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**Technology as a Mediator in Supporting Successful
Crowdfunding Campaigns:
A Case Study on a Charitable Crowdfunding Platform**

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Abstract

The digital economy can generate new opportunities for the labor market, as working is no longer geographically limited in the era of the internet. Platform-based crowdfunding activities have been presented as a potential way to create entrepreneurial ecosystems in the global south, promoting entrepreneurship and increasing access to financial resources.

This thesis explores how technology can serve as a mediator, supporting efficient communication in the context of charitable crowdfunding. This thesis studies Namstarter, a Namibian platform working towards uplifting young entrepreneurs in Namibian informal settlements by providing means for entrepreneurs to connect with funders. The main research question is, *'What technical features a crowdfunding campaign form should contain to support bridging the gap between campaign creators and potential backers?'*. To answer the main research question, the research approaches to understand the context in more detail through two sub-questions *'What kind of a gap is there between Namstarter creators and potential backers?'* and *'What challenges do the creators face when creating the campaigns, and how do these challenges impact the campaign's success?'*. Qualitative methods were used to answer the questions and gather data. Data was gathered by using three methods: semi-structured interviews, usability testing, and observations. The fieldwork was conducted in Windhoek, Namibia.

The thesis examines the gap between creators and backers through social distance categories: affective, interactive, normative, and cultural and habitual social distance. The thesis suggests specific technical features a campaign form should include to support the creators in communicating a successful campaign and narrow the social distance. The results show that social distance can be narrowed with images, videos, personal stories, and enabling and encouraging interaction between the creator and the backer. Furthermore, adding support questions to the digital campaign form can guide the creator in communicating the most important aspects of the campaign. The presented features are insufficient to fully support creators in creating successful campaigns, as creators also require proper instructions, examples and training.

Keywords Crowdfunding, Charitable crowdfunding, Entrepreneurship, Digital services, Social distance, Namibia

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Tiivistelmä

Internetin yleistytessä työn tekeminen ei enää ole maantieteellisesti rajoitettua ja digitalisaatio luo uusia mahdollisuuksia työmarkkinoille. Alustapohjaista joukkorahoitustoimintaa on esitetty mahdollisena tapana luoda yrittäjäekosysteemejä globaalissa etelässä, edistämällä yrittäjyyttä sekä lisäämällä taloudellisten resurssien saatavuutta.

Tämän diplomityön tavoitteena on selvittää, kuinka teknologia voi tukea tehokasta viestintää alustapohjaisen joukkorahoitustoiminnan yhteydessä. Työ tutkii Namstarter -alustaa, joka on hyväntekeväisyyteen perustuva joukkorahoitusalue, jonka tavoitteena on tukea nuoria yrittäjiä epävirallisissa asutuksissa ja syrjäseuduilla Namibiassa. Diplomityön päätutkimuskysymys on *'Mitä teknisiä ominaisuuksia joukkorahoituskampanjalomakkeen tulisi sisältää, jotta se tukisi kampanjan luojien sekä potentiaalisten tukijoiden välistä kuilua?'*. Vastausta pääkysymykseen haetaan tarkastelemalla alustan kontekstia tarkemmin kahden tukikysymyksen avulla: *'Minkälainen kuilu on Namstarter kampanjan luojien sekä mahdollisten tukijoiden välillä?'* ja *'Mitä haasteita Namstarter kampanjan luojat kohtaavat laatiessaan kampanjaa ja miten nämä haasteet vaikuttavat kampanjan menestykseen?'*. Tutkimuksessa hyödynnettiin laadullisia menetelmiä kysymyksiin vastaamiseen sekä tiedon keräämiseen. Aineistoa kerättiin seuraavilla tutkimusmenetelmillä: haastattelulla, käytettävyydestestauksella sekä havainnoinneilla. Kenttätyö toteutettiin Windhoekissa, Namibiassa.

Diplomityössä kuvaillaan kuilua kampanjan luojien sekä tukijoiden välillä käyttämällä sosiaalisen etäisyyden luokkia: affektiivinen, vuorovaikutteinen, normatiivinen sekä kulttuurinen ja sosiaalinen etäisyys. Alustan digitaalisen kampanjalomakkeen tulisi sisältää teknisiä ominaisuuksia, jotka tukevat kampanjan luojia onnistuneen kampanjan viestinnässä sekä kaventavat sosiaalista etäisyyttä. Tulokset osoittavat, että sosiaalista etäisyyttä voidaan kaventaa kuvilla, videoilla ja henkilökohtaisilla tarinoilla, luojan ja tukijan välisellä vuorovaikutuksella. Lisäksi, tukikysymysten lisääminen digitaaliseen kampanjalomakkeeseen voi ohjata luojaa kommunikoimaan kampanjan tärkeimmistä näkökulmista. Nämä ominaisuudet eivät riitä täysin tukemaan onnistuneen kampanjan luomisessa, sillä luojat tarvitsevat myös ohjeistusta, esimerkkejä sekä koulutuksia.

Avainsanat Joukkorahoitus, Yrittäjyys, Digitaaliset palvelut, Sosiaalinen etäisyys, Namibia

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Espoo, March 2023

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Abbreviations and Acronyms

DDM - Digital Design Marginalization

DSRM - Design Science Research Methodology

HCI - Human-computer interaction

HCI4D - Human-computer interaction for development

ICT4D - Information and communications technology for development

PD - Participatory Design

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1 Introduction

Urbanization is a rapidly growing phenomenon. Today, 55% of the world's population lives in urban areas, expected to increase to 68% by the year 2050 (UN DESA, 2019). Increasing urbanization significantly impacts African countries as the number of dwellers in African cities is snowballing (OECD et al., 2022). This has led to an increased population in informal settlements, bringing new social and environmental challenges (Abascal et al., 2022; African Development Bank, 2013). Informal settlements are built environments under illegal or legal tenure. They are often highly populated, with inadequate dwelling units and infrastructure (Wekesa et al., 2011).

Africa is the world's youngest continent by population and suffers from high youth unemployment rates (UN DESA, 2022). Cities attract the youth, as urban dwellers in informal settlements are often young people looking for jobs and opportunities (UN DESA, 2019; Grant, 2012). Youth unemployment is exceptionally high in southern African countries, as it reached 50% in 2019 and is expected to rise in the coming years (ILO, 2020). Namibia has one of the youngest populations in the southern part of Africa, and in 2018 Namibian youth unemployment reached an all-time high of 46 % (Scharrenbroich & Shuunyuni, 2020). Namibia is changing rapidly from a rural society into an urban one. Of the Namibian population of 2.5 million, 40% lives in informal settlements, which is 80% of its urban population (Scharrenbroich & Shuunyuni, 2020).

Today over 60 % of the world's population has access to the internet, and digitalization is changing economies worldwide (Petrosyan, 2023; Graham et al., 2017; Srnicek, 2017). The digital economy can generate new opportunities for the labor market, as working is no longer geographically limited in the era of the internet (ILO, 2020). In today's labor market, employers, employees, and other stakeholders can collaborate from different physical locations (Graham et al., 2017).

While the spread of the internet generates new opportunities for many, it reinforces existing inequalities through the digital divide (Sin et al., 2021; Green, 2002). The digital divide refers to a form of social inequality originating from technology-based inclusivity (Sin et al., 2021). It results from underrepresented groups facing challenges in accessing and utilizing digital services, excluding them from the constantly digitalizing society (Sin et al., 2021; Neely, 2013). Computing vital societal services raise concerns about ensuring equal access to all community members (Neely, 2013). There is a risk of creating a hierarchy that favors the most affluent and discriminates against underprivileged communities, making them outsiders in a technologically dependent society (Neely, 2013). The divide targets

specific segments of the population, often low-income and rural and sometimes urban communities (Mutsvairo & Ragnedda, 2019). Understanding how all design research and practice are influenced by culture and power dynamics should be at the core of all design activities (Irani et al., 2010). Having a critical mindset and including underrepresented user groups in the design process can prevent the widening digital divide and the reinforcement of related inequalities.

Crowdfunding is based on gathering funds from a large pool of donors through online platforms (Davies, 2014). Entrepreneurs can use crowdfunding in the early stages of formulating their businesses to finance their ideas; develop new products and technological innovations (Bagheri et al., 2019). Platform-based crowdfunding activities have been presented as a potential way to create entrepreneurial cultures and ecosystems in the global south (Best et al., 2013). In addition, it has been presented as a way to promote entrepreneurship among the youth and increase entrepreneurs' access to financial resources in marginalized communities (Arvila et al., 2020). Although emphasizing entrepreneurship as a solution to poverty may shift responsibility from the government to act, it has the potential to empower and help to provide a sustainable and stable source of income (Jeffrey & Dyson, 2013).

The way a crowdfunding campaign is communicated is critical to its success. Unfortunately, it is common for campaigns to be unsuccessful, and the amount of money raised often falls short of the initial funding target (Forbes & Schaefer, 2017; Mollick, 2014). To secure funding, campaigns must be presented in a way that attracts potential backers, who are often from different socio-cultural backgrounds. This thesis builds on a finding from research done in 2019: Marginalized and rural communities may have little to no interaction with the communities of their potential backers, making it hard to consider them when creating campaigns (Arvila et al., 2020, Arvila., 2019).

This thesis is carried out in collaboration with Aalto University, Namibia University of Science and Technology, and the Youth Café community center in Havana informal settlement, Windhoek, Namibia. The aim is to study a charitable crowdfunding platform Namstarter, a Namibian platform working towards uplifting young entrepreneurs in Namibian informal settlements by providing means for entrepreneurs to connect with funders (Namstarter, 2017). The platform was founded in 2017 by a Namibia University of Science and Technology research group in collaboration with Aalto University, the Ictechhub, and the Finnish Embassy (Namstarter, 2017). This thesis studies existing campaigns on Namstarter from the backer's and the creator's points of view. The main goal of this thesis is to understand how technology can

serve as a mediator in supporting the effective communication of a crowdfunding campaign.

This thesis adapts the Design Science Research Methodology (DSRM) as the primary research approach. Firstly, the problem is identified, and the motivation for the research is found in previous literature. Secondly, this thesis explores the gap between Namstarter creators and potential backers using social distance categories: affective, interactive, normative, and cultural and habitual social distance. In addition, thesis aims to explore what issues the creators face when creating the campaigns and how these challenges impact the campaign's success. The main goal is to understand how technology can support narrowing the presented gap by recommending specific features for the digital campaign form.

Qualitative methods were used to answer the questions and gather data. The data gathering involves two interviews with potential backers and two workshops with creators. Participatory Design (PD) methodologies are used in the workshops to shift the power dynamics from the designer to the participant and pursue an empowering outcome. The main research question is, *'What technical features a crowdfunding campaign form should contain to support bridging the gap between campaign creators and potential backers?'*. To answer the main research question, the research approaches to understand the context in more detail through two sub-questions *'What kind of a gap is there between Namstarter creators and potential backers?'* and *'What challenges do the creators face when creating the campaigns, and how do these challenges impact the campaign's success?'*.

The structure of the thesis is the following: The conceptual background and related research are presented in chapter 2. Chapter 3 describes the research context in detail and presents the research questions. The methods used are presented in chapter 4. The research is conducted in a manner where each step builds upon the previous, as the aim is to take action and analyze the problem simultaneously. This process is described, and the results showed in chapter 5. Chapter 6 analyzes the results from backer interviews and workshops, and sub-research questions are answered. Chapter 7 aims to answer the main research question by presenting recommendations for crowdfunding platform designers to support effective communication and bridge the gap between backers and creators. A discussion follows this in chapter 8, where the outcome of this thesis is discussed and evaluated. Finally, the conclusions are drawn in chapter 9.

2 Conceptual background and related research

This chapter reviews relevant academic literature and research regarding the research topic. This chapter is divided into three sections. The first section presents crowdfunding and the factors related to its success. The second section focuses on communication and sociology literature regarding social distances, intergroup contact, and intergroup and intercultural communication. Finally, the challenges and opportunities in designing Human-computer interaction (HCI) systems for underrepresented, marginalized groups are presented.

2.1 Crowdfunding

This section presents crowdfunding-related terminology relevant to the research. It defines crowdfunding and its subcategories and goes through the success factors of a crowdfunding campaign and backer motives.

2.1.1 Defining crowdfunding

A standard definition of crowdfunding is raising money from a large pool of donors (the crowd) through online platforms (Davies, 2014). Organizations and individuals can use crowdfunding to raise funds for an entrepreneurial, cultural, or social project or cause, often in exchange for some reward (Petruzzelli et al., 2019; Mollick, 2014). Entrepreneurs can use crowdfunding in the early stages of formulating their businesses to finance their ideas; develop new products and technological innovations (Bagheri et al., 2019).

The term crowdfunding was founded in the early 2000s, but the concept of gathering capital from a crowd has existed for longer, before the internet era (Petruzzelli et al., 2019). With globalization and the rise of platform capitalism, gathering funds no longer depends on a geographical location (Petruzzelli et al., 2019; Agrawal et al., 2015). Individuals can access funders worldwide through a crowdfunding platform (Petruzzelli et al., 2019; Agrawal et al., 2015). Crowdfunding platforms are digital platforms where the campaigns are launched and where the creator and backer meet (Petruzzelli et al., 2019). They create a so-called two-sided market matching backers and creators (Rochet & Tirole, 2003). In two-sided markets, two parties meet and benefit from interacting (Rochet & Tirole, 2003). Usually, crowdfunding platforms have a process of approving campaigns before launching them to verify that the campaigns are truthful and that necessary information is provided (Petruzzelli et al., 2019).

Petruzzelli et al. 2018 present a five-dimension framework (Figure 1) to conceptualize crowdfunding on a platform. The creator and backer meet on a platform where the creator creates a crowdfunding campaign that possibly attracts the backer to fund (Petruzzelli et al., 2019). The interaction results in an outcome that depends on the creators' ability to create something from the gained funds (Petruzzelli et al., 2019). In this thesis, the terms *backer* and *creator* for the two stakeholders in crowdfunding are used.

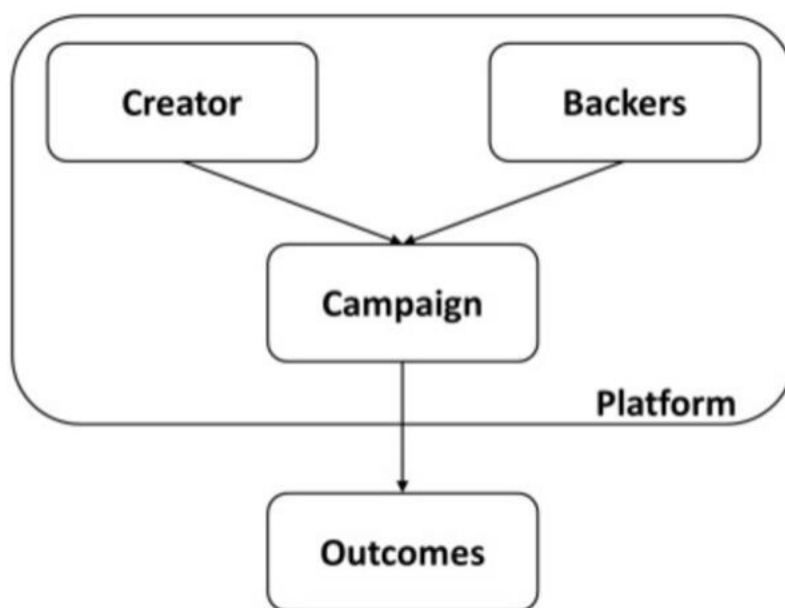


Figure 1: A five-dimension framework to conceptualize the act of crowdfunding on a platform (Petruzzelli et al. 2018)

Academic literature presents different frameworks for presenting different types of crowdfunding on platforms. The five most commonly presented types of crowdfunding models are the reward/pre-purchase, lending, royalty-based, equity-based, and donation models (Belleflamme & Lambert, 2016; Bradford, 2012). However, often several models can exist in parallel on a platform or a crowdfunding campaign (Crosetto & Regner, 2014). For example, donation-based platforms can offer rewards (Crosetto & Regner, 2014).

In the reward or pre-purchase model, the backer gets something non-financial in return (Belleflamme & Lambert, 2016; Bradford, 2012). Such as goods from the company to the backer (Bradford, 2012). In the lending model, the backer lends money to the creator and expects to get repayment on some platforms with interest (Belleflamme & Lambert, 2016; Bradford, 2012). In the royalty-based model, the backers serve as investors. They

expect profits from the business or the artist's royalties in return for the contribution (Belleflamme & Lambert, 2016). The equity model offers the backer a share of the profits of the creator's business (Bradford, 2012). In this model, the backer invests in securities: shares or bonds (Belleflamme & Lambert, 2016; Bradford, 2012). Finally, the donation model is where the funds are donated, meaning the backers will not get anything tangible in return for funding (Belleflamme & Lambert, 2016; Bradford, 2012). This model can also be called the patronage model (Mollick, 2014). The donation model is used in charitable crowdfunding, where donations are given to the ones in need (Liu et al., 2018). Charitable crowdfunding differs from traditional charity since instead of a small group of people with significant contributions, it relies on crowds with small contributions (Liu et al., 2018). Backers on charitable crowdfunding platforms often have philanthropic motives (Choy & Schlagwein, 2016). This thesis mainly focuses on donor-based charitable crowdfunding.

2.1.2 Success factors in a crowdfunding campaign

To receive funding, creators must create engaging crowdfunding campaigns to attract potential backers. Unfortunately, it is common for crowdfunding campaigns to fail, and often received funds are not even close to the creator's original funding goal (Forbes & Schaefer, 2017; Mollick, 2014). According to literature and academic research, several factors affect the success of a crowdfunding campaign. These factors have to do with the way the campaign is communicated, the amount of interaction there is between the creator and backer, the funding goal, and the duration and the marketing of the campaign (Arvila et al., 2020; Wang et al., 2018; Forbes & Schaefer, 2017; Luukkarinen et al., 2016; Yuan et al., 2016; Li & Jarvenpaa, 2015; Mollick, 2014). When discussing reward-based crowdfunding, the reward has much to do with the campaign's success. However, this thesis focuses on donor-based charitable crowdfunding, and therefore the effects of rewards in crowdfunding campaigns are not addressed. This section presents academic literature on the success factors of crowdfunding campaigns.

How a crowdfunding campaign is communicated is critical to its success (Arvila et al., 2020; Yuan et al., 2016; Mollick, 2014). To create a successful campaign, the creator needs to communicate in a way that attracts possible backers. Possible cultural differences or cultural gaps affect the success of crowdfunding campaigns (Arvila et al., 2020; Yuan et al., 2016). If the campaign is not written to attract the target audience, which can be a person from a different socio-cultural background, the message might not go through (Arvila et al., 2020; Yuan et al., 2016). It is vital that the quality of the campaign is high and that the creator's motivation shows (Liu et al., 2018; Mollick, 2014). Motivation can be communicated by creating campaign

videos, frequently updating the campaign, and ensuring there are no spelling errors in the text (Mollick, 2014). Also, quality in terms of the user interface of the crowdfunding website, such as the navigability and visual appeal, affects the success of the campaign (Liu et al., 2018).

Backers are only interested in funding if they know what the creators will use their money for and if the campaign raises trust in the creator (Forbes & Schaefer, 2017; Mollick, 2014). Backers are interested in seeing a financial plan with detailed information on how the creators will use the money (Forbes & Schaefer, 2017). Trust is an essential element in the success of a crowdfunding campaign in general. The feeling of trust in backers can be raised by choosing an appropriate, trustworthy crowdfunding platform, emphasizing the creator's qualifications, experience, and capabilities in the campaign, and presenting a comprehensive business plan with market analysis and professional endorsements (Moysidou & Hausberg, 2019).

Crowdfunding campaigns can consist of one-way and two-way directional communication flows (Wang et al., 2018). Interactivity happens when there is a channel for communication and feedback (Duncan & Moriarty, 1998). This turns one-way communication into two-way communication (Duncan & Moriarty, 1998). Interaction between the backer and the creator can increase the possibilities for a campaign's success (Li & Jarvenpaa, 2015; Mollick, 2014). Often crowdfunding platforms enable interaction between the backer and creators in comment sections within the campaign (Li & Jarvenpaa, 2015; Mollick, 2014). Backers can post comments and express feedback about the campaign, whereas creators can, on their part, can interact by posting about the project's progress (Li & Jarvenpaa, 2015; Mollick, 2014). The interaction between the backer and creator in the comments section is often visible to anyone visiting the campaign page (Li & Jarvenpaa, 2015). The comments provide valuable information for the potential backer and can affect their decision-making (Li & Jarvenpaa, 2015). The comment section can communicate to potential backers whether other backers are interested in the campaign and what they think about the project (Li & Jarvenpaa, 2015). The quality of comments and replies affects the success of crowdfunding campaigns. The research conducted in 2018 (Wang et al.) shows that the number of comments, the sentiment of the comments, reply length, and speed positively affect the campaign's success. Comment quantity and sentiment most affect potential backers' decision-making (Wang et al., 2018). The research showed that it is vital that creators reply to backers since this is how two-way communication is created (Wang et al., 2018).

Often crowdfunding campaigns have a progress bar on the number of funds it has gained and the number of backers visible. According to research done

in 2017 (Forbes & Schaefer), backers are interested in funding campaigns with a high percentage of funds rather than a high amount of funds, meaning that one success factor is for the creators to set the funding goal low to reach a high percentage of funds received faster. However, according to research done in 2016 (Luukkarinen et al.), backers are interested in campaigns with high goals in equity-based crowdfunding because this can help creators take stronger measures to promote growth and increase in value. According to a study done in 2014 (Mollick), a long campaign duration can negatively affect the campaign's success. A short campaign shows the creator's confidence in their project and communicates decisiveness and ability to deliver (Luukkarinen et al., 2016; Mollick, 2014).

The creator's personal social network size affects the campaign's success because it brings more connections to potential backers and can boost the quality of the project (Mollick, 2014). As previously said, backers are interested in campaigns with a high percentage funded rather than a high percentage of funds received (Forbes & Schaefer, 2017). Once a creator has a base of investors gathered before the campaign's launch, it can result in a campaign with a high percentage of funds from the start (Forbes & Schaefer, 2017; Luukkarinen et al., 2016). Research shows that social media networks correlate with successful crowdfunding (Luukkarinen et al., 2016). Posting a campaign on social media can be an excellent way to market the campaign (Luukkarinen et al., 2016). Backers can spot the shared campaign on social media and follow the link to funding the campaign (Luukkarinen et al., 2016). However, entrepreneurs creating campaigns with higher potential may be more likely to share them on social media (Luukkarinen et al., 2016).

2.1.3 Backer motives

In order to fully understand the factors behind a successful crowdfunding campaign, one must understand the motives of the backer. This section describes what motivates a backer to fund a crowdfunding campaign in donation-based charitable crowdfunding.

A study shows that the performance expectancy of the campaign does not significantly influence backers' willingness to fund (Chen et al., 2021). Instead, donors seem to be influenced more by social factors and emotions (Chen et al., 2021). Motivation for donating to charitable crowdfunding campaigns is often driven by the individuals' empathy, altruism, internal rewards, social influence, and a sense of self-worth (Chen et al., 2021; Bagheri et al., 2019; Liu et al., 2018). Another factor that can positively affect backers' motivation to fund is the platform's usability (Chen et al., 2021).

Burtch et al. (2013) found that backers prefer culturally similar and geographically proximate creators. Lin and Viswanathan (2016) refer to this phenomenon as "home bias." It means that agents like funders, investors, and businesses are more likely to collaborate with causes that are geographically closer to them (Lin & Viswanathan, 2016). Similarly, Mollick's (2014) findings suggest that geography may play an essential role in the success of a crowdfunding campaign, as a like-minded population in the creator's home city can lead up to a greater chance of success. For example, a creative crowdfunding initiative and a home city with many creative people can increase the chance of getting funding (Mollick, 2014). Therefore, targeting backers similar to the creators seems beneficial to provide shared meaning and create a successful campaign. However, sometimes having cultural differences can be an asset. Since intercultural social interaction can stimulate creativity and innovation, cultural differences can help backers learn and expand their horizons (Fan et al., 2021). The following section examines cultural and habitual social distance and intercultural communication more in-depth.

2.2 Social distance and intergroup contact

Two-sided markets, such as crowdfunding platforms, create value when the sides interact (Rochet & Tirole, 2003). Interactivity happens when there is a channel for communication between the backer and creator on the platform (Duncan & Moriarty, 1998). Crowdfunding campaigns can consist of one-way and two-way directional communication flows (Wang et al., 2018). When the creator creates a campaign without receiving feedback or comments, it is called a one-way directional flow of communication (Duncan & Moriarty, 1998). Effective one-way and two-way communication between parties with different cultural and social capital plays a role in the success of a crowdfunding campaign (Arvila et al., 2020; Yuan et al., 2016; Lin & Viswanathan, 2016; Burtch et al., 2013). This section describes the phenomenon of social distance and how successful intergroup contact and communication can potentially narrow it.

2.2.1 Social distance

Social distance refers to the distance between groups we identify ourselves with (Karakayali, 2009). It is the relationships of familiarity and strangeness between these groups, experienced as "We" and "They" (López, 2021). We identify in multiple groups based on different attributes such as generation, gender, race, occupation, political orientation, religion, or culture (Liu et al., 2010; Gudykunst, 2004). These groups can conflict, and we might be positioned into groups we do not want to be a part of (Liu et al., 2010; Giles & Watson, 2008). We form social identities based on our group memberships

and when aware of these memberships, we form social identities (Liu et al., 2010; Gudykunst, 2004). Identities give us a sense of belonging and place (Liu et al., 2010; Lie, 2003). They refer to an individual's experience of self in relation to the world (Liu et al., 2010). Identities can be divided into individual and collective identities (Liu et al., 2010). Individual identity refers to an individual's distinction from others, whereas collective identities refer to group memberships (Liu et al., 2010).

A study by Weinmann & Mishra (2019) shows that the amount of social distance affects the willingness of a backer to donate and the success of a crowdfunding campaign. This roots in the Construal level theory, which states that individuals feel more concretely about elements that feel closer to them and abstractly about elements that feel far (Trope & Liberman, 2010; Trope & Liberman, 2003). When engaging with abstract elements, people tend to think more about the bigger picture and are less likely to take action, whereas when engaging with more concrete elements, people are more likely to act (Weinmann & Mishra, 2019; Trope & Liberman, 2003). In charitable crowdfunding, backers are more likely to donate when the social distance is low because this makes them feel closer to the cause, and more close and concrete elements make people take action (Weinmann & Mishra, 2019). Social distance in the study was narrowed by posting images of identifiable humans (Weinmann & Mishra, 2019).

Social scientists often divide social distance into four distinct categories: interactive, affective, normative, and cultural and habitual social distance (López, 2021; Karakayali, 2009). Interactive social distance describes the extent to which different social groups interact with one another (López, 2021; Karakayali, 2009). Affective social distance describes the degree of sympathy a person from a social group feels for a person from another social group, whereas normative social distance is seen as the differences we identify between ourselves and people from other social groups (Karakayali, 2009). It is about recognizing norms inside social groups (Karakayali, 2009). Normative and affective distances are not necessarily related to one another (Karakayali, 2009). For example, normatively close group members do not always feel sympathy for one another, and vice versa: groups with high normative social distance might feel compassion for one another (Karakayali, 2009). The cultural and habitual social distance refers to the distance stemming from the extent to which groups share similar traits (López, 2021). The concept of cultural and habitual social distance was introduced by Bourdieu in 1990 when he proposed that social groups can be divided based on the "capital" the groups possess. The "capital" can be presented in three forms: economic capital, cultural capital, and social capital (Bourdieu, 1986). Economic capital refers to the money, or property one possesses, cultural capital refers to education, skills, and knowledge, and social capital refers to

social connections (Bourdieu, 1986). In certain conditions, cultural and social capital can be converted into economic capital (Bourdieu, 1986).

Trust is an essential aspect of many social interactions, and it has been studied across different scientific disciplines (Thielmann et al., 2015). Also, the relationship between trust and social distance has been a topic in academic research. A study shows that reducing social distance can increase trust among individuals (Etang et al., 2009; Buchan et al., 2006). Furthermore, irrelevant yet personal communication between groups increases trust, and as cooperation decreases, social distance increases (Buchan et al., 2006).

2.2.2 Intergroup and intercultural communication

A study shows that frequent contact between groups can lead to narrowed social distance (Ives et al., 2016). This finding is in line with Allport's (1954) intergroup contact theory, which states that the amount of contact between members from different groups can reduce the amount of intergroup prejudice. Allport (1954) describes four characteristics of successful intergroup contact: groups of equal status, common goals, the necessity to cooperate to achieve goals, and the support of authority figures. Equal status refers to members of contact situations having an equal and non-hierarchical relationship (Ives et al., 2016; Allport, 1954). A common goal highlights the importance of members relying on each other to achieve a shared goal in the contact situation (Allport, 1954). The necessity to cooperate means that members should work together in a non-competitive environment (Allport, 1954). Finally, the support of authority figures means that norms, laws, and customs support positive intergroup relations instead of allowing discrimination (Allport, 1954).

Intergroup contact is by definition, a communicative event (Harwood & Joyce, 2012). Communication can be defined as the interaction between people, people and institutions, and people and products (Lie, 2003). Intercultural communication and intergroup communication are parallel traditions of theorizing communication (Giles & Watson, 2008). Intercultural communication tries to understand how culture affects communication between groups, whereas the intergroup communication approach focuses on how social identities and group memberships affect communication (Ting-Toomey & Dorjee, 2015; Giles & Watson, 2008; Gudykunst, 2004). Intergroup communication does not include intercultural communication, but there are strong links within them (Giles & Watson, 2008).

Communication and culture are strongly related to each other. Through communication, culture is made public, and communication is constantly being shaped through culture (Lie, 2003). Culture is a cognitive system of beliefs and knowledge for people to perceive, relate and interpret the world around them (Keesing, 1974; Goodenough, 1961). It is adaptive and can develop and change inside ecosystems (Keesing, 1974; Goodenough, 1961). Culture can be affected by demographics, environment, technology, and other systemic constructions (Keesing, 1974). Hofstede and Bond (1984) define culture as a “state of the surrounding social system” that affects a person’s psychological processes and the economic, political, and sociological functions of social systems (Hofstede & Bond, 1984). The culture an individual comes from affects how they communicate, and vice versa, and how groups communicate can affect the culture (Gudykunst & Ting-Toomey, 1988).

Stereotypes affect our communication, and we have stereotypes towards people from our cultures and people from different cultures (Gudykunst, 2004). When communicating with others, we seek information that helps us understand them better and recognize the extent of “social overlap” we have with them (Gudykunst, 2004; Cottrell & Chayko, 2003). With this information, we create stereotypes to efficiently categorize the person in our mind and activate a mental model that helps us make sense of our surroundings and adapt to the situation (Cottrell & Chayko, 2003). This process makes communicating with new people more efficient and simpler. It prevents us from treating each situation and person as unique and being overwhelmed with new information (Cottrell & Chayko, 2003). We are often more successful when communicating with people from our own culture since we often feel more connected to people who are the “same type” as us (Gudykunst, 2004; Cottrell & Chayko, 2003). In addition to this, our stereotypes about our culture are often more favorable than others (Gudykunst, 2004). Having inaccurate stereotypes about others leads us to misinterpret the received message (Gudykunst, 2004).

Intercultural communication competencies can be developed, and this can lead to bridged cultural differences in communication. Successful intercultural communication requires focusing on similarities with our peers rather than differences (Liu et al., 2010). Once one's knowledge of others' cultures increases, attitudes become more positive, and motivation for intercultural communication rises (Liu et al., 2010). High motivation often translates to behaviors: of more frequent communication (Liu et al., 2010). Successful intercultural communication lessens ambiguity and uncertainty towards intercultural interactions and encourages one to participate in further interaction, ultimately leading to deeper intercultural knowledge (Liu et al., 2010; Gudykunst, 2004). In general, striving to understand our peers

from their own cultural perspective can help overcome stereotyping and prejudice (Liu et al., 2010).

2.3 HCI systems for underrepresented groups

Two individuals and the technology between them form a three-sided social unit, "a triad," as the mediator channels information from one person to another (Cottrell & Chayko, 2003). In crowdfunding, the platform serves as the mediator, and the creator and backer are the two other sides of the triad. This research proposes using the technology mediator to support efficient communication in the context of crowdfunding. This section presents the challenges and opportunities in designing HCI systems for underrepresented, marginalized groups. The concept of Digital Design Marginalization (DDM) and postcolonial computing are described, and the last section presents how technology could be utilized to empower users.

2.3.1 Digital design marginalization

Both culture and technology reflect the society they originate from and the power differences of their people (Green, 2002). Technology can be neutral as a physical object, but its usage is associated with privilege and exclusivity (Green, 2002). Technology is not a neutral entity since it is always developed in specific social and cultural circumstances (Green, 2002). The digital divide refers to the social inequality originating from technology-based inclusivity arising (Sin et al., 2021). It results from underrepresented groups facing challenges in accessing and utilizing digital services, excluding them from the constantly digitalizing society (Sin et al., 2021; Neely, 2013).

The digital divide is not only about being an outsider of the digital society, as it can also affect users with internet connection. For example, the mobile phone has been praised for democratizing internet access because it is affordable and easily accessible (Sin et al., 2021; Napoli & Obar, 2013). However, relying solely on a mobile internet connection can lead to users falling short of technological capabilities, usage patterns, and cross-platform skills (Sin et al., 2021; Napoli & Obar, 2013). Insufficient digital skill sets make these users second-class citizens online, and digital inequalities can lead to social inequalities (Sin et al., 2021; Robinson et al., 2015; Napoli & Obar, 2013). Sometimes technologies designed to bridge digital divides can, in fact, create even deeper divides between groups (Sin et al., 2021).

DDM describes activities enabling and growing the digital divide (Sin et al., 2021). The digital divide is becoming wider when underrepresented user groups are excluded from design processes (Sin et al., 2021). Designers are excluding groups due to ignorance and oblivion. Within the design

community, there is a lack of understanding of the extent of social consequences the exclusion might cause (Sin et al., 2021). The consequences of DDM may extend beyond the direct use of the digital interface (Sin et al., 2021). DDM does not only lead to digital exclusion, but it can also create new social inequalities or reinforce existing ones (Sin et al., 2021). DDM encourages designers to critically consider their entire design process and recognize how the digital product they create impacts people's both online and offline lives (Sin et al., 2021). A critical mindset can avoid creating marginalizing design and widening digital divides (Sin et al., 2021).

2.3.2 Postcolonial computing

The postcolonial era has led to the rewriting of many disciplines in the humanities, giving voice to previously silenced groups (Philip et al., 2010). However, the science and technology fields remained less open to rewriting (Philip et al., 2010). Philip et al. (2010) suggest that postcolonial science studies generate new questions and ways of looking at the world and finding answers to questions already posed. A critical perspective when designing and evaluating HCI systems can prevent DDM, widening the digital divide and reinforcing inequalities (Sin et al., 2021; Lin et al., 2015).

The postcolonial theory is a critical theory that provides concepts for understanding broader aspects of global development and underdevelopment (Lin et al., 2015). It focuses on unbalanced power dynamics between groups and nations (Lin et al., 2015). The postcolonial approach does not solely focus on history but also on today's world. Although colonial relationships may have dissolved, the global dynamics of power, wealth, economic strength, and political influence remain and shape contemporary cultural encounters (Irani et al., 2010). Postcolonial computing is an analytical orientation to understand how power affects design projects (Irani et al., 2010). It seeks to understand how all design research and practice are influenced by culture and power dynamics, even if perceived as universal (Irani et al., 2010). Acknowledging this should be at the core of design practice rather than a challenge to be addressed (Irani et al., 2010).

Information and communication technology for development (ICT4D) is an academic field studying the use of ICT for international development (Walsham, 2017). The field is looking into how to extend the positive impacts of the constantly spreading ICTs (Walsham, 2017). It is a large and versatile terrain consisting of a wide range of disciplinary approaches: such as computer science, HCI, geography, anthropology, and development studies (Walsham, 2017). The field of ICT4D addresses a complex societal topic, and the approach has received criticism within academic literature (Pieterse,

2010). Rather than creating development, Wade (2002) sees ICT4D as a risk to create new dependencies between developing countries and the West. The desire to propose technological solutions to solve complex real-world problems is called technological solutionism. Technological solutionism describes an ideology where societal issues are split into simplified problems with easily calculable solutions or as easily optimized processes that can be solved with technological intervention (Morozov, 2014).

A study by Lin et al. (2015) analyzed an ICT4D project from the lens of postcolonial theory. Based on the findings, they propose considering the following factor from more successful ICT4D projects. Firstly, ICT4D projects should not solely concentrate on achieving the socioeconomic progress of disadvantaged communities. Instead, they argue that addressing underlying social issues is crucial for the success of the projects (Lin et al., 2015). Secondly, it is essential to ensure a longer time horizon in ICT4D projects (Lin et al., 2015). Short-term and narrowly focused projects cannot address these more deep-seated problems (Lin et al., 2015). Finally, they suggest that the community designed for, should serve as active participants rather than passive or dependent recipients (Lin et al., 2015). Being in a passive role creates a risk for the community to become more dependent on the mainstream for knowledge and resources (Lin et al., 2015).

2.3.3 Empowerment in HCI

Inside the broad area of ICT, there has been a growing interest in understanding and examining how interactive products can be designed in a manner that serves the needs of users in developing regions and to cope with challenging infrastructural contexts (Ho et al., 2009). The Human-computer interaction for development (HCI4D) research domain addresses these challenges as it looks into understanding and designing technologies for underserved, under-resourced, and under-represented populations around the world (van Biljon & Renaud, 2019; Dell & Kumar, 2016). As a young and growing field of research, HCI4D brings a more inclusive and diverse perspective in the field of HCI, encouraging designers to consider the global impact of their work (Dell & Kumar, 2016).

HCI4D and ICT4D research have been looking into how to design digital services that empower users (Keskinen & Winschiers-Theophilus, 2020). Empowerment is a social process enabling people to gain control over their own lives (Page & Czuba, 1999). Power is at the core of empowerment (Schneider et al., 2018; Page & Czuba, 1999). Empowerment can only happen in environments where power can shift and expand (Page & Czuba, 1999). Power cannot exist in isolation since it is created within relationships (Page & Czuba, 1999). Schneider et al. (2018) divide empowerment into two

notions of power: power-to and power-over. Power-to indicates an ability to do something (Schneider et al., 2018). Power-over is about relationships between multiple actors (Schneider et al., 2018). Power-over is a dynamic where a group, individual, or organ has the power to persuade another to do something they would not otherwise do (Schneider et al., 2018; Dahl, 1957). In empowering design processes, power-to aims to increase the power of the target group without taking away power from other actors, whereas power-over aims to shift power from one group to another (Schneider et al., 2018).

Placing users at the center of the design process and having their voices heard can lead to empowerment (Schneider et al., 2018). The target group in ICT4D projects must be active participants rather than dependent recipients (Lin et al., 2015). PD is seen as a democratizing methodological approach in design since it can shift the power dynamics from the designer to the participant (Harrington et al., 2019). PD has been used to design with marginalized and underserved populations (Racadio et al., 2014). This methodological approach rooted in Marxist ideals is seen as empowering since it can shift the power dynamics from the designer to the participant (Keskinen & Winschiers-Theophilus, 2020; Harrington et al., 2019; Racadio et al., 2014).

3 Research context

The literature review reveals that it is common for crowdfunding campaigns to be unsuccessful, and the amount of money raised often falls short of the initial funding target (Forbes & Schaefer, 2017; Mollick, 2014). To secure funding, campaigns must be presented in a way that attracts potential backers. Effective communication, both one-way and two-way, between individuals with diverse cultural and social capital plays a role in the success of the campaign (Arvila et al., 2020; Yuan et al., 2016; Lin & Viswanathan, 2016; Burtch et al., 2013). Marginalized and rural communities may have little to no interaction with the communities of their potential backers, which makes it hard to consider them when creating campaigns (Arvila et al., 2020). Technology, society, intergroup contact, and social distance are topics too broad and complex to look into globally and study in the context of this research. Instead, the topic is discussed in a case study, looking into specific instances. This thesis studies a crowdfunding platform Namstarter, a Namibian charitable platform supporting young entrepreneurs in marginalized communities in Namibia (Namstarter, 2017).

This thesis looks into a group of entrepreneurs from an informal settlement in Namibia looking for funding and Namibian investors. With PD efforts, the goal is to develop Namstarter into a more efficient platform for its entrepreneurs, providing support in finding funding for their business ideas. This chapter describes the project background and Namstarter, as well as Havana informal settlement where the platform was founded. In the last section, the research questions are presented.

3.1 Project background

This thesis builds on research done for a master's thesis by Arvila in 2019 (Arvila, 2019). The research studied how to mediate crowdfunding knowledge in marginalized communities (Arvila, 2019). It aimed to understand "whether a training week could provide selected community members the necessary skills to act as crowdfunding advocates in their communities" (Arvila, 2019). My thesis is built upon a specific finding that even when one communicates to the creators the importance of considering the cultural background of the backer whom the campaign targets, it might be challenging to succeed in the task when a marginalized community often has little to no interaction with the communities of the potential backers (Arvila et al., 2020).

This research is done in collaboration with Aalto University, Namibia University of Science and Technology, and the Youth Café community center

in Havana informal settlement, Windhoek, Namibia. The collaboration with the parties started in 2014 when the Finnish Foreign Ministry funded an international two-week course project in Windhoek (Winschiers-Theophilus et al., 2017). The goal of this course was to empower marginalized youth and, in this way, increase the local capacity in the field of Information Communication Technologies for Development (Winschiers-Theophilus et al., 2017). During the previous collaborations, multiple co-design activities have occurred in Havana's informal settlements (Winschiers-Theophilus et al., 2017). These workshops aimed to innovate services promoting entrepreneurship and social innovation within the community (Winschiers-Theophilus et al., 2017). One of the services created in these workshops was Namstarter, a charitable crowdfunding platform developed for the community to support their entrepreneurial initiatives (Namstarter, 2017; Winschiers-Theophilus et al., 2017).

3.2 Namstarter

Namstarter is a donation- and reward-based charitable crowdfunding platform founded in 2017 (Namstarter, 2017). It works towards uplifting Namibian informal settlements by providing means for entrepreneurs to connect with funders (Namstarter, 2017). Namstarter is founded by a research group from the Namibia University of Science and Technology in collaboration with Aalto University, the Ictechhub, and the Finnish Embassy (Namstarter, 2017). It is led by a Namstarter Committee, which consists of people living in the Havana settlement (Namstarter, 2017).

The platform was co-designed with Namibian youth and Namibia University of Science and Technology students in 2016 (Keskinen et al., 2022). The platform has been developed over the years, and adjustments have been made to improve its functionalities (Keskinen et al., 2022; Kambunga et al., 2018). However, the campaigns on the platforms today have received little to no funding. There is a lack of promotion and visibility on the platform; therefore, the platform is not attracting backers, and funds received have fallen short (Keskinen et al., 2022). In addition, Namstarter has been facing issues related to online payments and the website's administration (Keskinen et al., 2022).

3.3 Havana

Most of the creators of Namstarter campaigns live in Havana, an informal settlement located on the outskirts of the Katutura area in Windhoek, Namibia, as the platform was designed with this specific community. Katutura is a township originating from the South African apartheid regime, where the government forced the black population to move from their homes

to the new settlement (Samuel et al., 2017). Even 30 years after apartheid, in Namibia, some social and spatial structures are still visible, and one of the apparent remaining's is the townships (Jürgens et al., 2013).

The townships and their informal settlements are continuously growing due to increasing urbanization (Abascal et al., 2022; Samuel et al., 2017; African Development Bank, 2013; Wekesa et al., 2011). Namibia is changing rapidly from a rural society into an urban one. Of Namibia's population of 2.5 million, 40% lives in informal settlements, which is 80% of its urban population (Scharrenbroich & Shuunyuni, 2020). When rural migrants arrive in Windhoek, they often stay in informal settlements because it is affordable (Samuel et al., 2017). Many urban dwellers of the settlements are young people looking for jobs and opportunities (UN DESA, 2019; Grant, 2012).

Like most informal settlements, Havana is highly populated, with inadequate dwelling units and infrastructure (Wekesa et al., 2011). The area has services such as a shopping building, schools, a police station, government offices, and a mobile clinic (Samuel et al., 2017). Still, the community needs better access to public services and infrastructure (Samuel et al., 2017). In 2016 the Finnish Embassy funded the construction of a community center building, "Havana Youth Café," in the community. R Labs Namibia runs the Youth Café project, and the center is equipped with computers and tablets funded by a local mobile telecommunications company and internet service provider, MTC. The workshops of this research are held in the community center.

3.4 Research questions

Technology can serve as a mediator bridging interacting, spatially separated groups (Cottrell & Chayko, 2003). In crowdfunding, the platform serves as the mediator between the creator and the backer. In this thesis, I propose using this mediator to bridge the gap between crowdfunding campaign creators and potential backers to support effective communication of a crowdfunding campaign. In related research, scholars have discussed cultural and socio-cultural gaps between potential backers and campaign creators affecting the campaign's success (Keskinen et al., 2022; Arivila et al., 2020). This thesis aims further understand the nature of the gap between the parties.

Firstly, this thesis explores the gap between Namstarter creators and potential backers and finds out what issues the creators face when creating the campaigns and whether these challenges impact the campaign's success. The main goal is to understand how technology can support narrowing the gap by presenting specific features for the digital campaign form.

The main research question is:

RQ1: What technical features a crowdfunding campaign form should contain to support bridging the gap between campaign creators and potential backers?

To answer the RQ1, the research approaches to understand the context in more detail through two sub-questions, that are:

RQ1.1: What kind of a gap is there between Namstarter creators and potential backers?

RQ1.2: What challenges do the creators face when creating the campaigns, and how do these challenges impact the campaign's success?

4 Research approach, methods and data

This thesis adapts the DSRM as the primary research approach. In the design and development, and demonstration phases of the DSRM process, workshops are held in which the PD methodological approach is utilized. This chapter presents the PD methodological approach and DSRM and the methods used for data gathering and target groups of the research.

4.1 Participatory design methodology

PD is seen as a democratizing methodological approach in design since it can shift the power dynamics from the designer to the participant (Harrington et al., 2019). PD was originally founded in Scandinavia in the 1970s and 1980s to motivate a Marxist commitment to empower employees and promote democracy in workplaces (Harrington et al., 2019; Racadio et al., 2014; Spinuzzi, 2005). Today PD is a common tool used in different design practices.

PD focuses on the participant's tacit knowledge when building new systems (Spinuzzi, 2005). Tacit knowledge is described as the knowledge we know but cannot necessarily describe, such things as riding a bike or swimming (Senker, 1995; Polanyi, 1966). Some tacit knowledge can be made explicit and formalized, but often it remains invisible (Spinuzzi, 2005). PD designers aim to understand the participant's tacit knowledge so that new technologies can fit into existing webs of tacit knowledge, workflow, and work tools (Spinuzzi, 2005).

It can be hard to find a methodological explanation of PD, and it has been discussed whether PD is a research orientation or a field rather than a methodology (Spinuzzi, 2005). Scholars are concerned that work is labeled PD without being accountable for established and reasoned precedents (Spinuzzi, 2005). Spinuzzi (2005) divided PD into three primary stages: initial exploration of work, discovery processes, and prototyping. These stages can be iterated several times for an iterative co-exploration (Spinuzzi, 2005).

In the initial exploration of the work stage, the designer meets the users and examines how they interact and work together (Spinuzzi, 2005). It includes studying the technologies the users use, workflows, routines, and work procedures (Spinuzzi, 2005). This stage is often conducted on the site where users typically operate (Spinuzzi, 2005). It utilizes ethnographic methods such as observations, interviews, and walkthroughs (Spinuzzi, 2005). In the discovery processes stage, the designer and users work together to

understand the current work process and visualize a future (Spinuzzi, 2005). Together they clarify the desired outcome of the project and the users' goals (Spinuzzi, 2005). This stage is often conducted on the site the users are typically operating or in a conference room (Spinuzzi, 2005). In this stage, users and designers interact, often in group interaction settings (Spinuzzi, 2005). Finally, in the prototyping stage, a prototype is created with one or more users (Spinuzzi, 2005). It can be created on-site or in a lab (Spinuzzi, 2005). This stage aims to create a technological artifact that fits the environment (Spinuzzi, 2005). Tools like mockups, paper prototyping, and cooperative prototyping can be used in this phase (Spinuzzi, 2005).

4.2 Design science research methodology

Hevner et al. (2004) present a conceptual framework for the DSRM. An interesting phenomenon to research often lies within an environment of people, organizations, and related technologies (Hevner et al., 2004). This environment generates a business's needs through the tasks, goals, problems, and opportunities the stakeholders encounter. DSRM is an iterative process focusing on building and evaluating artifacts to meet the identified business need (Hevner et al., 2004). It relies on previous research and applies foundational theories, frameworks, models, and methods in a research study's development/building phase (Hevner et al., 2004). The research methodologies can also provide guidelines used in the justify/evaluate phase of the design (Hevner et al., 2004). DSRM aims to solve the business need and possibly contribute to previous research (Hevner et al., 2004).

This research applies a process model presented by Peffers et al. (2007), which divides the DSRM process into six phases. The model is presented in Figure 2. The process model phases are (1) problem identification and motivation, (2) objectives of a solution, (3) design and development, (4) demonstration, (5) evaluation, and (6) communication (Peffers et al., 2007). The first activity consists of defining that there is a specific design problem, providing knowledge of the state of the problem, and communicating the value of a solution (Peffers et al., 2007). The second activity defines the performance objectives for the solution (Peffers et al., 2007). The objectives can be qualitative or quantitative (Peffers et al., 2007). Once objectives are defined, the design and development stage can begin. In this stage, an artifact is created (Peffers et al., 2007). This includes determining the functionality and architecture of the artifact as well as creating the actual artifact or a prototype of it (Peffers et al., 2007). The demonstration stage is about demonstrating that the created artifact can solve one or more instances of the defined problem (Peffers et al., 2007). Lastly, the outcome is evaluated and communicated. The evaluation consists of measuring and observing how well the artifact supports the solution found for the problem (Peffers et al., 2007).

Depending on the nature of the problem, it can be measured with qualitative or quantitative efforts such as satisfaction surveys, client feedback, or empirical evidence (Peppers et al., 2007). Finally, the solution is communicated to contribute to previous research (Hevner et al., 2004). The research can be published as a scholarly research publication (Peppers et al., 2007).

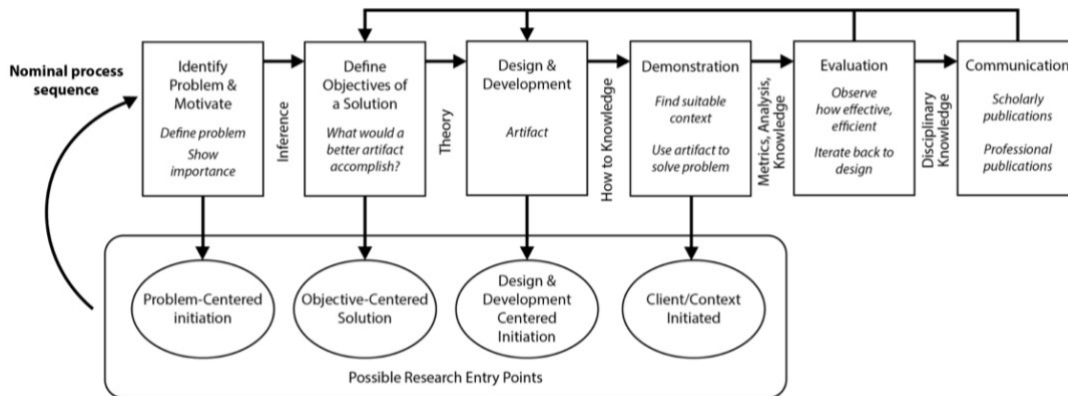


Figure 2: DSRM process model (Peppers et al. 2007)

4.3 Research implementation

This section describes each element of the DSRM process model in the research context and its implementation. The communication phase is not presented in this section, as the work is communicated via this thesis.

Phase 1: Problem identification and motivation

The problem was identified, and the motivation for the research was found in previous literature. The literature review can be found in chapter 2. In addition, semi-structured interviews were conducted with potential backers to validate the problem within the research context. The goal of these exploratory interviews with backers was to understand what kind of campaigns the backers appreciated and explore the gap between Namstarter creators and potential backers from the backers' point of view. The results of these interviews are found in section 5.1.

Phase 2: Objectives of a solution

The performance objectives for the solution were demonstrated in the research questions, which can be found in section 3.4. The thesis aimed to understand how technology can support narrowing the gap between

crowdfunding campaign creators and potential backers by presenting specific features for a digital crowdfunding campaign form.

Phase 3: Design and development

The design and development stages involved a workshop that aimed to understand the gap from the creator's perspective and create requirements for an artifact. The workshop utilized PD methodologies to shift the power dynamics from the designer to the participant and pursue an empowering outcome. Based on the workshop's findings, the research team created a prototype. The design and development workshop is described in section 5.2. Furthermore, the artifact is presented in section 5.2.4.

Phase 4: Demonstration

The demonstration stage aims to prove that the created artifact can solve one or more instances of the defined problem (Spinuzzi, 2005). The second workshop aimed to test the prototype created based on the findings from the design and development workshop. Usability testing was conducted by asking the participants to create crowdfunding campaigns based on their business ideas using the prototype. After testing and making observations, short semi-structured interviews were conducted. The demonstration phase is described in section 5.3.

Phase 5: Evaluation

Finally, the solution was measured in a qualitative manner by presenting the campaigns created in the demonstration workshop with the prototype to backers. The aim was for the backers to compare the campaigns created with the new prototype to the previous campaigns to understand which specific features in the prototype can support bridging the gap between backers and creators. The results of these interviews are presented in section 5.4. The evaluation of the artifact is further analyzed in chapters 6 and 7.

4.4 Methods

This research utilized the following qualitative methods to gather data: interviews, usability testing, and observations. Interviews were conducted in the problem identification and motivation, demonstration, and evaluation phases. Interviews were conducted in a semi-structured manner because they are a commonly used method in qualitative research, often providing rich and in-depth data about the users (Sileyew, 2020; DiCicco-Bloom & Crabtree, 2006). Semi-structured interviews were planned and structured in advance and held at a scheduled time in a location

outside of everyday events, usually face-to-face (Sileyew, 2020; DiCicco-Bloom & Crabtree, 2006). It is good to interview a homogeneous group to get insight into the shared experiences of the users (DiCicco-Bloom & Crabtree, 2006). All interviews were recorded and transcribed. To analyze the transcriptions, affinity diagrams were created. Affinity diagrams are a good tool for developing common interpretations of the gathered data (Holtzblatt & Beyer, 1993). Affinity diagrams gather research data, organize it into clusters, and show where the data is weak (Holtzblatt & Beyer, 1993).

Insights from the users were gained by inspecting the users handling the service. This was carried out with usability testing (Barnum, 2010). Usability tests were conducted in the design and development and demonstration workshops. In usability testing, the designer observes the user using the service and performing tasks meaningful for them, and asks questions (Barnum, 2010). Usability testing can be divided into categories: formative and summative testing (Barnum, 2010). In the evaluation process of the existing Namstarter campaign form, summative testing was carried out, meaning that the creators tested a fully developed product, and the goal was to diagnose problems within the system (Barnum, 2010). When testing the high-fidelity prototype, the usability test was formative, meaning the product is in development but nearly finished. The goal was to understand whether the design elements used in the artifact were useful or not.

In addition to interviews and usability testing, in the workshops, data was gathered by observing the participants. Observations are a valid data-gathering method since they allow in-depth data collection about a specific behavior (Sileyew, 2020). It is a method often used in the initial exploration of the work stage PD (Spinuzzi, 2005). Furthermore, observations are connected to different kinds of data garnering, such as documentation, archival records, and interviews (Sileyew, 2020). The research group gathered data in the workshops by writing notes from the conversations and what they saw and encouraging the participants to write their thoughts on related posters in the workshop space. In addition, the research group documented the workshops by taking images of situations, notes, and posters created.

4.5 Participants

This research targeted two groups: a group of creators from an informal settlement and a group of potential backers. Both target groups were from Namibia. In this section, these target groups are described.

4.5.1 Backers

As the literature states, several factors drive individuals to donate to charitable crowdfunding campaigns, including empathy, internal rewards, social influence, and a sense of self-worth (Chen et al., 2021; Bagheri et al., 2019; Liu et al., 2018). Furthermore, it is common for backers to prefer creators who are culturally similar to them and who are located in close proximity (Lin & Viswanathan, 2016; Burtch et al., 2013). Agents like funders, investors, and businesses are more likely to collaborate with causes that are geographically closer to them (Lin & Viswanathan, 2016).

Namstarter is targeting Namibian backers and backers worldwide. Due to the scope of the research, the target group was narrowed to only Namibian backers who may have a specific interest in supporting local causes. The Charities Aid Foundation's World Giving Index report (2021) has ranked Namibians as the 42nd most giving people globally. Namibians have an exceptionally high score in helping strangers but giving money is relatively low (Charities Aid Foundation, 2021). This thesis studied Namibia based 30-60-year-old men and women with philanthropic interests and preferably experience working with funding and mentoring aspiring entrepreneurs and startups. The potential backers did not have to be aware of or have experience with Namstarter.

4.5.2 Creators

This thesis targeted creators who were young entrepreneurs from Havana informal settlements. The participants were, in total, five people: three females and two males between the ages of 20 to 50. The participants in the workshops were active members of the Youth Café Havana community center, and most of them had previously participated in research activities in the center. Due to their earlier attendance, the participants were already familiar with crowdfunding and the Namstarter platform. Two of the participants had written campaigns on the platform previously. All the participants took part in the design and development workshop and three out of the five participants volunteered to participate the demonstrate workshop, where the goal was to test a prototype and develop it further.

5 Co-designing mediating opportunities

This research is conducted in a manner where each step builds upon the previous, as the aim is to take action and analyze the problem simultaneously. Due to the nature of the data gathering, results are presented in the same chapter with describing the process. This chapter describes the results of the backer interviews, two workshops, and the interviews of the validation of the outcome. The results as a whole are analyzed and discussed in chapters 6, 7, and 8.

5.1 Backer exploratory interviews

The goal was to understand what kind of a gap there is between Namstarter creators and potential backers from the backers' point of view. The interviews examined what kinds of campaigns the backers appreciate; what do they want to see, read and hear to be interested in funding? This stage aimed to find answers to research question RQ1.1: *What kind of a gap is there between Namstarter creators and potential backers?* Each interview lasted 20-40 minutes and was voice recorded and transcribed. See interview questions in APPENDIX A.

5.1.1 Interviews on charitable crowdfunding

During the interviews, all five potential backers (B1, B2, B3, B4, B5) were asked about donating money and their opinions on what kind of charity has the most long-lasting/sustainable impact. All interviewees had donated money before, but two of the five had donated informally. The interviewees donate for philanthropic reasons and to causes they believe in. B1 commented, *'(I donate) for altruistic reasons, I think. Makes you feel good.'* B4 pointed out that charitable giving is about empathy and the ability to put yourself in another's shoes. B4 commented that videos and personal stories might help generate feelings of empathy *'you then get them to feel some sort of way for the people who maybe they see in the videos, or maybe the story that they moved?'*

B4 had previously donated through a charitable crowdfunding platform similar to Namstarter but has yet to donate through Namstarter. The other interviewees had not donated through a charitable crowdfunding platform because they were unaware of these services. B1 had not donated through a charitable crowdfunding platform *'because I've never come across it. The idea is obviously really good. And it all depends on the implementation.'*

Some of the interviewees had trust issues with charitable giving platforms. B2 said it is more reliable to donate face to face because it is easier to trust the process; they know the person and where the resources are going. The interviewees were more willing to donate to people they know than rather than to those far away. B2 pointed out that *'it's easier to donate when you're closer to the cause, and you can see a direct impact for your donation.'* B3 was most willing to donate to close family and friends *'It's people that I know. Close family, friends ... But not outside of that circle'*. Most of the potential backers believed that funding education has the most sustainable and lasting impact on society. They believed in empowering people by providing them with tools and skills that could support them in creating wealth for themselves.

Potential backers wanted to understand the business idea in-depth to support a business. They needed to know what problem the business was trying to solve and how many people it would impact. They wanted to know the person behind the business to understand the project's seriousness and whether they believed this individual could fulfill their promises. One interviewee suggested that having information on whether the business is registered can indicate the seriousness of the entrepreneur.

The potential backers were interested in seeing a record of the business's financials and proof of traction to convince them that the business is realistic and has revenue potential. In addition, the backers were interested in the company's marketing strategy and wanted to ensure the business was ethical. Finally, the interviewees talked about trust. To support a business, they need to trust that the money goes into the right place.

5.1.2 Interviews on Namstarter campaigns

After asking general questions on charitable giving and crowdfunding, three existing campaigns on Namstarter were presented on a laptop to all five potential backers (B1, B2, B3, B4, B5), and questions about the campaigns were asked. Campaign 1 was for building a hair salon business; Campaign 2 was for financing solar panels for a seamstress shop; and Campaign 3 was for equipping a community center. All businesses at the time were operating in Havana, Katutura. These campaigns were chosen to be presented to the interviewees because they had different business ideas and different kinds of content. For privacy reasons, these campaigns are not presented in the thesis.

Campaign 1 – Hair salon

The potential backers appreciated that the campaign was short and precise. They felt like the campaign was taking a sufficient amount of their attention.

They thought the campaign's story was good and communicated that the business empowers people by training community members on doing hair. B3 commented, *'Train community members who also want to do the thing. That, to me, is the plus of this campaign.'* The potential backers were happy that there was a budget and a list of the equipment needed. They would have also appreciated a detailed financial plan and timeline on how the entrepreneur will generate cash flow so that the business can carry itself. The potential backers discussed photos. They would have been interested in seeing the team behind the business. They suggested on having professional pictures taken.

The interviewees were generally hesitant about the campaign, mainly because of the field of business. They found the hair salon market rather saturated. B2 commented, *'You're entering a quite saturated market in Namibia. What separates you from every other salon or training institution?'* However, the potential backers believed there was potential in the campaign once the entrepreneur communicated what sets the business apart from other hair salons, as B5 stated, *'(the campaign should be) indicating how he/she is going to do it differently? Yeah, in that indication, clearly, spell out the challenges of existing salons.'* The potential backers encouraged the creators to describe the challenges people are facing in the current market of the entrepreneur's business and how their business will solve this. They were also interested in knowing the business's target group.

The campaign raised unanswered questions among the potential backers. Questions on how many customers the entrepreneur expects and what they will likely pay. The potential bakers suggested that the Namstarter team would support the entrepreneurs in this by asking related questions on the platform during the campaign creation process. The potential backers suggested there would be an initiative to motivate them to donate to this specific campaign. The initiative could be partial ownership of the business or them acting as a consultant or volunteer to mentor the business.

Campaign 2 - Seamstress shop

The potential backers were convinced of the campaign because of its long and personal story. The potential backers thought that the story communicated the entrepreneur's motivation for the business and raised feelings of empathy. B2 felt like the story makes him feel more familiar with the creator *'I like the way this story is told a little bit more and has some background. So, I feel like... I get to know who the person is.'*

The potential backers suggested adding videos and images to the campaign to make it even more appealing. The campaign had an image, but one

interviewee pointed out uploading a good-quality picture captured by the entrepreneur rather than downloading a picture from the internet. In addition, the interviewee suggested adding multiple pictures of the entrepreneur and the business setting.

Like in campaign 1, the potential backers were interested in how this business differs from other seamstress shops and whom the business is targeting. In addition, the interviewees thought the business could be scaled, which is a good thing.

One of the potential backers pointed out that they needed validation to be convinced that the campaign was legit and that the person behind it existed. The interviewee thought that it could be difficult to distinguish the campaign from a fake story, especially when it had a picture that could be downloaded from the internet. The interviewee thought having social links of the entrepreneur and personal images could raise trust. Another interviewee pointed out that a good background story can help in raising trust in the campaign.

The potential backers would have liked to have more detailed information on the business. The creator used vague metrics in the campaign, saying, "I can make a lot of things" and "I wish I could train more people." The interviewees thought these needed to be defined and more specific. Like in the previous campaign, the potential backers had questions that still needed to be answered. The potential backers preferred an itemized list of things to be purchased with the funds as the previous campaign had. The campaign had bullet points, which the interviewees found useful when skimming through the campaign.

The potential backers suggested that the Namstarter team supports entrepreneurs creating campaigns on Namstarter. Creating a campaign should be more guided to creators, and the Namstarter team could provide an editor who reads through the campaigns, polishes the text, and fixes typos. One interviewee pointed out that the problem with all three campaigns was how entrepreneurs approach business and that the campaigns did not contain the information potential backers wanted to read; *'The problem ... it's how they (creators) approach the business. I think they don't understand what (backers) are interested to see'*.

Campaign 3 – Community Center

The potential backers were interested in this campaign since the creator was able to communicate motivation through it. The creator showed initiative by saving up money before creating the campaign. However, one interviewee

pointed out that it is impossible to prove that the entrepreneur has raised the money. The interviewee suggested that the Namstarter team validates information on the campaigns with a gauge. B1 commented, *'maybe the Namstarter guys can also put some sort of gauge of how validated each information is, like when someone says I saved up 11,000.'*

The potential backers thought the campaign was tangible and had an immediate impact on the community rather than just an individual. However, the campaign lacked detailed information about the business/project. The interviewees were interested in whether the community center was created purely for charitable purposes or profit. They wanted to know what kind of events are held at the center and who will run them. One interviewee suggested that there would be a possibility to contact the creator and ask questions directly. The campaign could serve as a pitch, and more detailed information could be requested from the entrepreneur whose contact details are on the campaign.

The campaign contained an image of the entrepreneur, and one interviewee pointed out that seeing the picture helped one feel more connected to the project. B1 commented: *'this picture here. It seems it's nice. It really helps, like you can make me feel for this project already.'* Another interviewee pointed out that friendly images made the best impression on the creator. The interviewees suggested adding more images and a video.

The campaign promised to provide training for two members of the Havana community with a certain amount of funding. The interviewees suggested that Namstarter offers a certificate for backers of campaigns to validate their work and motivate them to back. B2 pointed out that seeing that other people had donated to this campaign raised interest in the project. The interviewee trusted that if someone has donated, it must also interest them. *'If I were to just glance at a few campaigns, what catches my eyes is if I see that other people have donated, like, okay, what's this project?'*

5.1.3 Poster

Based on the findings from the interviews, a physical poster was created to present to the creators in the following design and development workshop. The goal of creating the poster was to utilize it to understand the current situational picture and visualize a future campaign with the creators.

As seen in Figure 3, the poster was divided into three sections “What do we want to see,” “What we loved,” and “What made us doubt.” The first section was based on an interview question on what potential backers want to know

about a business to donate money. The last two were based on comments the backers had on three campaigns.



Figure 3: Backers' comments (own image)

The section “What do we want to see” was divided into five categories (1) “People and & story behind the business,” (2) “Business idea,” (3) “Current status of the company,” (4) “Whom is it benefitting” and (5) “Potential of business & seriousness of entrepreneur.” The potential backers wanted to know the person behind the business and understand what drives them to be entrepreneurs. They were interested in what problem the business was trying to solve and who and how many people the business was benefitting. They wanted to understand the current status: has the business been in the market for long, and does it have clients? Finally, they hoped to be convinced that the entrepreneur is serious and able to fulfill their promises and that the business will work out.

The second section, “What we loved,” consisted of positive points the potential backers had on the campaigns. The potential backers appreciated a clear and structured presentation, good background stories, and campaigns that empower and have an immediate impact on communities and have good causes. The last section, “What made us doubt,” consisted of points of a lack

of trust, a lack of specific information, and a lack of good-quality images and videos. The potential backers wanted to know the entrepreneurs better and needed more specific information on the business.

5.2 Design and development workshop

The goal of the design and development workshop was to understand the current work process with Namstarter and visualize a future platform. This stage aimed to find answers to research question RQ1.2: *What challenges do the creators face when creating the campaigns, and how do these challenges impact the campaign's success?* and broaden the understanding of the answer to research question RQ1.1: *What kind of a gap is there between Namstarter creators and potential backers?* Based on the findings of the workshop, a prototype of a crowdfunding campaign form was created. This prototype is presented in the last section.

The workshop was held in the Youth Café. Besides the five creators that participated and myself, three people from the research group were present and observing. The workshop lasted for approximately 3 hours. The workshop was divided into three parts and an introduction. Part 1 was to familiarize participants with Namstarter and its campaigns and review potential backers' comments. At the end of Part 1, the creators pondered how they felt about communicating their campaigns to potential backers in general. In part 2, the goal was to do usability testing on Namstarter. In groups, creators filled in an imaginary campaign on the platform, and the research team observed them and asked questions. Finally, in part 3, we discussed the question, "What needs to be changed in the process to meet the wishes of the funders (backers)?" See the workshop schedule in APPENDIX B.

5.2.1 Part 1: Reviewing backers' comments

The first part of the workshop started with everyone reading through a few campaigns printed on paper. This was done to refresh the creators' memories and spark conversation. We discussed the campaigns briefly. The creators found the campaigns pleasant and the projects meaningful, fighting against unemployment. There was a conversation on how the platform could support learning and inspire people without business ideas. There was a conversation on Namstarter creators acting as "role models" for people without entrepreneurial aspirations, inspiring them to find a way to employ themselves. Creators pointed out that this could empower the youth and slow down the rise of unemployment. One creator thought that it could be helpful for the Namstarter team to check up and provide support for the

entrepreneurs after they have received funding, as this would also raise trust in backers. Finally, there was a conversation on the fact that most campaigns had not yet raised funding.

Next, the workshop group moved to the wall of the backers' comments, which I had prepared before the workshop. Figure 4 presents the discussion setting. The backers' comments were gathered on a poster presented in section 5.1.3 (Figure 3). We discussed the sections one by one. Mostly the creators agreed with the backers' comments. There was discussion on the fact that registering a company is very expensive for an entrepreneur and requires knowledge and some guidance. There were also comments on the potential backers needing more specific information on the campaign. One creator had an idea of having the creator's emails displayed on the campaign so that the backer could ask specific questions directly from the creator. Also, an idea of creating profiles for entrepreneurs on Namstarter came up. On the profiles, creators could post about the progress of their business with images and text.



Figure 4: Design and development workshop, discussing backers' comments (own image)

After reviewing the backers' comments, the group moved to a blank poster created for the creators to fill in. We discussed the process of communicating business ideas to backers. The wall was divided into three sections: "What is easy?", "What is hard?" and "What should be changed?". We used 4 minutes in each section for creators to write post-its. If a creator had never added a campaign on the platform, I asked them to think of a situation where they have to communicate their business idea to someone, either virtually or in person. As Figure 5 reveals, the creators found it easy to communicate their idea verbally, either in person or on video. They felt like in-person is more genuine than via video. Also, typing down business ideas was found to be relatively easy. We talked about the community supporting one another. If a

creator finds typing hard, a creator with more skills in this sector can help. We also discussed marketing. The creators found spreading the word about their businesses inside the community rather easy. It's mostly done via Facebook.



Figure 5: Design and development workshop, creators' comments (own image)

The creators faced challenges due to a lack of knowledge and equipment. Lack of knowledge consisted of lack of business knowledge, lack of knowledge on how to take nice photos and videos, and also possible language barriers were mentioned. The lack of equipment consisted of a lack of smartphones, cameras, and an internet connection. The creators also identified a lack of awareness of Namstarter within the community. If creators do not know there is a possibility to gain funding via the platform, they cannot get it. To address these challenges, the creators need support in the form of training and equipment, including computers, cameras, and internet access. They also suggested raising awareness of Namstarter through various means such as word-of-mouth marketing, social media, posters, and flyers. Finally, the creators emphasized the need for more Youth Cafés in Havana to support the users of Namstarter.

5.2.2 Part 2: Summative usability testing

In the second part of the workshop, usability testing on Namstarter was conducted. I divided the workshop group into two and worked with one group at a time. I asked both groups to create a campaign for an imaginary car shop. I gave some guidelines, such as the name of the company, the funding goal, and a short description but asked the creators to use their

imagination. The creators filled in the existing campaign form on Namstarter, and I observed their work and asked a few questions after the task was completed. In Figure 6, a creator is filling in a Namstarter campaign form.

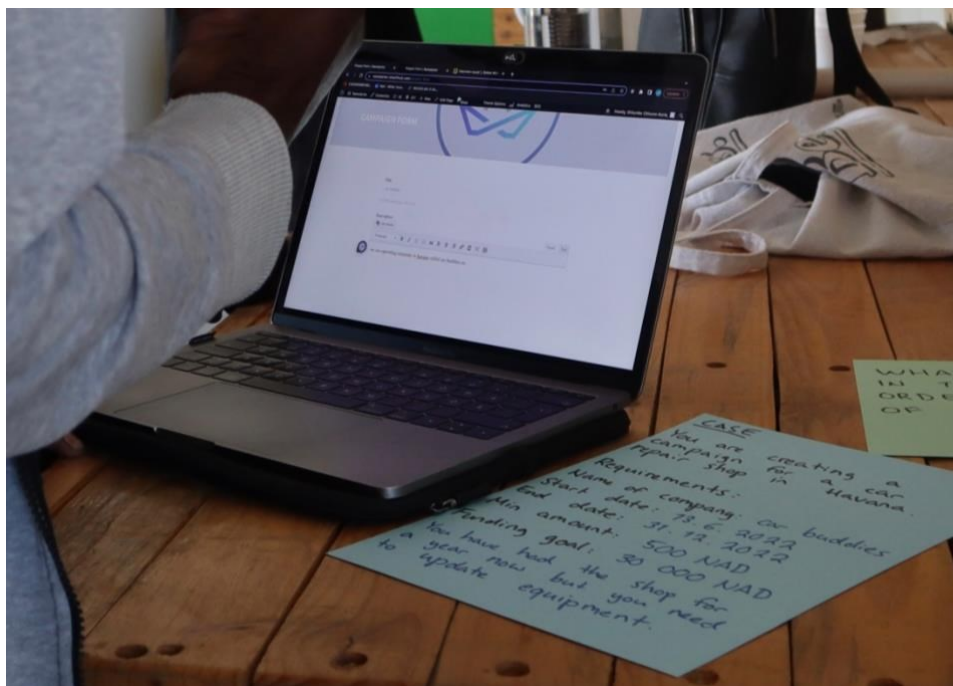


Figure 6: Design and development workshop, usability testing (own image)

From these observations, I found that using computers for some creators was challenging and the campaign form unintuitive. Some of the fields in the form were not understood, such as adding tags and specifying the category of the campaign. Some creators also had trouble selecting dates from a calendar popup, adding images and using dropdown selections. However, with some guidance, the creators were able to complete the task.

The observations revealed that typing on the computer was slow for creators. They typed using one finger, either with both hands or just one. The creators did not use capital letters or full stops and made some spelling errors. However, the text editor pointed out typos, which helped the entrepreneurs detect and fix mistakes. When facing challenges with computer usage, understanding the form and spelling, and typing, creators were eager to help each other and spot error.

The creators were relatively satisfied with their campaigns but believed that with more time, they could have been improved. They found the process rather easy but slow. They felt their campaigns needed more precise

communication of their motivation and seriousness as entrepreneurs. They believed that adding photos, videos, and a company logo could have improved the quality of the campaigns. They believed panning the campaign on paper with more time could help them meet backers' requirements.

5.2.3 Part 3: Identifying challenges in the process

In the final part of the workshop, we sat together as a group and discussed the question, “What needs to be changed in the process in order to meet the wishes of the funders (backers)?”. We talked about the experience with the current campaign form on the platform and communicating business ideas in general.

As Figure 7 reveals, there were some issues with the user experience of the current campaign form. The creators found the form too broad. They felt like there should be subheadings and support questions added. The creators felt like they would not be able to provide the information which the backers found necessary without more guidance. For example, questions on the impact of the business and target group could be useful. The creators discussed that brainstorming on a laptop is not easy. They would have rather written the business proposal on paper first and then filled in the digital form. The creators also noted they needed to do some preparations prior to filling out the campaign form. Things like gathering material, and images, getting a logo, and possibly registering the company.

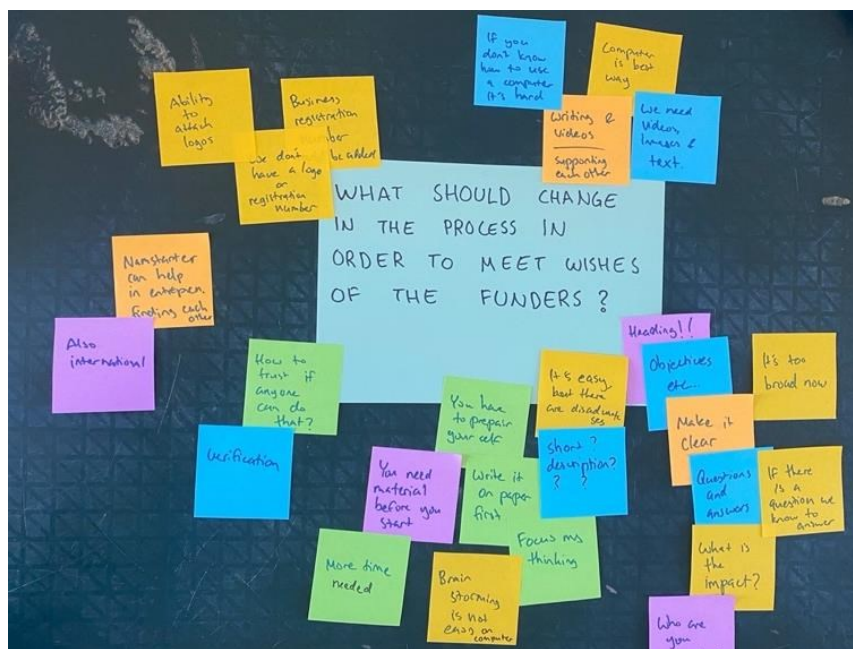


Figure 7: Design and development workshop, how to meet backers' wishes? (own image)

The group had a conversation about the creators getting support from each other. For example, when taking images, creating videos, and writing campaign texts, entrepreneurs can help one another. The creators felt like having different forms of media on the campaign would be a good thing. The creators were worried that if anyone could write a campaign on Namstarter, it would be difficult for the backer to trust that the money was going to a real cause. They feel like there needs to be some sort of a verification system that the creators are actually planning on building a business.

5.2.4 The prototype

Based on the findings from the first workshop, a high-fidelity prototype was created using the Google Forms tool. The prototype was a 6-page questionnaire with text boxes, check boxes, and data input fields. It had support questions and visual examples to help the entrepreneurs create appealing campaigns independently. Figure 8 demonstrates the landing page of the prototype.

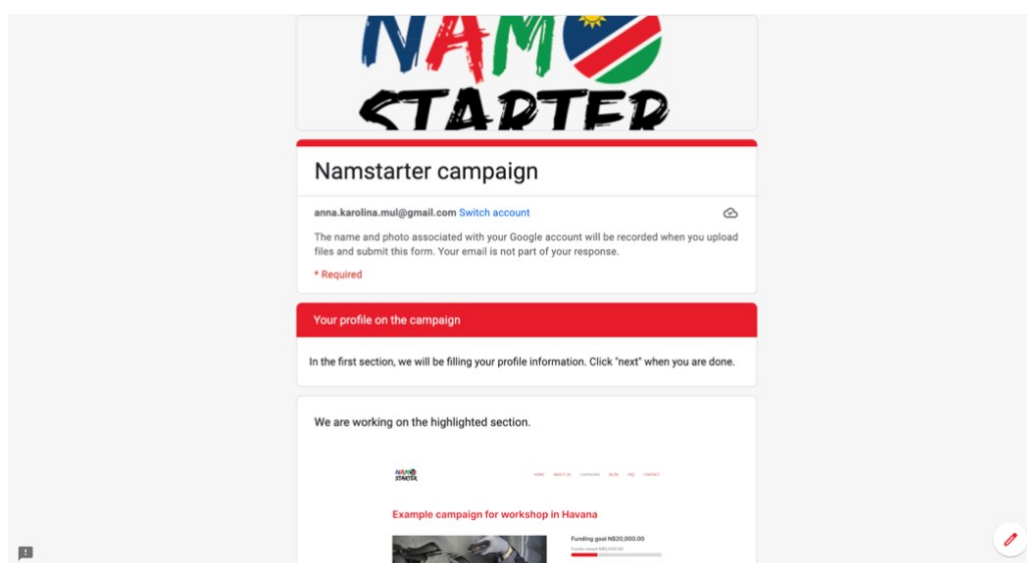


Figure 8: Prototype landing page (own image)

The design and development workshop revealed that the creators felt like text was a good way to communicate their business ideas in addition to videos and images. Therefore, the main data entry method in the prototype was text. In addition to text, the creators were encouraged to add images and a video to the campaign in the prototype. Creators communicated that they would rather plan the campaign prior on paper and gather material such as images

and videos before filling in the digital campaign form. To support this, I printed out the questions that would be asked on the digital campaign form on a “Campaign form planning” -sheet, which can be found in Appendix C. This sheet was used in the usability testing of the prototype. The goal was to encourage creators to plan the campaign on paper using this before filling in the digital form.

When discussing the potential backers needing more specific information on the campaign in the design and development workshop, the creators had an idea of having the creator’s emails displayed on the campaign so that the backer could ask specific questions directly from the creator. Also, an idea of creating profiles for entrepreneurs on Namstarter came up. The prototype contains an optional section for adding contact details for the backers. Creators can add their phone numbers, WhatsApp, e-mail, or other desired details.

Based on the design and development workshop, the creators need a more guided campaign form with subheadings and support questions. As shown in Figure 9, the prototype had more specific questions and support questions in order to guide and help the creators communicate relevant information from the backers’ point of view. The goal of the questions and support questions was to guide the creators to give the information backers find relevant. This information can be found in section 5.1.

3. Description (describe your business and reason for fundraising in 5-10 sentences) *

Answering these questions may help you:

- What is your business doing?
- Where is your business operating?
- What problem are you solving with your business?
- Whom is your business benefitting?
- What are you going to use the Namstarter money for?

Your answer

! This is a required question

4. Story behind business (described in 5-10 sentences) *

Answering these questions may help you:

- Who are the people behind the business?
- When did you start your business?
- What motivates you to work on your business?

Your answer

! This is a required question

5. (OPTIONAL) Current status of the company

Figure 9: Prototype questions (own image)

The design and development workshop revealed that creating a campaign was slow and that using the campaign form was not intuitive for creators. Some sections in the form were not understood. As Figures 10 and 11 demonstrate, in the prototype, this was attempted to be solved by creating a lot of visual examples for the creators. The goal of the visual examples was to highlight the sections of the campaign the creator is working on.

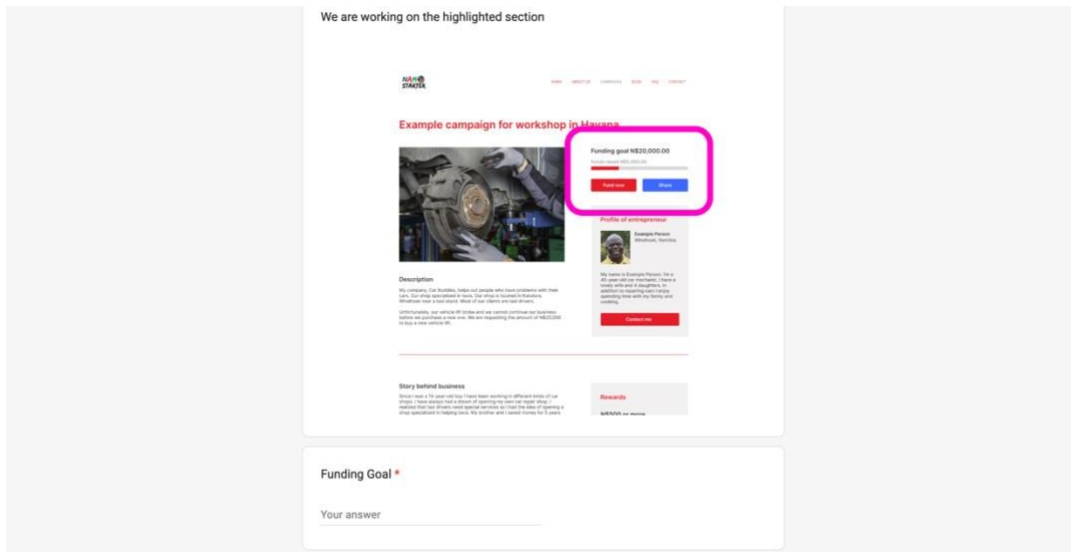


Figure 10: Prototype visual example 1 (own image)

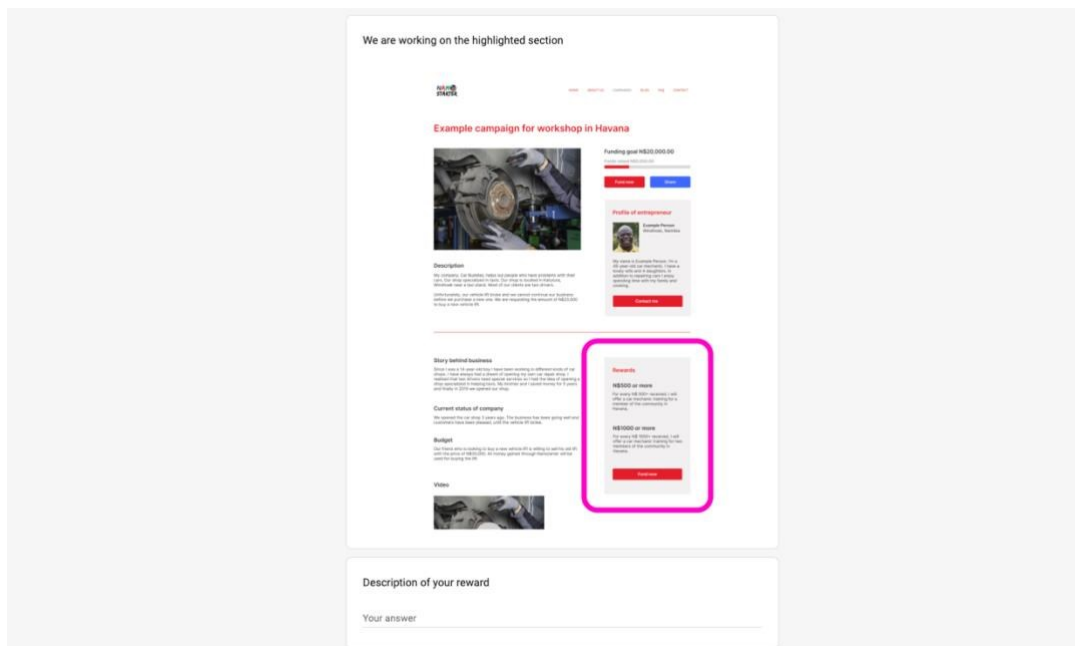


Figure 11: Prototype visual example 2 (own image)

5.3 Demonstration workshop

The goal of the demonstration workshop was to test the prototype designed based on the results from the design and development workshop. Usability testing was conducted on the creators to evaluate the prototype, and short semi-structured interviews were conducted. The research team asked creators to create crowdfunding campaigns based on their business ideas using the prototype. This stage aimed to find answers to the main research question RQ1: *What technical features a crowdfunding campaign form should contain to support bridging the gap between campaign creators and potential backers?*

The workshop was held in the Youth Café. Besides three creators that participated and myself, there were two people from the research group observing. The workshop lasted for approximately 2,5 hours. The workshop was divided into two parts: planning the campaign on paper and filling in the digital campaign form. We had one laptop, and I observed each participant. In part 2, we filled in the digital forms one by one. See the workshop schedule in APPENDIX D.

5.3.1 Part 1: Campaign planning

The workshop started with all three participants going through an example campaign. The example campaign was created based on the backers' comments the participants had gone through in the previous workshop. The goal of this imaginary campaign was to demonstrate the UI of the new campaigns and to give an example on how to communicate relevant information. The example campaign can be found in APPENDIX E. After going through the example campaign, I handed out "Campaign form planning" -sheets with questions that would be asked on the digital campaign form. I asked the creators to take their time and write down what they would like to tell about their campaign. They could use pens, paper, and post-its. They could also use the example campaign as inspiration. Figure 12 demonstrates a creator observing the example campaign while planning.

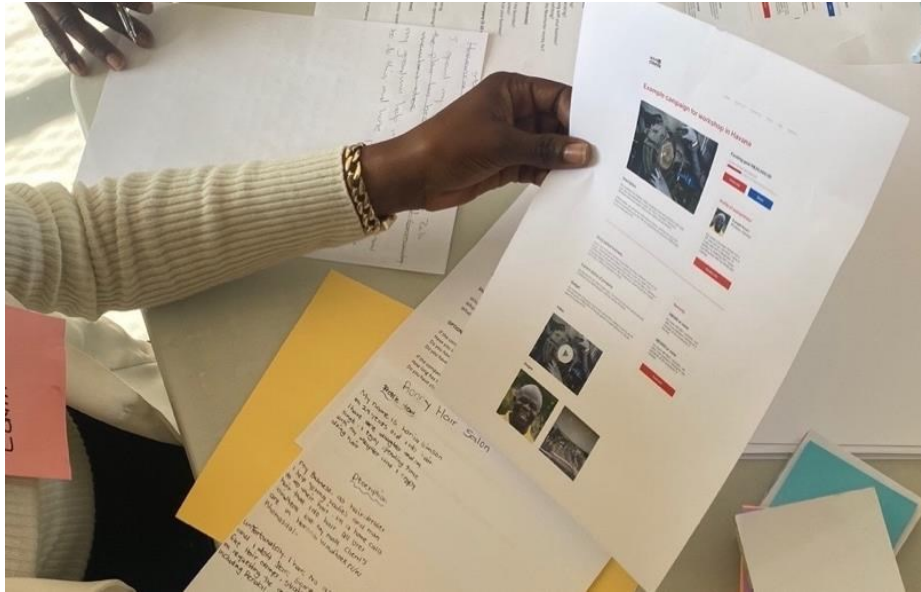


Figure 12: Demonstration workshop, participant planning campaign (own image)

I observed the creators plan their campaigns. The creators used several pieces of paper and wrote down bullet points, and some creators rewrote the campaign after brainstorming. Writing on paper seemed to be quick and easy and faster than typing on a laptop. The participants worked independently and didn't need much guidance. The creators looked at the example campaign and used it as a benchmark. Support questions seemed to help participants. As seen in Figure 12, the creators took inspiration from the example campaign when planning the campaign. Figures 13 and 14 demonstrate that participants divided their notes based on questions on "Campaign form planning" -sheets.

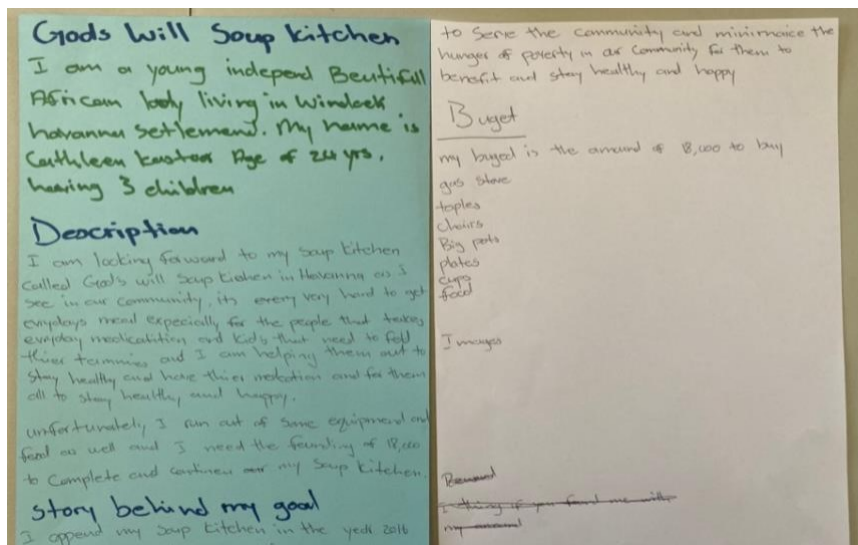


Figure 13: Demonstration workshop, participants notes 1 (own image)

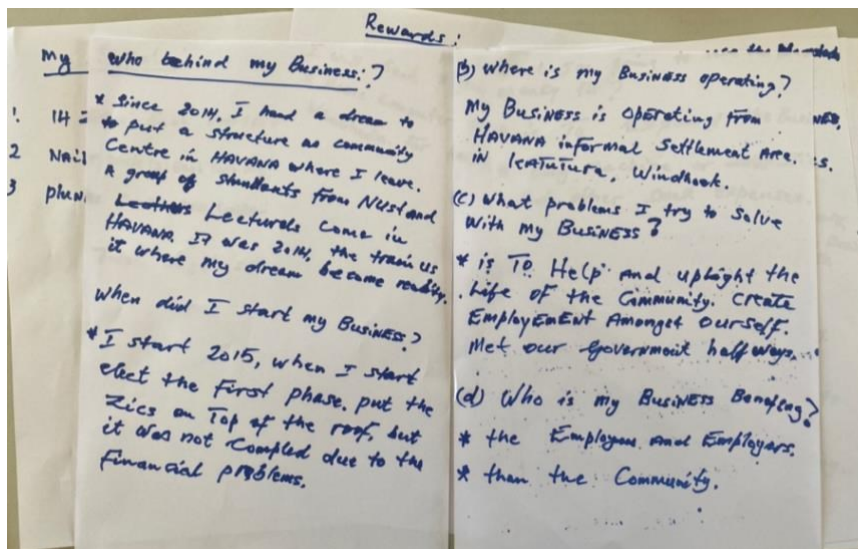


Figure 14: Demonstration workshop, participants notes 2 (own image)

The creators took videos and images to use in the campaign. The creators did not have their own smartphones, so they used the phones of the workshop's facilitator. Taking images with an iPhone was successful with some guidance. The creators took images of one another and chose the best ones together. The Youth Café has recently been equipped with tablets with cameras which the Youth Café members can use in the future.

5.3.2 Part 2: Formative usability testing

In the second part of the workshop, usability testing on the prototype was conducted on all 3 participants separately. I asked the creators to fill in the campaigns they just planned on paper to the digital campaign form. After the form was filled out, short interviews were conducted.

For the creators, filling in the digital campaign forms took longer than expected. Especially typing was slow for the participants. However, as the planning was done prior and the information was written on paper, the digital campaign form filling was faster than on the first workshop day. The creators simply copied the text they had on paper into the digital form. In Figure 15, the creator is filling in the campaign form with the help of notes.

The observations revealed that, like in the previous usability testing, there were some grammar issues. For example, some creators did not use capital letters or full stops. Some creators didn't use capital letters or full stops. The laptop had a program called Grammarly installed, and some participants, after a little guidance, learned how to take advantage of the program. With the help of the program, they found their grammatical errors and fixed them.

However, the participants made more grammatical mistakes when typing on the laptop than on paper.

Using a computer was challenging at times. The MacBook was unfamiliar to the creators, so scrolling with the touchpad and using the keyboard needed some assistance, but the participants got the hang of it quickly. Also, uploading images needed guidance. But with help, the participants managed well. Most creators didn't use the visual examples provided and went straight to the questions. The participants didn't need visual examples to understand the questions. The only question that caused confusion was the question about the minimum funding amount.

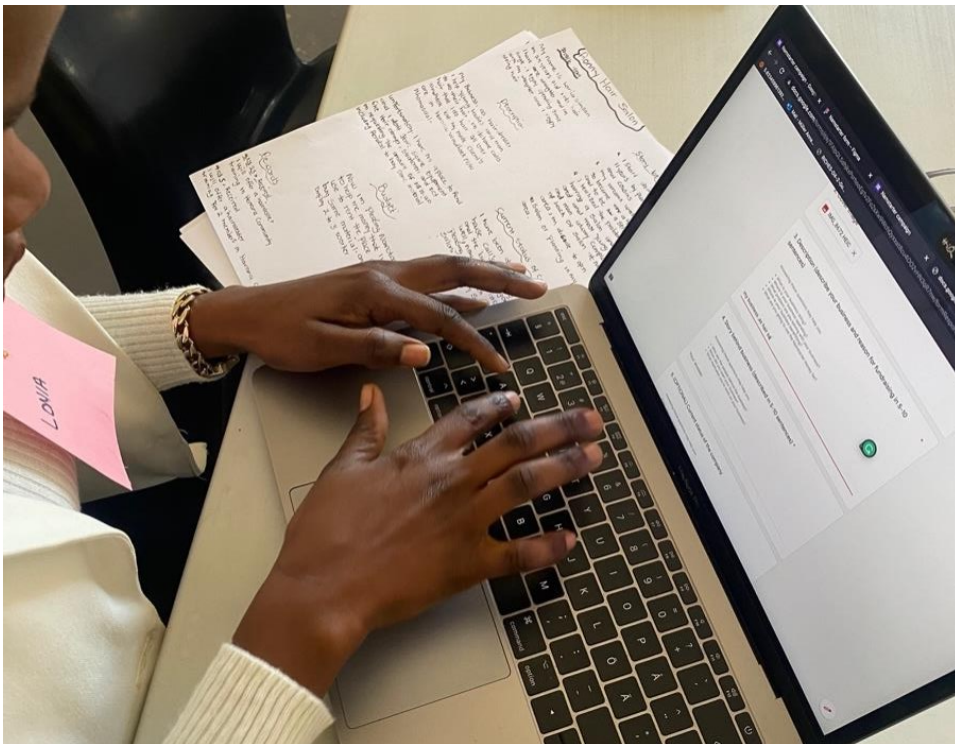


Figure 15: Demonstration workshop, creator filling in the digital campaign form (own image)

After filling in their campaigns, short semi-structured interviews were conducted with the creators (C1, C2, C3) to support the observations. Each interview lasted about five minutes and was voice recorded and transcribed. I wrote down notes from each interview. See interview questions in APPENDIX F.

From the interviews, I found out that the participants were very pleased with the process of creating the campaigns and felt like they got to communicate

everything they wanted to about their business ideas through the campaigns. For example, C1 commented that the process was pleasant *'because I knew what should be done'* and the questions were *'really easy to read and understand'*.

They were pleased that they got to plan the campaigns on paper before typing them into digital form. C2 commented, *'It's just easy to write it in the paper because you write and if it's not fine, clear it.'* C1 commented, *'You know what you write on the paper ... and when you go on the laptop, you know what you have written.'* They found that writing on paper gave them more time to think. The participants found using a computer stressful because they felt like they needed to focus more on the usage of the keyboard rather than the content of the campaign. C2 commented, *'Sometimes you have to stress about pressing the wrong buttons'*.

The hardest part of the process for the entrepreneurs was using the device and typing in the campaigns. C3 pointed out that they had not used the MacBook before and were used to PCs, and this caused some challenges. The entrepreneurs felt stressed about typing incorrectly and the time limitations. C1 commented, *'The hardest thing about this was typing quickly, because you see, we need to manage time. So, typing for me was really difficult.'* C2 found it challenging to communicate the right information to backers: *'to give (the backers) the all the information. It's not so easy.'*

The entrepreneurs felt like they learned during the process of creating the campaigns. The support questions helped them communicate relevant information to the backers. C2 commented that *'I learned something that I didn't know mostly about the business ... I found questions that I never met before and I never asked myself before.'*

5.4 Backer validation interviews

The goal of the second interview round with the potential backers was to validate that the campaigns created with the prototype were more appealing than those created with the previous form. This stage aimed to understand which specific features in the prototype can support in bridging the gap between backers and creators and find answers to the main research question RQ1: *What technical features a crowdfunding campaign form should contain to support bridging the gap between campaign creators and potential backers?* During the interview, I presented the backers with three campaigns created by the creators in the demonstration workshop and asked about their thoughts. Figure 16 represents one of the three campaigns. The validation interviews lasted 30 minutes and were voice recorded and transcribed. See interview questions in APPENDIX G.



Description

The [redacted] is a community center which caters to the community by providing a space for meetings, workshops, or training purposes. Even for Sunday school for the youth. My business is operating from the Havana informal settlement area. It is in the outskirts of Katutura Windhoek. The problem I'm trying to solve with my business is to help and uplift the living standard of the community in the Havana area. To create employment for ourselves and meet the government halfway. The business is benefitting the employee, the employers as well as the community.

What I'm going to use the Namstarter money for?

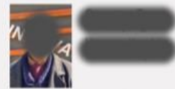
This money is to expand my business. By buying some machines and zincs for the roof and other small expenses.

Funding goal N\$3 025

Funds raised N\$0

Fund now Share

Profile of entrepreneur



My name is [redacted] I am 35 years of age. I like to help people with different kinds of acts. I like my wife and my two daughters. I love to make jokes with them.

Questions? Contact me



Story behind business

Since 2014 I had a dream to put a structure of a community centre in Havana where I live. So a group of students from NUST and the lecturers came to Havana. It was 2014 and they inspired and trained us. It is where my dream become reality.

I started 2015, when I started to elect the fist phase. I put the zincs on top of the roof but it was not completed due to the financial problems.

What motivates my work on my business?

- There is not too many competitors
- It is very close to work form home

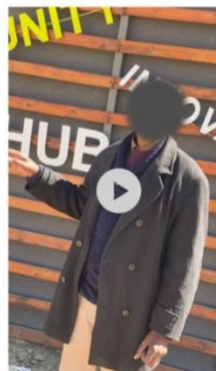
Current status of company

- I operated more than 10 yeras.
- I saved 15 000 NAD in Atushe Multi-Purpose Cooperative (Ltd).
- I have a space
- I have a few equipment
- My target customers are the community

Budget

- 14 Zincs, each cost 165 NAD = 2 310 NAD
- Nail pack (3) each cost 105 NAD = 315 NAD
- Plunks 2 x 10m each cost 200 NAD = 400 NAD

Video



Rewards

N\$300 or more

I will send 3 youth to attend a basic computer course at Katutura Youth Centre Wanheda for training skills.

Fund now

Figure 16: One of three campaigns created with the prototype in the demonstration workshop

Both potential backers (B1, B2) believed there were some general improvements in the campaigns presented. They felt the campaigns presented the issue the creator was facing and why they were attempting to raise money through the platform in a clear way; as B1 commented, *'the description of the campaign is very clear in terms of what it is and in what it tries to do. Also, the fact that what is also clear is what he needs the money for.'*

The backers still found unanswered questions in the campaigns. They still needed clarity on different aspects of the campaigns, such as the target group of the business and a more thorough description of the current market. However, the backers believed that the contact details on the campaign were helpful, as they could ask questions directly from the creator themselves. B2 thought contacting the entrepreneur and seeing their venue could motivate funding. *'I could call the person and see the place.'*

The backers were interested in insights into how the creator would sustain the business once they got funded. They were interested in estimations on how long the funding will support the business and what is next. There was confusion about whether campaigns are communal or business. This needs to be clarified clearly in each campaign.

The backers found that trust, in addition to having images and the ability to contact the creators personally, could be raised through the assertiveness of the Namstarter brand. B1 commented, *'you say, okay, who is Namstarter? Namstarter is a platform that we can trust and that we believe in. Then obviously whom they bring is believable'*. There were still trust issues concerning the campaign. B2 found some information unreliable *'I don't believe when they are saying there is a lack of hair salons in Havana.'* B2 believed that talking to the creator and asking questions in person can help raise trust.

The backers discussed images. B2 highlighted the importance of images that depict the business. Having the age displayed was seen as a positive piece of information; as B1 commented, *'29-year-old I like to see young people actually wanting to do these things. That is very good.'*

6 Analysis

This chapter analyzes the results from backer interviews and workshops. In the analysis, the gap between backers and creators is described, answering sub-questions RQ1.1: *What kind of a gap is there between Namstarter creators and potential backers?* and RQ1.2: *What challenges do the creators face when creating the campaigns, and how do these challenges impact the campaign's success?* This chapter is divided into two sections. The first section focuses on presenting the gap from the backer's point of view, and the second section describes the gap from the creator's point of view by describing the challenges creators face when creating the campaigns.

6.1 The gap from the backer's point of view

A study discussed in the literature review showed that the amount of social distance affects the willingness of a backer to donate to charitable crowdfunding and, thus, the success of a crowdfunding campaign (Weinmann & Mishra, 2019). In this section, I present the gap between creators and backers on Namstarter from the backer's point of view based on the social distance categories: affective, interactive, normative, and cultural and habitual social distance. The analysis is based on the gathered data and the literature review.

The level of affective social distance between potential backers and creators is crucial to successful crowdfunding campaigns. Affective social distance refers to the degree of sympathy a social group feels for another. The literature review revealed that the motivation for donating to charitable crowdfunding campaigns is driven by the individuals' empathy, internal rewards, social influence, and a sense of self-worth (Chen et al., 2021; Bagheri et al., 2019; Liu et al., 2018). This means that campaigns are more successful when they create a feeling of closeness and connection with the cause. The findings from interviews with backers support this claim, as the interviewees reported donating for altruistic reasons and because it made them feel good. They were particularly interested in campaigns that made them feel close to the cause and allowed them to empathize with the creator's situation.

From the perspective of interactive social distance, due to social structures and based on interviews, I assume that backers and creators do not have extensive interaction outside the crowdfunding context. Unfrequent contact leads to the parties being further away from each other socially. In addition, the interviews revealed that the campaign raised questions in backers, and not having the means to communicate leaves questions unanswered. This

lack of communication and interaction could ultimately lead to unsuccessful campaigns.

A study suggests that social distance is lowest within a community, and there is a relatively high level of trust in people from nearby communities: neighboring villages and cities (Etang et al., 2009) Namstarter targets Namibian backers and backers worldwide. This thesis focuses explicitly on crowdfunding activities within Namibia, which results in a lower normative social distance between backers and creators. Although cultures within a country are not monoliths, I expect cultural differences to be more pronounced in collaborations between the regions than in a more localized context. However, it must be addressed that social structures create some normative social distance that cannot be narrowed in this context.

From the cultural and habitual social distance perspective, the gap from the backers' side stems from the knowledge backers possess on businesses and entrepreneurship in general versus creators. The backers saw a pattern of the creators approaching business differently than they would, not communicating information they found relevant. To support a business, the potential backers wanted to fully understand the business idea, including the problem the business is trying to solve, the potential impact, financial plans, and the target market. They held the quality of the campaign in high regard, including language use and typos. The level of cultural and habitual distance in this context may be related to the education level of the interacting groups.

The literature review revealed that the amount of social distance could affect trust, which is an essential element in the success of crowdfunding campaigns (Moysidou & Hausberg, 2019; Forbes & Schaefer, 2017; Mollick, 2014). The role of trust was demonstrated in the backer interviews in multiple instances. To support a business, the backers wanted to feel secure that the money would go into the right place. Some potential backers pointed out that they have trust issues with charitable platforms in general and found it more reliable to donate face-to-face because it is easier to trust the process, and they know the person and where the resources are going.

6.2 The gap from the creator's point of view

In this section, I present the gap between creators and backers on Namstarter from the creators' point of view and the challenges they face while creating a campaign on the platform. The analysis is based on the gathered data and the literature review. In the workshops and interviews, the creators addressed challenges concerning the campaign's content and the process of planning the campaign and filling in the digital form. Generally, creators faced challenges meeting backers' requirements due to a lack of knowledge and

equipment. Lack of knowledge consisted of a lack of business knowledge, lack of knowledge on how to take quality photos and videos, and language barriers. The lack of equipment consisted of a lack of smartphones, cameras, and an internet connection.

In the workshops and interviews, the creators expressed that the current Namstarter form is too broad and does not provide specific guidance for addressing topics that backers are interested in, such as the impact of the business and target group. They found it easy to pitch their business idea in person or on video, but using the Namstarter form caused challenges. Some creators could not fill out the digital campaign forms independently, and some sections of the form were not understood. Using some computer functionalities, such as scrolling with the touchpad and keyboard, posed challenges. The creators required proper instructions and computer training to create quality campaigns independently.

A key finding from the creator interviews and observations was the participants' negative feelings stemming from using the digital platform. The participants felt stressed about using the laptop due to time limitations and fear of typing incorrectly. The participants found using a computer stressful because they felt they must focus more on using the keyboard than the campaign's content.

7 Implications for design

The main research question RQ1 of this thesis is: What technical features a crowdfunding campaign form should contain to support bridging the gap between campaign creators and potential backers? In the previous chapter, sub-questions RQ1.1 and RQ1.2 were answered, and the gap between backers and creators was described. The gap from the backer's perspective was described in four different social distance categories.

In this section, I aim to answer the main research question RQ1, presenting recommendations for crowdfunding platform designers to support effective communication and bridge the gap between backers and creators. I present technical features a campaign form should include and non-technical steps that should be incorporated into the campaign planning and creation process. These recommendations are based on gathered data and the literature review.

7.1 Images, videos, and personal background stories

In the study by Weinmann & Mishra (2019), the social distance between potential backers and creators was narrowed when images of identifiable humans were featured in campaigns. Humans tend to donate more likely when the social distance is low because it makes them feel closer to the cause, and more close and concrete elements make people take action (Weinmann & Mishra, 2019). From the perspective of affective social distance, our results showed that backers were more likely to donate to charitable crowdfunding campaigns when they felt emotionally connected to the cause. The degree of sympathy the backers had towards creators could be bridged with images, videos, and personal stories. Potential backers noted that viewing a picture could increase one's connection to the project. Likewise, personal background stories could raise feelings of empathy and communicate the entrepreneur's motivation for the business.

In addition to bridging social distance, images and good background stories could help raise trust. The interviewee believed it could be challenging to differentiate the campaign from an unreal story, especially when it contains pictures that could be downloaded from the internet. An image of the entrepreneur behind the campaign can help establish the campaign's legitimacy and ultimately help secure funds. The results indicated that social links of the creator could be another effective way of building trust among potential backers.

In light of these results, I recommend that platforms are designed so that adding images, videos, and personal stories is possible and encouraged. Encouragement can be implemented by describing the benefits of adding this information to creators. Adding videos and images to a campaign has to be easy and guidance needs to be provided when needed.

7.2 Channel for interaction

The literature review showed that interaction between the backer and the creator could increase the possibilities for a campaign's success (Li & Jarvenpaa, 2015; Mollick, 2014). The level of interactive social distance can be bridged by creating means of communication within the campaign. One-way communication can become two-way by providing a comment section, having a private message functionality, or sharing the creator's contact details on the campaign. Visible interaction within the campaign's comment section is valuable information for the potential backer and can affect their decision-making (Li & Jarvenpaa, 2015). The importance of interaction was emphasized in the results from both the backers' and the creators' sides; both groups believe it can help build trust and secure funds.

The results indicated that crowdfunding campaigns often do not provide all the necessary information for backers to make funding decisions since every backer has unique questions. Therefore, it is crucial to have channels for backers to ask further questions and obtain more information before deciding to fund a project. To narrow interactive social distance, I suggest that charitable crowdfunding platforms support and encourage interaction between creators and backers by adding means to sending private messages and a comment section below each campaign. A comment section is valuable for the backer's decision-making. It can be a tool for creators to update progress, whereas, via private messages, more detailed and private information can be shared, such as financial plans. The creator should be able to add contact details and social media links, as some are easier to contact via mobile. However, the platform must remind the backers that it may take a while for a creator to reply due to challenges accessing technical devices or the internet and mobile connection.

7.3 Support questions

As stated in the previous chapters, how a crowdfunding campaign is communicated is critical to its success (Arvila et al., 2020; Yuan et al., 2016; Mollick, 2014). Backers are only interested in funding if they are sure what the creators will use their money for and if the campaign raises feelings of trust (Forbes & Schaefer, 2017; Mollick, 2014). In addition, the quality of the campaign needs to be high and the creator's motivation show (Liu et al.,

2018; Mollick, 2014). However, the results revealed that backers need information that creators don't realize to provide. Regarding cultural and habitual distance, creators needed support in communicating the information backers found relevant. The best way to achieve this is by providing training to the creators. A study (Arvila et al., 2020) reveals that micro-entrepreneurs within a marginalized community in Namibia were able to acquire knowledge related to crowdfunding skills and practices within five days without experience with the topic.

In addition to training, I suggest adding support questions to the digital campaign form to further support independent crowdfunding campaign creation and narrow the cultural and habitual distance. These questions can guide the creator to communicate the most critical aspects of the campaign, increasing the chances of its success. The significance of support questions was validated in the second round of backer interviews. By using support questions, the creators were able to present relevant information more clearly to potential backers. The support questions used in the prototype can be found in APPENDIX C. The results revealed that the creators did not need visual examples to understand the questions, and this is why I am not recommending them to be added to the digital campaign form.

7.4 Other supporting factors

As highlighted in the literature review, technology can be neutral as a physical object, but technology is not a neutral entity since it is always developed in specific social and cultural circumstances (Green, 2002). Creating a crowdfunding campaign is a socio-technical system and can only be improved once both 'social' and 'technical' aspects are brought together and treated as interdependent factors (Ropohl, 1999). Apart from the factors that can be improved with technology, there are also non-digital steps to be incorporated into the process of creating the campaign, which this section aims to describe.

The results revealed that some creators needed help to fill out the digital campaign forms, and some computer functionalities, such as scrolling with the touchpad and adding images in the campaign, posed challenges. This shows that the presented technical features are insufficient to fully support creators in creating successful campaigns. Creators require proper instructions and computer training to create quality campaigns independently. For a sustainable and long-lasting outcome, I suggest holding training sessions on computer and camera usage, basic business knowledge skills, writing courses, and providing needed equipment and connectivity. Although some creators needed support in filling out the digital form, the

results showed a strong willingness among creators to support one another in this process.

In addition to holding training, creators should not feel restricted during the planning phase to communicate their business idea effectively. The results show that creators found brainstorming and planning their campaigns on a laptop challenging, as operating a computer was often stressful for them. Creators were focusing more on using the keyboard and navigating the digital form rather than on the content of the campaign itself. To address this challenge, many creators preferred to plan their campaigns on paper before filling out the digital campaign form. I suggest providing campaign form questions on a paper sheet and encouraging creators to plan campaigns on paper prior to filling in the digital campaign form. The results showed that presenting an example campaign can be helpful for the creators. They took inspiration and used it as a benchmark while planning the campaign. However, presenting an example campaign carries a risk of creators becoming fixated on replicating it, which can result in losing the campaign's uniqueness.

Finally, the role of Namstarter was highlighted in the results. Potential backers and creators suggested that the Namstarter team support creators in campaign planning and proofreading. Namstarter could also provide support after the creator has received funding by assisting in fulfilling campaign promises, marketing, and developing the business. The creators believe that Namstarter's involvement could also enhance the backers' trust in the process.

8 Discussion

This chapter discusses the outcome of this thesis. This chapter examines the opportunities for having the presented technical features in a crowdfunding campaign form. The methods used are evaluated, as well as the ethical consideration and the limitations of the work considered. The discussion chapter ends with possibilities for future work.

8.1 Opportunities

To secure funding in crowdfunding, creators must generate an appealing campaign to attract potential backers. It falls under the creators' responsibility to bridge the cultural and social gap between themselves and the backer, as they are the ones who initiate the campaign. However, the creator cannot control a potential backer's attitudes and preconceptions towards them or how they interpret the campaign. This thesis aimed to find a solution with PD efforts for supporting successful one-way and two-way communication of a crowdfunding campaign.

In the analysis chapter, I described the gap between creators and backers from affective, interactive, normative, and cultural and habitual social distance perspectives. The results showed that, to an extent, technology could support bridging the presented gap by fulfilling a list of factors to consider when designing a crowdfunding platform. The results showed that social distance could be narrowed with images, videos, personal stories, and enabling and encouraging interaction between the creator and the backer. Furthermore, adding support questions to the digital campaign form can guide the creators in communicating the most important aspects of the campaign. However, the presented features are insufficient to fully support creators in creating successful campaigns, as creators also require proper instructions and examples.

A crowdfunding form that meets the presented recommendations could lead to creators creating more convincing high-quality campaigns, resulting in increased chances of success. Successful campaigns could enable creators to start or grow their businesses, and these entrepreneurial success stories within the community could ultimately impact others and encourage entrepreneurship. In addition to raising the chances of the campaign's success, enabling and encouraging interaction within crowdfunding activities could lead to more frequent communication between the communities of the creators from informal settlements and potential backers. Successful intercultural communication can lessen ambiguity and

uncertainty between the groups interacting, ultimately leading to more profound intercultural knowledge.

In addition to meeting the presented recommendations, addressing the importance of training and equipping the creators was essential. The results showed that using technical devices was challenging, and creators needed the research group's support to complete the digital campaign form. However, the creators were motivated to support each other inside the community. Training a focus group on computer usage could create a broad impact, as it can lead to creators spreading knowledge within the community. In addition to training, in the context of digital solutions, having the right equipment is essential. It is impossible to meet the backers' wishes of having images and videos on the campaign without having a camera, let alone posting a campaign without having a computer and internet connection. To keep in contact with bakers, creators need to have phones with active mobile phone subscriptions.

Evidently, the gap from the creator's perspective mainly originates from the digital divide, which often targets low-income and rural and urban communities. The literature review highlighted that the digital divide could lead to negative feelings, such as the fear of using technology and the feeling of being incompetent or inadequate, which was also seen in the results of this research. Using ICT4D as a tool to bridge the digital divide has been criticized as the digital divide is more socioeconomic than a digital issue, which calls for political system changes rather than digital solutions. However, the digital platform's importance in crowdfunding campaigns' success cannot be ignored since it is an effective way to reach potential backers and narrow the physical gap between the parties. The results highlighted the importance of adding non-digital steps into the process of creating the campaign. The results showed that creators appreciated planning the campaign form on paper rather than on a platform, giving them more capacity to be creative and think about the content rather than the tool.

8.2 Evaluating used methods in research

In this thesis, I used the DSRM as the primary research approach. During the research, workshops were held in which the PD methodological approach was utilized. The following qualitative methods were used to gather data: semi-structured interviews, usability testing, and observations. In this section, the methods used are evaluated.

The selected methods generated relevant data to answer the research questions. The one-to-one semi-structured interviews with backers gave in-depth and personal insights on the topic, and the workshops in a familiar

environment to the creators provided rich and diverse data through the different methods used. However, the methods have limitations. I believe most limitations concern observations. Documenting observations can be difficult, and it is impossible to observe everything, especially when it comes to capturing subjective experiences such as feelings and attitudes. Additionally, the researcher's biases may influence which observations they consider important. Bias is present in gathering quantitative data in general. I present limitations on a broader scale in the following sections.

Finally, although PD has been praised as a democratizing methodological tool, I must be critical of the approach and consider the limitations that could affect results. PD can only shift the power dynamic from the designer to the participant to an extent. It is essential to understand that it still is a privileged activity with a risk of neglecting challenges associated with creating truly equitable design solutions among underserved populations (Harrington et al., 2019). Due to an imbalance in power between the trained researcher and the participants, I need to be critical of the data gathered from workshops and understand that power dynamics can affect the creators' answers. For example, creators might be less critical of the created prototype in the interviews or agree more with the backer's comments.

8.3 Ethical considerations

As the literature review stated, when designing successful ICT4D projects, it is crucial to understand and address the postcolonial context of the research (Harrington et al., 2019). Successful ICT4D projects require the target group to be active participants rather than passive recipients (Lin et al., 2015). Equitable PD workshops must be facilitated by designers who understand the context and history of the communities they are working with and can reflect on their approach. Long-term projects are necessary for ICT4D as short-term and narrow projects cannot solve deeper-rooted problems (Lin et al., 2015). This highlights the importance of the collaboration between NUST and Aalto University in the context of this research. The research group at NUST has been working with the platform since 2017 and plans to continue its development. Aalto University has been collaborating with the group since Namstarter was founded. The research group members shared important tacit knowledge and guidance during the data-gathering phase.

The workshops at the Youth Café with the creators were conducted in collaboration with the NUST research team, and some participants had prior experience with the team from previous projects. All backer and creator participants were informed of the goal and nature of the research and voluntarily agreed to participate, giving their consent for data gathering. All

participants were of legal age, and their information was protected through anonymization.

While this thesis studies a charitable crowdfunding platform supporting entrepreneurship, ethical discourse around the topic must be discussed. Crowdfunding can be seen as a democratic approach to using financial resources, as anyone with an internet connection can potentially raise funds for a project of their choice (Shneor & Torjesen, 2020; Best et al., 2013). However, replacing a failing public institution with the funds of a crowd indirectly legitimizes these institutional deficiencies (Shneor & Torjesen, 2020; Arvila et al., 2020; Jeffrey & Dyson, 2013). Crowdfunding activities can reduce the pressure and responsibility of public institutions (Shneor & Torjesen, 2020). Even when successful crowdfunding campaigns lead to improvement in well-being in the short-term, utilitarian principles of maximizing happiness for the majority of individuals may be compromised (Shneor & Torjesen, 2020).

The literature review shows that a sole focus on the socioeconomic progress of disadvantaged groups may lead to unsuccessful outcomes (Lin et al., 2015). This is why it is important to highlight the importance of holding training sessions and equipping the Youth Café. In this thesis, the role of education was highlighted in multiple instances. Backers were interested in funding projects that educate and empower crowds as it has the most long-lasting impact, whereas creators communicated they lack knowledge and are eager to partake in training sessions.

8.4 Limitations

This thesis provided insights into using technology to support effective crowdfunding campaign communication. However, it is essential to note that it is not without limitations. Firstly, the scope of the study is limited to charitable crowdfunding, meaning the results can only be applied to this specific type of crowdfunding. This affects the generalizability of the results. Additionally, the results are only valid for two certain focus groups: the backers from Windhoek, the capital of Namibia, and the creators from Havana, an informal settlement on the outskirts of Katutura, Windhoek. As a result, the outcome of the research might not be valid in different contexts.

Due to limited resources, the focus groups of entrepreneurs and backers were relatively small. The small sample size used in the research can impact the validity of the results and in limited generalizability. Especially in the validation round, more than two interviews would have given a more reliable outcome.

As stated in previous sections, subjective factors like personal biases and beliefs influence the perspectives on the interpretation and analysis of research findings. These biases can arise due to various reasons, such as the sample selection, the wording of the questions, and the interpretation of the responses. Therefore, it is essential to be aware of these limitations when interpreting the study results.

8.5 Future work

Based on the gathered data and the literature review, the thesis presents recommendations for crowdfunding platform designers to support bridging the gap between backers and creators. In order to produce the list, the thesis looked into the gap between creators and backers and the issues creators face while creating campaigns. In related research, scholars have discussed cultural and socio-cultural gaps between potential backers and campaign creators affecting the campaign's success (Keskinen et al., 2022; Arivila et al., 2020). This thesis aimed to further understand the nature of the gap between parties and analyze it from the perspectives of affective, interactive, normative, and cultural and habitual social distance. Further research could explore and analyze other perspectives on the gap between creators and backers.

Trust emerged as a critical factor in the success of a crowdfunding campaign in the literature review and in the interviews with backers and creators. The literature review presents a study that shows how reducing social distance can increase trust among individuals (Etang et al., 2009; Buchan et al., 2006). Further research on the role of trust and on methods of establishing it in crowdfunding could be conducted.

In addition, the results showed a need for more awareness of the platform within the community of potential backers and creators. Therefore, I suggest Namstarter raise awareness on the platform among potential backers and creators by creating marketing campaigns. The literature review and results revealed that trust in backers could be raised by choosing a trustworthy crowdfunding platform. Namstarter could focus on building a trustworthy brand.

9 Conclusion

The digital economy has the potential to generate new opportunities for the labor market, as in the era of the internet, working is no longer geographically limited, and over half of the world's population has access to the internet (ILO, 2020; Clement, 2020; Graham et al., 2017; Srnicek, 2017). Platform-based crowdfunding activities have been perceived as a way to create entrepreneurial ecosystems in the global south, promoting entrepreneurship and increasing access to financial resources (Arvila et al., 2020; Best et al., 2013). Although crowdfunding might have potential, it is common for crowdfunding campaigns to fail, and often received funds are far from the creator's original funding goal (Forbes & Schaefer, 2017; Mollick, 2014).

In order to secure funds, creators must construct an appealing campaign to attract potential backers, and cultural differences can affect the success of crowdfunding campaigns. We tend to be more successful when communicating with people from our own culture since we feel more connected to people with more "social overlap" (Gudykunst, 2004; Cottrell & Chayko, 2003). Stereotypes play a role in our communication, both towards individuals from our own culture and those from different cultural backgrounds (Gudykunst, 2004). If a crowdfunding campaign is not written to attract the target audience, which can be a person from a different socio-cultural background, the message might not go through (Arvila et al., 2020; Yuan et al., 2016). Bridging the gap between the backer and the creator often falls under the creator's responsibility because they are the ones who initiate the campaign. The creator cannot affect the attitudes and preconceptions the backer has of them and how the potential backers interpret the campaign.

Technology serves as a mediator on a crowdfunding platform, bridging the interacting parties and channeling information from one person to another (Cottrell & Chayko, 2003). This thesis explored how technology could serve as a mediator, supporting efficient communication between creators and potential backers. This thesis studied a charitable crowdfunding platform Namstarter, a Namibian platform working towards uplifting young entrepreneurs in Namibian informal settlements and rural communities by providing means for entrepreneurs to connect with funders (Namstarter, 2017).

The research shed light on the factors backers appreciated in crowdfunding campaigns and the challenges creators face while creating the campaigns. Backers appreciated campaigns that present the person behind the business and show what drives them to be entrepreneurs. They appreciated a clear and structured presentation, good background stories, good-quality images, and videos. Campaigns that empower and have an immediate impact on

communities were engaging for backers. Backers wished to read specific information about the business, such as the description of the current market and the target group, as well as financial plans.

Creators faced challenges meeting backers' requirements due to lacking knowledge and equipment. The lack of equipment consisted of the lack of smartphones, cameras, and an internet connection. Lack of knowledge consisted of a lack of business knowledge, knowledge on how to take quality photos and videos, and language barriers. Creators found the current Namstarter form too broad, as it needs to provide specific guidance for addressing topics backers are interested in. They found it easy to pitch their business idea in person or on video, but using the digital Namstarter campaign form causes challenges. Some creators could not fill out the digital campaign forms independently, and some sections of the form were not understood. Using some computer functionalities, such as scrolling with the touchpad and keyboard, posed challenges.

Based on the gathered data, I presented a gap between creators and backers using the social distance categories: affective, interactive, normative, and cultural and habitual social distance (López, 2021; Karakayali, 2009). The level of affective social distance affects the motivation for donating to charitable crowdfunding campaigns. The findings show that backers donate for altruistic reasons and are more likely to donate when they feel emotionally connected to the cause. From the perspective of interactive social distance, due to social structures and based on interviews, I assumed that backers and creators do not interact outside the crowdfunding context. Not having a channel for communication on the platform means a higher level of interactive social distance. Despite the lower normative social distance in crowdfunding activities within a country, it must be addressed that social structures create some normative social distance that cannot be narrowed in this context. From the cultural and habitual social distance perspective, the gap stems from the knowledge backers possess on businesses and entrepreneurship in general versus creators.

In this thesis, I presented technical features a campaign form should include to support the creators in communicating a successful campaign and narrow the social distance. Firstly, from the perspective of affective social distance, the results showed that the degree of sympathy the backers have towards creators could be narrowed with images, videos, and personal stories. Furthermore, in addition to bridging social distance, images and good background stories can help raise trust. Secondly, the result showed that interaction between the creator and backer plays a crucial role in the success of a crowdfunding campaign and the level of interactive social distance. Therefore, to narrow interactive social distance, I suggested the platform has

a channel for communication between the creator and backer. Thirdly, regarding cultural and habitual distance, creators need to receive support in communicating the information that backers find relevant. The best way to achieve this is by providing training to the creators. In addition to training, I proposed adding support questions to the digital campaign form to guide the creator in communicating the most important aspects of the campaign.

This thesis also highlighted the role of the platform. The literature review revealed that the user interface of the crowdfunding website, such as the navigability and visual appeal, affects the success of the campaign and the backers are more motivated on a platform with good usability. In addition, the results revealed that the assertiveness of the crowdfunding platform brand could raise trust in backers.

Evidently, the gap from the creator's perspective mainly originates from the digital divide, which often targets low-income and rural and urban communities. The literature review showed that the digital divide could lead to negative feelings, such as the fear of using technology and the feeling of being incompetent or inadequate. Negative feelings were also highlighted in the results of this research. However, we must recognize the digital platform's relevance in a crowdfunding initiative's success since it is an effective way to reach potential backers and narrow the physical gap between the parties. The results highlighted the importance of adding non-digital steps incorporated into the process of creating the campaign. Creators appreciated planning the campaign form on paper rather than on a platform, giving them more capacity to be creative and think about the content rather than the tool. For a sustainable and long-lasting outcome, I suggested holding training sessions on computer and camera usage, basic business knowledge skills, and writing courses.

The PD methodological approach was utilized in the workshops, as it can shift the power dynamics from the designer to the participant and pursue an empowering outcome. However, it is essential to understand that it still is a privileged activity and can only shift the power dynamic from the designer to the participant to an extent. Due to an imbalance in power between the trained researcher and the participants, one must be critical of the data gathered from workshops and understand that power dynamics can affect the creators' answers—other limitations of the thesis concern generalizability and validity. The scope of the study is limited to charitable crowdfunding, meaning the results can only be applied to this specific type of crowdfunding. Due to limited resources, the focus groups of entrepreneurs and backers were relatively small. Subjective factors like personal biases and beliefs influenced the interpretation and analyzing research findings.

In related research, scholars have discussed cultural and socio-cultural gaps between potential backers and campaign creators affecting the campaign's success. In this thesis, I chose to analyze the gap between creators and backers from the different perspectives of social distance. Further research could explore other perspectives on the gap between creators and backers. In addition to further exploring the gap, trust emerged as a critical factor in the success of a crowdfunding campaign in the literature review and the interviews with backers and creators. Further research on the role of trust and on methods of establishing it in crowdfunding could be conducted.

In this thesis, I presented concrete features to be added to a crowdfunding campaign form to narrow the social distance between creators and backers and support effective communication of a crowdfunding campaign. A digital platform effectively allows creators to reach potential backers and narrow the physical distance between the parties; thus, crowdfunding can be a good way for entrepreneurs to connect with funders and kick-start their businesses. However, it is not a way to solve issues with poverty and replace a failing public institution.

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A. APPENDIX: Backer interview

- 1) Have you ever donated money to charity?
 - a. Yes/No why?
- 2) Have you ever donated money to a Charitable Crowdfunding Platform?
 - a. Yes/No why?
- 3) In your opinion, what kind of charity has the most long-lasting/sustainable impact on society?
- 4) What would you want to know about a business in order to support it?

Showing campaign x

- 5) First thoughts
- 6) Did you get all the information you are interested in?
- 7) What information is useful?
- 8) What information is unnecessary?
- 9) Would you donate?
 - a. If no? What would you have to see/read in order to donate?
 - b. If yes? What motivates you?

B. APPENDIX: Design and development workshop Schedule

Beginning ~10:30-11:00

- Name tags
- Data privacy forms?
- Welcoming words
 - o Who am I
 - o What am I doing
 - o Schedule of the day
- Warm-up
 - o Everyone tells their name and something about their business
 - o Everyone tells how they are feeling about today

Part 1 ~11:00-12:00

- Everyone gets 2-3 campaigns and gets to read them it
- We go on the board with backers' comments
 - o We discuss it, do we agree? Why don't we agree?
- We go on our own board
 - o When creating a campaign, what is easy, and what is hard?
 - o Everyone writes post-its
 - o We discuss the outcome and cluster the info

Break ~12:00-12:30

Part 2 ~12:30-13:30

- We go into groups of 2-3 (2-3 groups)
- I take one group at a time, and we fill in the form with a case example
 - o One person types, and others help
- Once done, we discuss did we write down things the backers wish to see
- What should change in the process in order to meet the wishes of the backers
 - o We find areas of development (concrete actions)

Part 3 ~13:30-14:00

- We all get together and look at concrete development ideas for the process.
- We select 2-3 best ones by voting.
- We (hopefully) find 1-3 volunteers to join a workshop next week where they get to improve their campaign with the help of the "development idea" found in the workshop.

C. APPENDIX: Campaign form planning sheet

Profile text (2-5 sentences)

Short description of you (family, education, hobbies, free time, etc.)

Description (5-10 sentences)

What is your business doing?

Where is your business operating?

What problem are you solving with your business? Whom is your business benefitting?

What are you going to use the Namstarter money for?

The story behind the business (5-10 sentences)

Who are the people behind the business? When did you start your business?

What motivates you to work on your business?

OPTIONAL Current status of the company (5-10 sentences)

If the company is new: Have you saved money? Do you have a space?

Do you have equipment?

If the company has been operating

How long has the company been operating? Do you have clients?

OPTIONAL Budget (5-10 sentences)

How are you going to use the money raised through Namstarter?

Images and videos

Gather some images of you, your company, you working, your community, a logo etc.

D. APPENDIX: Demonstration workshop Schedule

Beginning ~10:30

- Name tags
- Data privacy forms
- Welcoming words
 - o Agenda of the day
 - o Schedule of the day
- Warm-up
 - o Everyone tells how they are feeling about taking part today

Part 1 ~11:00-11:30


- Anna hands out “Campaign form planning” -sheets and everyone can brainstorm their campaigns on their own using paper, pens, and post-its (Anna observes)
 - o With 2-3 people

Part 2 ~11:30-13:30


- Anna pulls out 1 person at a time to fill in the digital campaign form on a laptop and interviews the person (Takes 30min-1h each)
- Others (if there are more than 3) and entrepreneurs who are done with the workshop can work on laptops with Helena (training etc.)

The workshop ends at ~13:30

E. APPENDIX: Example campaign

HOME ABOUT US CAMPAIGN BUSI FAQ CONTACT


Example campaign for workshop in Havana



Funding goal N\$20,000.00
Funds raised N\$0,000.00

[Fund now](#) [Share](#)

Profile of entrepreneur



Example Person
Windhoek, Namibia

My name is Example Person. I'm a 45-year-old car mechanic. I have a lovely wife and 2 daughters. In addition to repairing cars I enjoy spending time with my family and cooking.

[Contact me](#)

Description

My company, Car Buddies, helps out people who have problems with their cars. Our shop specialized in taxis. Our shop is located in Katutura, Windhoek near a taxi stand. Most of our clients are taxi drivers.

Unfortunately, our vehicle lift broke and we cannot continue our business. Before we purchase a new one, we are requesting the amount of N\$20,000 to buy a new vehicle lift.

Story behind business

Since I was a 16-year-old boy I have been working in different kinds of car shops. I have always had a dream of opening my own car repair shop. I realized that taxi drivers need special services so I had the idea of opening a shop specialized in helping taxis. My brother and I saved money for 5 years and finally in 2018 we opened our shop.

Current status of company

We opened the car shop 3 years ago. The business has been going well and customers have been pleased, until the vehicle lift broke.

Budget

Our friend who is looking to buy a new vehicle lift is willing to sell his old lift with the price of N\$20,000. All money gained through Namastarter will be used for buying the lift.


Rewards

N\$500 or more
For every N\$ 500+ received, I will offer a car mechanic training for a member of the community in Havana.



N\$1000 or more
For every N\$ 1000+ received, I will offer a car mechanic training for two members of the community in Havana.

[Fund now](#)

Video



Images



F. APPENDIX: Creator interview

- 1) How was your overall experience with the form?
- 2) Do you feel like you got to say everything you wanted on the form?
- 3) What did you find easy in the process?
- 4) What did you find hard in the process?
- 5) What, if anything, surprised you about the experience?
- 6) What, if anything, caused frustration?
- 7) How did you feel about the process of first writing it down on paper and then going to the laptop?
- 8) Do you have any other comments on the experience?

G. APPENDIX: Validation interview

- 1) What are your first thoughts on the campaign?
- 2) Did you get all the information you are interested in?
- 3) What information is useful?
- 4) What information is unnecessary?
- 5) Would you donate for this campaign?
- 6) If no? What would you have to see/read in order to donate?
- 7) If yes? What motivates you?