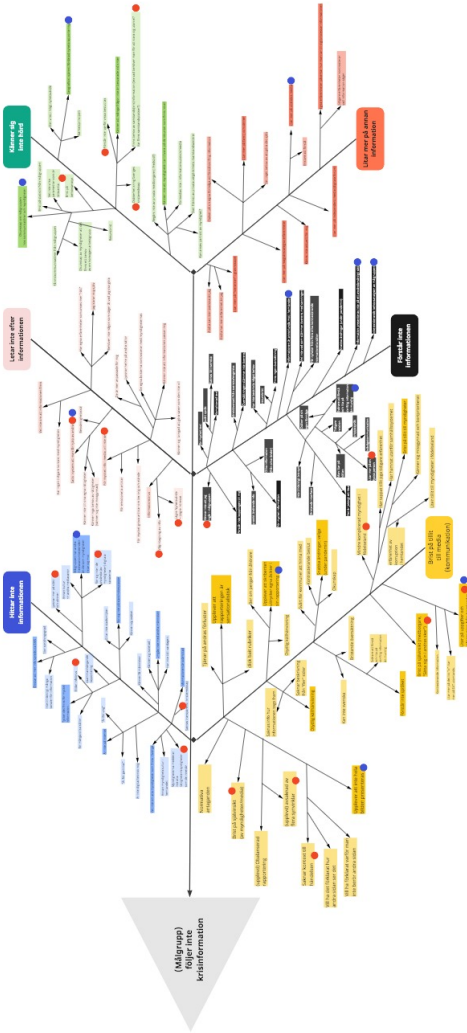
Sofia consumes news from Swedish news channels on TV and from her home country. If the news or information differs in the Swedish reports against the foreign ones, she trusts the foreign ones more, because she understands them better. But it certainly creates some confusion. In addition, there was some teaching of crisis preparedness in primary school in her home country, so Sofia feels that she has a high level of knowledge about crisis preparedness but thinks Sweden can be a little too lazy in its crisis preparedness and communication sometimes.

During the Corona pandemic, Sofia often became unsure whether she'd understood the written information correctly. Then she asked her children for help. Sofia started using mouth guards long before Sweden recommended it and has tried as much as possible to stay indoors.



\*Community trust (swe: lokalsamhälletillit) is defined as trust in people and authorities in the area where you live.

Phase 3: Fishbone Diagram



miro

## Phase 4: Needs & Requirements

### 1. The Public

*"The public" is the researched demographics of the districts that are defined as "exposed areas" by Government Authorities in the larger Gothenburg and Stockholm regions.*

ID	Need: In order to understand and act on crisis information, the public needs...	Cause/effect: In order to...
1.1	... to be provided with crisis information orally, visually and in writing	... increase the probability of understanding and remembering the information
1.2	... to understand the information provided	... act on it
1.3	... to understand the context of the information	... to understand why it adheres to them
1.4	... to trust the informational source	... act on it and believe in it
1.5	... to be provided with crisis information in different languages	... understand it and act on it
1.6	... to be provided with crisis information in plain language	... understand it and act on it
1.7	... to be able to be provided with the information via multiple channels, such as relatives, facilitators, digitally and mail.	... find the information
1.8	... two-way communication	... be able to make sure they understood the information, ask questions and thereby have confident in their understanding
1.9	... up to date information	... know how to act
1.10	... to understand why crisis management/information differs in different countries or contexts (e.g. if global crisis)	... to know how to act
1.11	... to distinguish disinformation (from information)	... know how to act

### 2. The Public (Relatives)

*"The Relatives" is the closest social connection to "the Public". They facilitate the informal information process to "the Public" by explaining communication provided by Authorities.*

ID	Need: In order to mediate information to the citizens, their relatives need...	Cause/effect: In order to...
2.1	... to understand the crisis information and how the public is expected to act	... be able to mediate information to their relatives
2.2	... to trust the informational source	... communicating the information
2.3	... up to date information	... mediate correct information
2.4	... to be well trusted by their relative(s)	... be listened to
2.5	... guidance in how to communicate about crises with their relatives	... mediate correct information

### 3. Facilitators

*"Facilitators" are citizens of the districts that have knowledge/insight of the social and cultural contexts in the area, the demographics, and have a connection/platform to speak to the Authorities/Municipality.*

ID	Need: <i>In order to communicate with the citizens and the communicators, the facilitators need...</i>	Cause/effect: <i>In order to...</i>
3.1	... to be a heterogeneous group of people in terms of e.g. age, origin and language spoken	... be able to communicate with as many citizens in the area as possible
3.2	... to have a good local connection	... provide communicators with information about the area and the citizens living there.
3.3	... to have social skills	... feel comfortable communicating with many people
3.4	... to be provided with correct crisis information	... mediate correct information
3.5	... to provide citizens with crisis information orally and in writing	... enable two-way communication and reminder to the citizens when they get back home
3.6	... to provide their knowledge about the citizens and the local area to the communicators and authorities	... improve the crisis communication from authorities and communicators
3.7	... to provide qualitative data about the citizens and the local area to the communicators and authorities	... create empathy and understanding for the user group
3.8	... to provide quantitative data about the citizens and the local area to the communicators and authorities	... enable filtration based on quantitative data

### 4. Service for data collection

*The data collection service aims at collecting data from the facilitators and making sense/simplification of the data for the communicators.*

ID	Requirement/Guideline: <i>In order to facilitate the transfer of information between facilitators and communicators, the data collection service should...</i>	Cause/effect: <i>In order to...</i>
4.1	... Simplify the raw information input -> tangible and contextual output	... be understood by the communicators for them to target the public
4.2	... allow filtration of contextual data parameters (e.g. age, occupation, origin)	... provide CCs with tangible data
4.3	... give contextual (crisis) information (eg. certain parameters for fire, war, storm or riot)	... make it easier for the CCs to adapt their communication to the situation
4.4	... be as time saving as possible to use	... be used by the facilitators
4.5	... be as non-demanding - in terms of having to analyze - as possible	... be used by the facilitators
4.6	... provide CCs with what communication channels a certain "target persona/demographic" most likely uses	... reach the target group
4.7	... provide CCs with "the public" levels of, e.g. digital knowledge, Swedish knowledge, social trust and knowledge of crisis preparedness.	... reach the target group
4.8	... provide CCs with up to date information about the target group since the information is updated continuously	... reach the target group

### 5. Communicators

*"Communicators" are authority professionals tasked to inform the public of local events, incidents and crises through public channels, both physical and digital.*

ID	Needs: In order to understand the information provided by the facilitator and learn about the user group, the communicators need...	Cause/effect: In order to...
5.1	...to be aware of the needs of "the public"	... reach the target group
5.2	...to be aware of the social context of "the public"	... reach the target group
5.3	...to be aware of the cultural context of "the public"	... reach the target group
5.4	...to know the language skill of "the public"	... know how to adapt the information for given target group
5.5	... to have statistics of "the public"	... know how to adapt the information for given target group
5.6	... to have an overview of the different target groups of "the public"	... know how to adapt the information for different target groups
5.7	... to receive continuous updates of "the public" and their needs through "the process".	... be given up to date information about the target group
5.8	... be able to make conclusions of how to communicate to "the public" quickly.	... be able to communicate information fastly
5.9	... trust and adhere to the information given by the "data collection".	... in order to wanting to use it
5.10	...be able to filter parameters of "the public" that can enhance their targeted communication.	... know how to adapt the information for given target group
5.11	... be able to update their existing communications	... to adhere to the needs of the "public".
5.12	... to be aware of communication channels used by "the public".	... reach the target group
5.13	... guidelines to adapt their communication based on the channels used by "the public"	... reach the target group
5.14	... to be aware of the level of trust that "the public" has toward authority.	... know what channels/persons/organizations to communicate through
5.15	...guidelines to influence the levels of trust that "the public" has by "template paths".	... effectively improve the level of trust in the communication
5.16	...to know what information they currently lack	... be able to make an informed decision on communication strategy



## Phase 4: Validation Survey

### Concept Evaluation

The concept evaluation aims at collecting data on benefits and drawbacks about the designed process from both communicators (the target group) and individuals who currently work similarly as the facilitators in this designed process. Furthermore, the evaluation aims at collecting insights about benefits and drawbacks about the personas from the communicators, in order to evaluate what information they may need to empathize with the citizen group.

#### 1. Undersöka om processen känns genomförbar och hur den förbättras

##### *Intro*

- 1.1. Din roll?

##### *Förklara och visa processen med hjälp av scenario*

- 1.2. Vad är ditt första intryck av den här processen?  
 1.3. Vad tror du kan fungera bra?  
 1.4. Vad tror du fungerar mindre bra?  
 1.5. Vad saknas, enligt dig, i processen för att du ska kunna enklare anpassa din kommunikation till målgruppen?  
 1.6. Vilken typ av information om händelsen/krisen är viktig för dig för att kommunicera effektivt?

##### **Alternativa förslag**

- 1.7. Hur tror du att det hade påverkat om ... hade varit del av processen istället?  
 1.8. Hur tror du att det hade påverkat om ... hade varit del av processen istället?  
 1.9. Hur tror du att det hade påverkat om ... hade varit del av processen istället?  
 1.10. Rent generellt: Vilken typ av information hade du behövt för att bättre nå målgruppen?

#### 2. Undersöka vad som fattas i personas för kommunikatörer att förstå användargruppen

- 2.1. Vad behöver du, som kommunikatörer, veta om den målgrupp du försöker nå för att kommunicera effektivt?  
 2.2. I ditt nuvarande arbete, saknar du resurser att nå alla målgrupper genom de befintliga kanaler du använder?  
*Presentera Personan - Det här är en representation av en målgrupp baserat på kvantitativa och kvalitativa studier.*  
 2.3. Vad är ditt första intryck av den här personen? (I relation till ditt arbete som kommunikatör)  
 2.4. Vad tycker du är bra?  
 2.5. Vad tycker du är mindre bra?  
 2.6. Låt säga att du ska försöka nå ut till en specifik målgrupp, tror du att en persona kan vara ett hjälpmedel för att nå målgruppen? (*Fri text*)  
 2.6.1. Blir det enklare för dig att förstå vad en viss målgrupp behöver?  
 2.6.2. Vad saknas?  
 2.6.3. Vad kan förtydligas?

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