How Intermediaries build Social Capital for Transformative Social Innovation

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by

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"The association of poverty with progress is the great enigma of our times" (George,1904)

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ABSTRACT

Researchers have called for innovation policy that focuses on addressing social needs. This involves an inclusive and experimental process where solutions to complex problems need to be developed "on the ground" with local stakeholders. There is an urgent need for such transformative innovative change that can alleviate some of the suffering in South African base-of-the-pyramid (BoP) communities, yet the inclusive, collaborative efforts that support transformative innovation are very challenging in these contexts. Scholars have emphasised the role of intermediary organisations in supporting transformative innovation processes but there is little research on how these intermediaries achieve stakeholder involvement in BoP contexts.

I hence studied NGOs that address social problems in BoP settings and play an intermediary role by bringing different actors together. Using a multiple case study approach, including an autoethnographic case study, I develop a model that describes the process through which intermediary change agents establish social capital with local stakeholders. This process involves going through three phases that yield different types of trust, and each type of trust offers the change agent different affordances. In the first phase, the agent builds local knowledge and gains access to an initial group of community stakeholders. In the second phase, the change agent builds transactional trust, motivating local stakeholders to participate in their initiatives. In the final phase, the agent builds collaborative trust that motivates the stakeholders not only to participate for their own benefit but to collaborate towards a shared vision for transformation in their community.

The findings highlight how the success of local development initiatives in BoP contexts hinge on the change agent's ability to build trusting personal relationships and how this process takes significant time and energy. My research also has practical implications for both transformative innovation policy makers and practitioners working in these contexts.

Keywords: Transformative innovation, Intermediary organisations, Social capital, Collaboration, BoP contexts

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LIST OF ACRONYMS

UN	United Nation's
SDG's	Sustainable Development Goal's
BoP	Bottom of the Pyramid
NGO	Non-Governmental Organisation
NIS	National Innovation System
DACST	Department of Arts, Culture, Science and Technology
NSI	National System of Innovation
MLP	Multiple Level Perspective
TIP	Transformative Innovation Policy
TIPC	Transformative Innovation Policy Consortium
INA	Innovation Network Rural Areas and Agricultural Systems
WADER	Water Technologies Demonstrations Programme
C1	Case 1
C2	Case 2
C3	Case 3
C4	Case 4
ECD	Early Childhood Development
ECDC	Early Childhood Development Centre

CHAPTER 1 INTRODUCTION

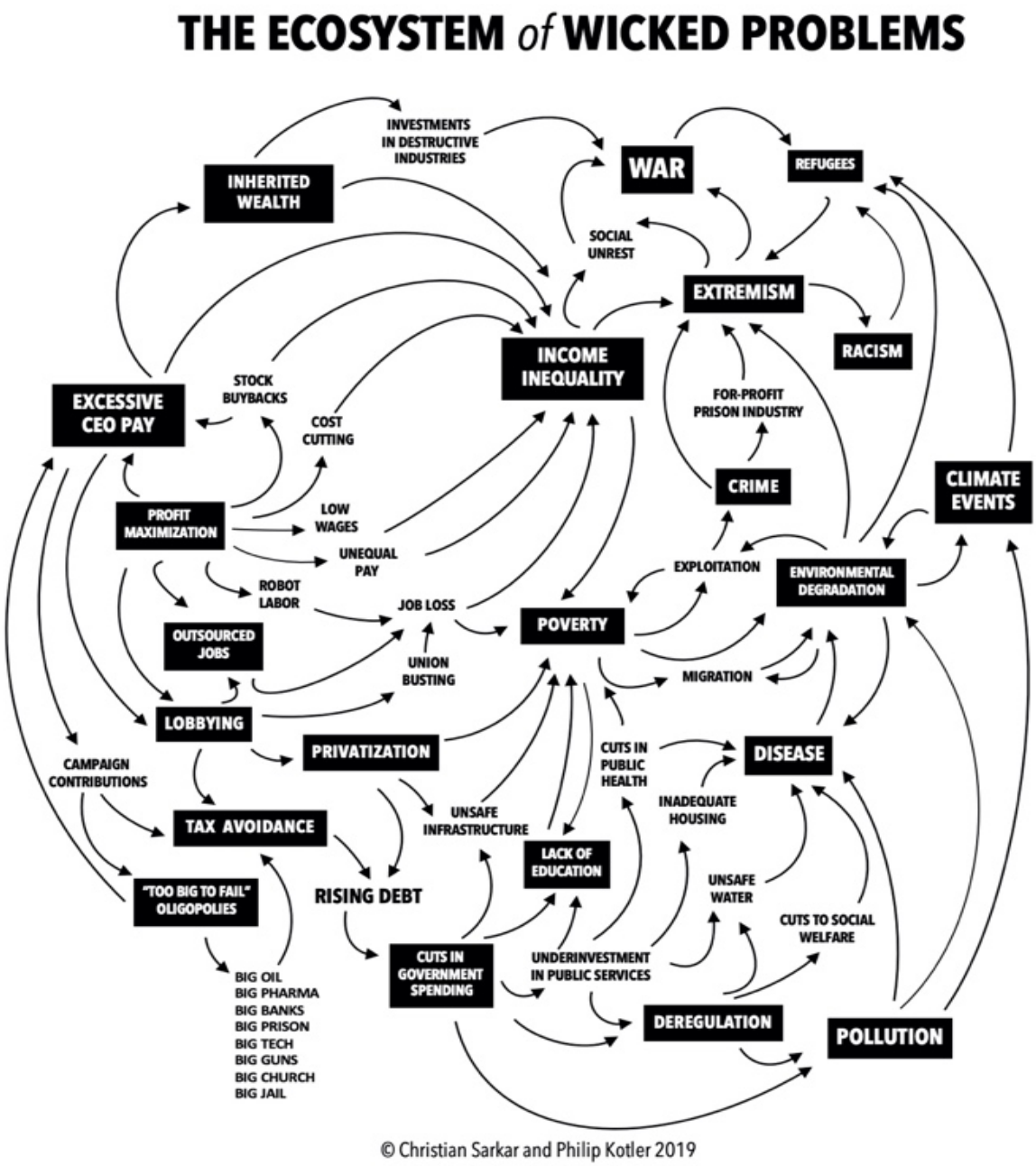
South Africa has a Gini index of 63 percent, making it one of the most economically unequal countries in the world (World Bank, World Development, 2019). The top one percent of South Africans earn almost 20 percent of all income in the country, while the top decile earns 65 percent (South Africa – WID – World Inequality Database, n.d.). Wealth distribution in South Africa is even more unequal, with the top one percent owning at least half of all wealth and the top decile owning 90-95 percent (Orthofer, 2016). This inequality encompasses multiple dimensions, including income, employment, earnings, assets, social mobility, health, education, and access to basic services and infrastructure (Linford, 2011).
These intersecting inequalities often restrict economic and social change, reinforcing a perpetual cycle of poverty.

This inequality is an example of what Rittel and Webber (1973) termed a "wicked problem". Wicked problems comprise multiple subsets of problems that concern different domains and levels of government. They are relentless, with solutions that do not have end points, and one intervention will have consequences in another arena (E. P. Weber et al., 2008). These attributes are captured in an illustration in Figure 1 by Sarker and Kotler (Sarker & Kotler, 2019) showing the "ecosystem of wicked problems". Wicked problems are by nature too complex to fit into one diagram but nonetheless, the illustration demonstrates the interconnectedness of different types of societal problems. Scholars and policymakers have come to understand that these types of problems are not solved by traditional problem-solving techniques and require a more systemic approach.

The United Nation's (UN) Sustainable Development Goals (SDGs) were ratified in 2015 and include ambitious goals to address 17 wicked problems. These SDGs have encouraged many funding bodies, governments and international organisations to look for innovations that can assist in achieving these goals (Bastien & Holmarsdottir, 2017; Kenny & Patel, 2017; Millard, 2018; Schot et al., 2018). Although it is clear that innovation has a role to play in addressing so-called grand challenges, up until recently, the literature has offered little understanding of how to design, implement or govern challenge-led innovation policy (Grin et al., 2010; Haddad et al., 2022; Schot & Kanger, 2018; Schot & Steinmueller, 2018). This has led to a shift towards

innovation policy that focuses on addressing social needs (Martin, 2015; Schot & Steinmueller, 2018; Zehavi & Breznitz, 2017).

Figure 1 The Ecosystem Of Wicked Problems



Note. Source: Sarker, C., & Kotler, P. (2019, October). *The ecosystem of wicked problems*. https://www.druckerforum.org/blog/the-ecosystem-of-wicked-problems-by-christian-sarkar/

One concept that specifically focuses on the role of innovation in addressing grand challenges and creating transformative change is transformative innovation policy (TIP). While the TIP

literature often overlaps with social and inclusive innovation research it can be distinguished by the fact that it focuses specifically on innovation as an inclusive search process that is intentionally directed towards addressing societal grand challenges like those described by the UN's SDGs (Haddad et al., 2022; Marshall & Dolley, 2019; Schot & Steinmueller, 2018).

Transformative innovation policy calls for innovation to be directed toward solving complex problems and thus requires a systemic approach to social innovation. This literature understands transformative innovation as both a multi-actor and multi-level process (Ghosh et al., 2021; Loorbach et al., 2020; Tödtling et al., 2021; Wanzenböck & Frenken, 2020; K. M. Weber & Rohracher, 2012). As an inclusive process, transformative innovation policy should therefore consider the local level actors and include social experimentation that "locally embeds" grassroots innovation within communities and civil society (Fagerberg, 2018; Loorbach et al., 2020; Marshall & Dolley, 2019; Schot & Steinmueller, 2018).

Since transformative innovation policy requires collaboration between diverse actors, intermediary organisations have been mentioned as important facilitators in this process (Gliedt et al., 2018; Haddad et al., 2022; Kivimaa, 2014). Although intermediaries are mentioned briefly in TIP literature there is currently limited research on these intermediaries. However, theTIP literature often draws from examples in the transition literature and the literature on transition intermediaries shows us how different forms of intermediation are needed at different points in the transition process (Kivimaa et al., 2020; van Lente et al., 2012). To fulfil these different intermediary roles, different types of intermediary organisations emerge. This includes organisations that help to facilitate the inclusivity and local embedding discussed above, and that specifically assist in connecting stakeholders at a grassroots level to others in the wider system (Kivimaa, Boon, et al., 2019).

Although there is a fair amount of literature on the function of intermediaries there is limited research on the nature of the relationships that intermediary organisations facilitate (Howells, 2006). Applying social capital theory to intermediary organisations helps to understand the different types of connections these organisations facilitate, including bonding, bridging, and linking (Agger & Jensen, 2015; Kim et al., 2021; Lang et al., 2020; Lang & Novy, 2014).

There is evidence of the success intermediaries can have in facilitating relationships across disconnected actors, although this work can be challenging. Conflicts can arise between

stakeholders especially when they have different interests or aims (Hamann & April, 2013; Kim et al., 2021; Marshall & Dolley, 2019; Sonday & Wilson-Prangley, 2016). Most of the relevant literature on intermediary organisations focuses on developed country contexts (Hamann & April, 2013; Sonday & Wilson-Prangley, 2016). Yet, it is base-of-the-pyramid (BoP) communities that experience the most severe effects of complex problems. Consequently, collaborative efforts are especially difficult within these BoP contexts because of the array of complex problems they face (Marshall & Dolley, 2019). Including stakeholders at a BoP level and locally embedding transformative efforts is mandatory for successful transformative innovation; therefore, understanding the work of intermediaries in this context to connect local stakeholders to transformative systems is necessary. However, there is limited prior research on how organisations in BoP contexts emerge as intermediaries to facilitate connections in these challenging contexts.

Therefore, the purpose of this study is to add to the literature on transformative innovation policy, especially in BoP South African contexts, and to describe how intermediary organisations build the social capital needed for transformative innovation. To do this, I used a qualitative multiple-case study approach, including autoethnographic data that outlines my own experience as a director of one of these intermediary organisations. My research comprises four case studies of Non-Government Organisations (NGOs) that work in South African townships that address at least one of the UN's SDGs and that play an intermediary role in connecting different actors.

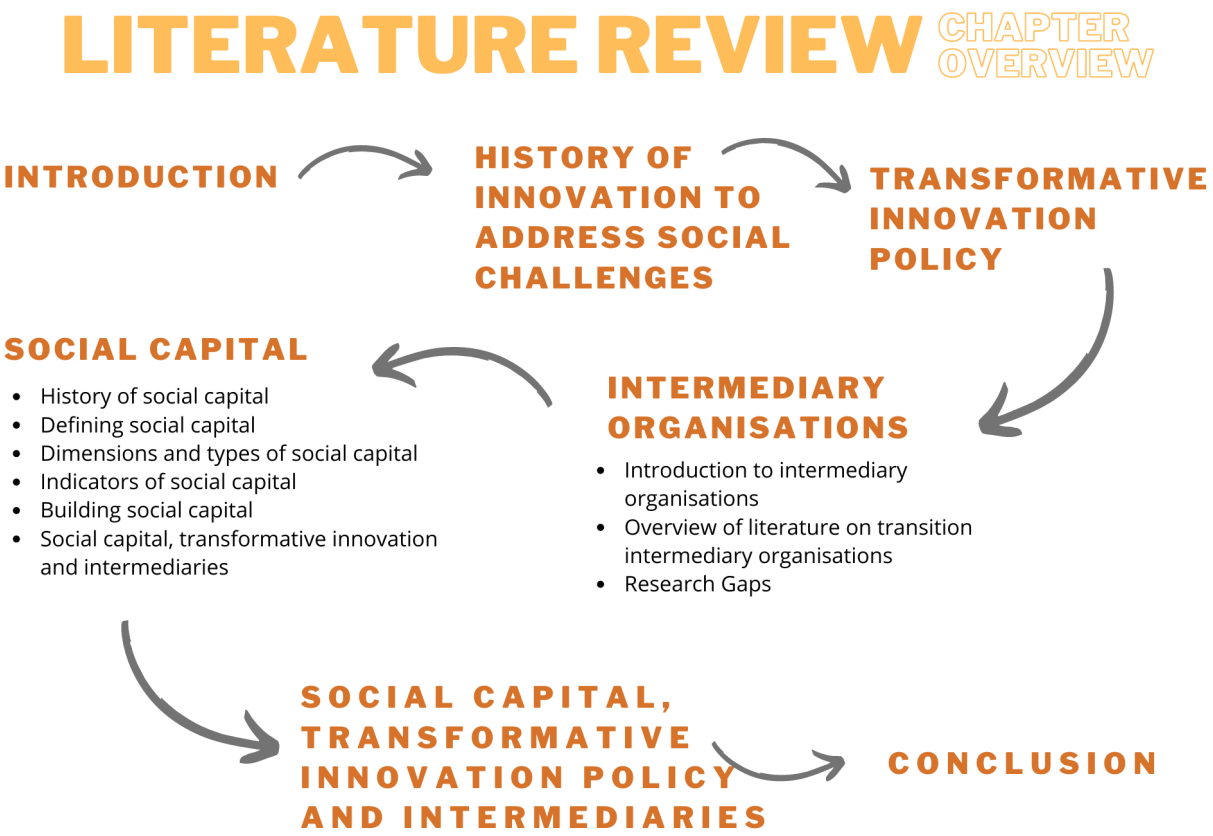
This study will offer insight into the 'local embedding' that is needed for transformative innovation and the important role that intermediaries working in these contexts play. The contributions this study offers will assist policy makers and funders to plan how they can effectively support the process of building the necessary social capital for transformative innovation. The study will also offer valuable learnings to intermediary organisations on how to build social capital in these contexts.

CHAPTER 2 LITERATURE REVIEW

2.1. INTRODUCTION

The need for transformation in South Africa is evident, and innovation can play a crucial role in addressing grand challenges. This chapter explores the literature on transformative innovation policy, intermediary organisations and social capital (see Figure 2). The first section provides a historical overview of how innovation has been used to address social challenges and introduces the concept of transformative innovation policy. The next section gives an overview of the literature on transformative innovation policy and concludes by discussing the inclusive nature of transformation, drawing attention to the fact that the process requires a wide range of actors, especially locally embedded actors who have influence in local contexts. . The following section examines the literature on intermediary organisations and demonstrates how these organisations can assist in bridging the gaps between stakeholders to facilitate collaborative processes. The final section considers the social capital perspective as a useful tool to help understand the nature of the relationships needed for transformative innovation policies. By identifying gaps in the literature and exploring the overlaps of these three topics, this chapter seeks to ground this research in the broader academic conversation around transformative innovation policy and highlight its contribution to this field.

Figure 2 Overview of Literature Review Chapter



2.2. HISTORY OF INNOVATION TO ADDRESS SOCIAL CHALLENGES

The origins of this theory can be traced back to Joseph Schumpeter, who developed a unique approach to economic and social change that focused on the role of innovation. Schumpeter's model identified technological competition as the primary form of competition under capitalism, named innovation as the key process driving economic change, and put forward the entrepreneur as the central innovator. He differentiated between invention and innovation, noting that invention only becomes an innovation when it is applied to industry processes (Brue & Grant, 2012; Fagerberg et al., 2005).

Although Schumpeter's work had received little attention for almost three decades, the seminal work of empirical economists Solow (1956) and Abramovitz (1956) on economic growth incited a sudden interest in his theories. Later Nelson (1959) and Arrow (1962) highlighted the fact that the incentives of market actors to innovate were not adequate enough to produce socially desired levels of knowledge. These findings took root and in the early 1960s, and the

role of innovation in economic and social change begun to attract the attention of both scholars and policymakers.

Two decades later, Christopher Freeman, another influential author on the topic, published a book titled *Unemployment and Technical Innovation* (1982). This book introduced a systems approach to innovation for long-term social and economic change and pointed out how inventions link together to form new technological systems that then contribute to economic growth. His work added to the discourse of the time where scholars had become interested in what Schumpeter had noted, regarding the fact that innovations tend to cluster in certain contexts and thus result in structural changes in these contexts.

Another significant paper that argued for a systems approach to innovation was by Kline and Rosenberg (1986). In this paper they criticised the widely accepted concept of "the linear model" of innovation. They pointed out that the model generalises a chain of causation that only really applies to a minority of innovation and ignores the feedback loops that occur between different stages of the innovation process.

Moving away from the linear model and embracing a systemic approach, scholars began to suggest modifications to the framing of innovation that could account for the reality of the innovation process, especially in developing countries. Rather than a public good it was recognised that knowledge associated with innovation had a "sticky quality", that did not freely travel across cultures and geographic regions (von Hippel, 1994). It was also noted that the ability of regions to absorb knowledge from the worldwide network depends on "absorptive capabilities" which often require previous experience in the field. These capabilities are social capabilities that are linked to the quality and level of education and entrepreneurship (Cohen & Levinthal, 1989). Lastly, technological change was better understood as a cumulative and path-dependent process (Arthur, 1985). It was amidst these studies that the important new concept of "national systems of innovation" emerged.

Scholars used the idea of national systems of innovation (NSI) to better address the existing differences between countries in regards to the role innovation played in economic and social growth. The NSI was put forward as a useful tool for development, especially in low-income countries. The term "national systems of innovation" was first introduced by Freeman (1987) and Lundvall (1992) to identify different figurations of organisations involved in the generation

and utilisation of innovation. Freeman defined the national system of innovation as: "the network of institutions in the public and private sectors whose activities and interactions initiate, import and diffuse new technologies" (Freeman 1987, p1).

In 1996, the White Paper on Science and Technology was launched in South Africa. This paper aimed to restructure the country's National System of Innovation (Hart et al., 2015) and acknowledged the need for "the increased co-ordination of innovation policies and strategies in response to complex challenges generated by global social and economic changes" (South African DACST, 1996). The NSI policy was however criticised for being too formal as it applied European models of innovation and lacked inclusivity and a pro-poor focus (Hart et al., 2015; Links et al., 2014).

While NSI has achieved some success in bringing about economic and social change, its focus on competitiveness and economic growth can divert attention from urgent social needs. The benefits of innovation have not been evenly distributed, and climate change and biodiversity loss pose existential threats to humanity. To ensure a more sustainable future, innovation policy must address social needs, as advocated by many researchers (Martin, 2015; Schot & Steinmueller, 2018; Zehavi & Breznitz, 2017).

The focus on social needs has led to a rise in a number of different topics in innovation literature including social innovation. However, the use of synonyms and related terms across different fields has resulted in the absence of a widely accepted definition for social innovation. Frances Westley, a prominent voice on the topic, pointed out during her keynote speech at the Social Frontiers Conference in London (2013) that social innovation is not so much a distinct field as much as it is an interest or foci. Nonetheless, there are similarities across the relevant literature, and social innovation can be defined as: "an event that contains the following five aspects: social need, innovative element, implementation and execution, improvement, relationships and collaborations." (Eichler & Schwarz, 2019, p. 12). Despite the concept receiving continued attention in recent years the point Westly makes is still valid and the term 'social innovation' is continually used in a number of different studies that cross multiple fields.

One relevant concept that specifically focuses on the role of innovation in addressing "grand challenges" and creating transformative change is transformative innovation policy. The literature on transformative innovation policy (TIP) often builds upon the ideas from the

transitions literature and overlaps with social and inclusive innovation research. Transformative innovation can be distinguished by the fact that it references innovation that has a fundamental and systemic impact on the way societies operate, often disrupting existing systems and creating new ones that are more sustainable and equitable and therefore have the potential to contribute to the achievement of sustainability goals. TIP presents transformative innovation as an inclusive search process that is specifically directed towards addressing societal grand challenges (Haddad et al., 2022; Marshall & Dolley, 2019; Schot & Steinmueller, 2018). The United Nations Sustainable Development Goals provide a clear direction for transformative innovation and help to practically root the discourse around transformative innovation policy. Furthermore, transformative innovation policy accounts for the interdependent and 'wicked' nature of societal grand challenges and argues that successful transformation requires multiple actors, multi-faceted policies and multi-level governance (Haddad et al., 2022). Although transformative innovation policy is a fairly new topic it suffers less from the "babelizing" phenomenon than social innovation. The term social innovation has been applied widely and has been referred to as a "buzzword" or "quasi-concept" (Edwards-Schachter & Wallace, 2017).

Transformative innovation policy is also, by necessity inclusive so it can therefore draw from the lessons in inclusive innovation literature (Marshall & Dolley, 2019). Inclusive innovation can be described as " new ways for improving the lives of the most needy" (Bryden et al., 2017, p. 7). Marshall & Dolley (2019) argue that it can be assumed that inclusive innovation by this definition would require systemic change that actively challenges the direction of innovation which is addressed within the concept of transformative innovation. For these reasons, I chose to align this research with this academic conversation around transformative innovation policy, although the terms social innovation and inclusive innovation could have been applied just as easily.

The next session gives an overview of the literature on transformative innovation policy.

2.3. TRANSFORMATIVE INNOVATION POLICY

Transformative innovation policy seeks to put social needs at the centre of innovation policy (Fagerberg, 2018; Loorbach et al., 2020; Schot & Steinmueller, 2018). This concept is particularly relevant in South Africa, given its current level of inequality and a multitude of

social problems that have remained largely unsolved despite government efforts. The growing tensions in South Africa not only threaten those at the base of the economic pyramid but also create an unstable political environment that negatively affects the economy. The idea behind transformative innovation is that urgent social and environmental problems faced by modern society require innovation to be directed primarily towards social problems, for countries to achieve long-term economic growth and social change. These researchers understand that although the current innovation policies may be able to promote long-term economic growth, the social problems, especially in developing countries, are negatively affecting the innovation process and are therefore stunting long-run economic growth. They believe that if environmental issues are left unattended, they will also have a major effect on economic growth if key resources and processes in the current economic system are not supplemented with more sustainable alternatives (Chataway et al., 2017; Schot et al., 2017; Schot & Steinmueller, 2018).

The discourse in the literature on the role of innovation in transitions to sustainability is ongoing, and while some researchers call for an entirely new frame for innovation policy (Schot et al., 2017, 2018), others use the existing knowledge base to argue for challenge-orientated innovation policy that facilitates transformative innovation (Fagerberg, 2018; Wanzenböck & Frenken, 2020; K. M. Weber & Rohracher, 2012). The transformative innovation policy literature draws on other discourses, including transitions, social innovation, grassroots innovation and mission-orientated innovation (Diercks et al., 2019).

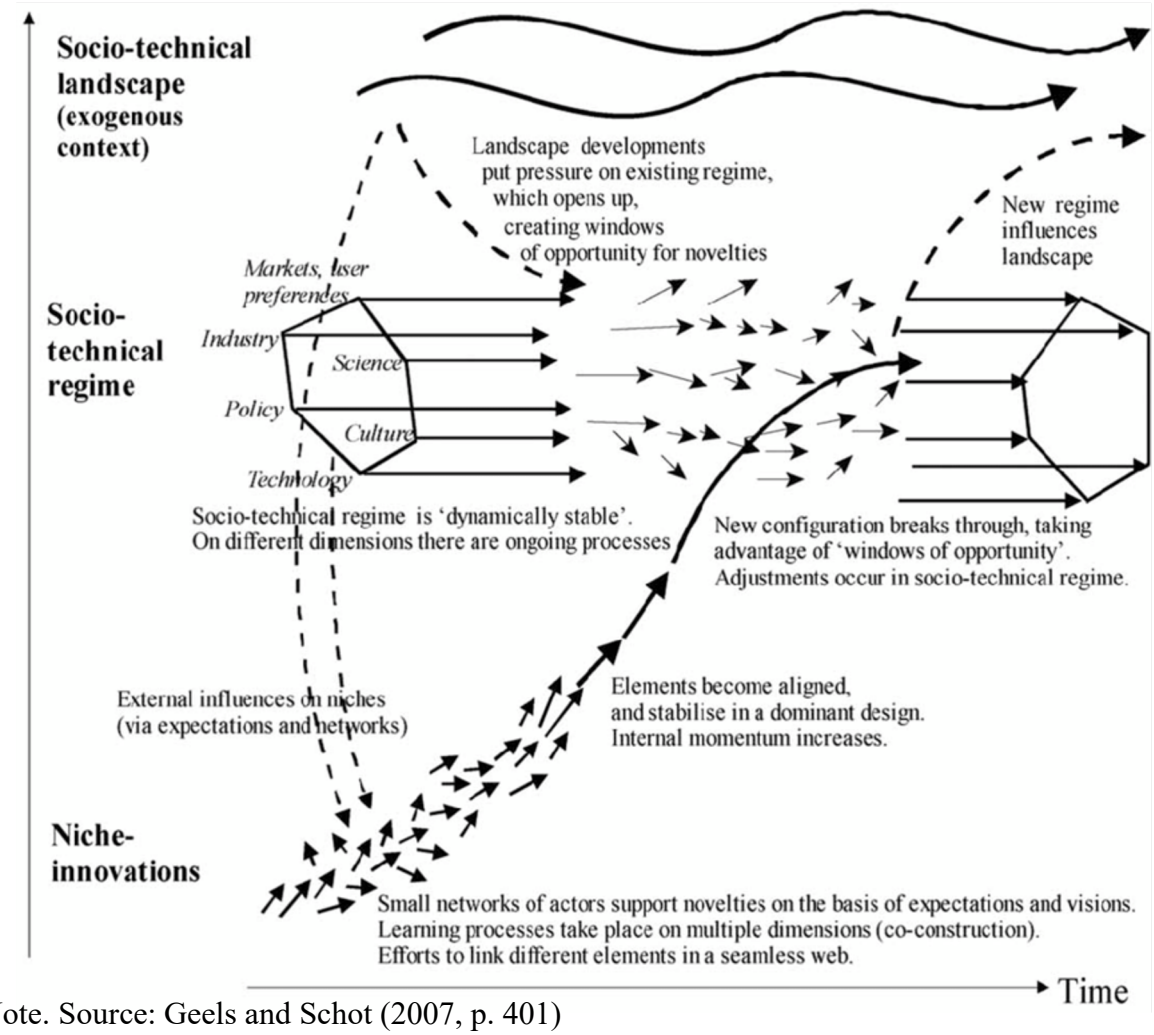
Recently, Haddad et al. (2022) conducted a systematic review of transformative innovation policy. These authors pointed out that emerging literature from two different perspectives on innovation shares similar concepts and can be grouped together under the umbrella of transformative innovation policy. One of the perspectives has its roots in the literature that draws on the studies that focus on transitions to sustainability and the other builds on the literature on mission-orientated policy.

Sustainability is a contested concept but can be broadly defined by the seventeen development goals agreed to by the United Nations. The sustainability literature draws attention to the urgency and complexity of the modern world's problems and offers a number of useful concepts to address them. While a comprehensive review of all these concepts is beyond the scope of this study, Grin and colleagues (2010) gives a good overview of transitions to sustainable development. Grin et al (Grin et al., 2010, p. 1) define transitions as "radical

transformation towards a sustainable society as a response to a number of persistent problems confronting contemporary modern societies."

Although there are many different approaches to studying these transitions a common overarching concept is the Multi-Level perspective (MLP) which is an adaption of Nelson and Winter's evolutionary theory to economic change (1982). This perspective views the transition process as an interference of processes at three levels: innovative practices (niches), structure (the regime) and long-term, exogenous trends (the landscape). A radical innovation will first emerge at the niche level and will be influenced by the dynamics at the regime and landscape level as shown by the downward arrows in Figure 3 which illustrates the multi-level perspective on transitions. If the innovation can gain the support of the relevant actors and take up 'windows of opportunity' it will be adopted by the existing regime. The landscape puts pressure on the regime to adapt and is made up of a varied set of factors that may change slowly, like the industrialisation of many countries, or suddenly, like when natural disasters strike (Grin et al., 2010). This perspective demonstrates how innovations emerge in uncertain environments and require the collaboration of multiple actors before they can really have any significant effect.

Figure 3 The Multilevel Perspective



Note. Source: Geels and Schot (2007, p. 401)

Schot and Steinmueller (2018) identify three frames for innovation policies with roots in transition studies: Innovation for growth, National systems of Innovation and Transformative innovation. The first two frameworks prioritize economic growth as the primary goal of innovation policy, with public welfare and a clean environment as a secondary goal. Conversely, transformative innovation is directed primarily towards public welfare and a clean environment, making economic growth the secondary goal.

An example of transformative innovation policy (TIP) that builds on mission-orientated policy is the work of Kattel and Mazzucato (2018), which speaks of the three generations of mission-orientated policies. The first generation focused on socio-economic missions that supported development and were driven by national interest in catching up. The second generation of mission-orientated policies focused on technological missions and was driven by national

security needs and the technological arms race. Lastly, the emerging third generation now focuses on socio-technological missions and is directed towards grand challenges.

Despite the two different roots within the transformative innovation policy literature Haddad et al. (2022) identify five distinguishing characteristics of TIP: (1) These policies have a clear direction (2) which are orientated toward grand challenges and inclusive growth. (3) These policies require multi-faceted policy intervention as well as (4) multiple actors and global networks and (5) multi-level governance. From the perspective of transformative innovation policy, innovation is a search process guided by social and environmental objectives, often directed specifically toward the United Nation's Sustainable Development Goals (SDGs) (Mazzucato, 2018; Schot & Steinmueller, 2018).

For innovation to have a transformative impact, innovation policies must encompass multi-faced interventions that combine supply-side and demand-side policies and cross across different sectors (Diercks et al., 2019; Mazzucato, 2018; Schot & Steinmueller, 2018). Wanzenböck and Frenken (2020) note that innovation policies often focus on strengthening the relationship within the triple helix of university, industry and government, while neglecting the perspectives of users for innovation, and assume that "big science" is the best solution for "big problems". They point out that this is problematic as it assumes that the problems require a scientific or technological solution, whereas these problems may be better addressed through regulation, social programs or behavioural change. They propose that despite the labels of "grand" or "global" challenges these challenges are contextual and take diverse forms and degrees of severity due to historical, geographical and economic conditions. Therefore, while it may be necessary for the broad societal goals to be set at a higher level, the solutions to the problems should be developed 'on the ground' and close to the citizens. For this reason, TIP defines transformative innovation as both a multi-actor and multi-level process. It should activate actors beyond the triple helix of university, government and industry and include a more diverse set of actors including public sector organisations, NGOs, citizens and users (Ghosh et al., 2021; Loorbach et al., 2020; Tödtling et al., 2021; Wanzenböck & Frenken, 2020; K. M. Weber & Rohracher, 2012). Fagerberg summarises the necessity of inclusivity for the innovation process saying that: "..reaching out to stakeholders (including the broader public) and engaging them in the collective innovation journey towards a sustainable economic system may not only be more democratic but also more effective." (Fagerberg, 2018, p. 7)

It is important that transformative innovation policy considers the local level and the innovation process should include actors at this level (Ghosh et al., 2021; Loorbach et al., 2020; Wanzenböck & Frenken, 2020). Schot and Steinmueller (2018) specifically mention that societal experimentation should include grassroots innovation with communities and civil society. Similarly, Loorbach et al. (2020) argues that 'local embedding' is a necessary feature of transformative innovation as innovations are expressed differently in different contexts and how they develop depends on socio-political and cultural factors as well as perceptions and available resources. They define transformative innovations as "socio-material, emergent, multi-actor phenomena: shared ideas, objects and activities across locally rooted sustainability initiatives." (Loorbach et al., 2020, p. 258). In their paper synthesising the empirical research of two European research projects, they point out that, when viewed from a distance, two initiatives in two different regions can be seen as two expressions of a similar "transformative innovation". Their paper focuses on initiatives that developed locally, and they identify five different development mechanisms of these transformative innovations. The first is growing the initiatives. They discuss how projects or organisations that develop locally and attract participation are often reliant on the initiator's ability to make themselves socially visible. The second is replication, which is when the ideas are shared and replicated in another context. This often happens when others get inspired through media to replicate the initiative in their own context. The third is partnering, which is when the resources are pooled across different contexts to increase transformative impacts. The fourth is instrumentalising, where some actors are able to exploit opportunities in the government context. Lastly, embedding is when the innovation is institutionalised and becomes mainstream, ultimately transforming the local context.

Loorbach et al. (2020) observe that local initiatives often struggle to bring about transformative change in their local context. However, when these initiatives are collectively implemented, they have the potential to empower and inspire broader engagement that results in transformation. The authors note that the opposite approach, where general or abstract ideas and solutions are implemented into specific contexts from the top-down, is more difficult. They do not provide clear examples of why this is the case. The findings of their study demonstrate the potential of transformative innovation and highlight how solutions arise from the local level. The authors suggest that transformative innovation policy should include ways to support the trans-local networks and diffusion of transformative innovations. It is worth bearing in

mind that their results are all within the context of Europe. BoP communities, such as South African townships, have very different dynamics compared to most communities in Europe.

The reality in our local context is that we experience the severity of many of the grand challenges on a daily basis, and most people in BoP contexts are simply trying to survive. Adapting for survival can stimulate innovative strategies, but these often focus on quick payoffs and immediate relief of suffering. Grand challenges are complex problems, and addressing them most likely involves long-term innovative processes that may only pay off in the long run. With the plethora of immediate challenges, most locals living in BoP contexts do not have the capacity to commit to long-term innovative processes without an incentive. South African communities are also highly segregated and even those with innovative ideas may not have the capacity to make an initiative "socially visible", especially so that it is visible beyond the boundaries of their community. Although there are exceptional people, who despite all odds, gain traction for their innovations, my experience working in this space has seen that the majority of initiatives seem to lose steam before gaining any real traction. In these local contexts, it may be idealistic to expect these 'transformative innovations' to develop organically. In the South African context, intentional support from actors outside these communities who can help incentivise innovation and help innovations move through the different mechanisms may be valuable.

The research by Marshall and Dolley (2019) on transformative innovation in peri-urban Asia supports this point: "the direction-changing aspects of transformative innovation in these deeply uncertain, contested and dynamic contexts are unlikely to emerge from the identification and scaling up of niche activities (albeit this will play a role); but they will evolve through the enhanced capacity of new alliances of actors to influence dominant framings of urban development, and to capture windows of opportunity." (Marshall & Dolley, 2019, p. 991). Their research illustrated the importance of long-term alliances that are embedded in community experiences, and they note that an important area for further studies is how these alliances are formed and evolve and are shaped by the local politics and power dynamics.

Based on Schot and Steinmueller's claim that transformative innovation policy is most likely to be effective if it is 'inclusive, experimental and aimed at changing the direction of socio-technical systems" (2018, p. 1563), Marshall and Dolley (2019) highlight some of the challenges of transformative innovation in peri-urban Asia. They illustrate how inclusion is

challenging in this context and provide examples of how, in the neoliberal restructuring of urban contexts, the interests of the poor are excluded from the vision for cities. For instance, urban environmentalism can result in exclusionary urban development projects and gentrification leading to the displacement of activities and communities seen as informal, undesirable, and polluting to the periphery, resulting in poorer groups losing access to services. These authors also note how in peri-urban contexts, administrative ambiguity often leads to decisions being made by distant state bodies with little understanding of local dynamics. Furthermore, experimentation in these spaces often results in those with power and resources exploiting opportunities created by policy experimentation due to a lack of inclusion in planning. They suggest that although innovation is a search process, the goal should not be just to find solutions to the problems of the poor but rather to improve the lives of the needy. This requires an experimental process that goes beyond short-term projects and includes experimentation over temporal and spatial scales, incorporating positive and negative feedback to the broader system. However, for this to happen, long-term close collaboration between different actors is needed. Unfortunately, the rapidly changing dynamics of the socio-ecological systems, driven by neo-liberal restructuring, make this type of collaboration challenging because the rules of the game and the players are constantly changing. This study is one of the few that look at transformative innovation outside the European setting, and many of the challenges identified are probably transferable to a South African setting.

Transformative innovation policy is a relatively new concept with the potential to garner the necessary support to tackle the grand challenges we face. The available literature indicates that engaging stakeholders at a local level and connecting them to broader networks is crucial for transformative innovation. However, cross-sector collaboration can be difficult (Sonday & Wilson-Prangley, 2016), and little is said about the process of overcoming the challenges to engage different actors. While a broad network of diverse actors is needed for transformative innovation, including those at a local level, this network also needs to be "deep" (Ghosh et al., 2021). Schot and Geels (2008) describe a deep network as one where people who represent organisations, are able to mobilise commitment and resources within their own organisations and networks. Ghosh and her colleagues (2021) suggest that deepening networks can be achieved by building mutual trust and commitments within the networks, which may require a specialist intervention by intermediary organisations. Other studies have also identified intermediary organisations as key actors in transformative innovation networks (Fagerberg, 2018; Loorbach, 2010; Schot & Steinmueller, 2018).

Haddad et al (2022) highlighted in their review on transformative innovation policy that to make real contributions to practical policymaking some specific topics must be addressed within this discourse. One topic they mention is the actual role and contribution of different stakeholders in relation to transformative challenges. The authors propose that the TIP literature could make use of empirical studies of specific actors, such as intermediaries. Additionally, they suggest a more detailed discussion on how stakeholder involvement can be achieved and organised, as well as exploring the challenges involved in organising and managing multi-stakeholder processes.

2.4. INTERMEDIARY ORGANISATIONS

2.4.1. Introduction to intermediary organisations

Intermediaries play an important role in transformative innovation policy (Fagerberg, 2018; Schot & Steinmueller, 2018). A significant body of work exists on 'innovation intermediaries' which according to the widely accepted definition of Howells are: "organisations that provide a supportive role for collaboration between two or more parties during various stages of the innovation process" (Howells, 2006, p. 721). In his seminal paper on this topic, Howells reviews the role of intermediaries in innovation, identifying various terms used to describe organisations that play an intermediary role. The review distinguishes between studies focusing on the process of intermediation in innovation and those focusing on intermediaries as organisations, referred to as intermediaries, third parties, brokers, intermediary agencies, consultants as bridge builders, intermediary firms, bricoleurs, superstructure organisations, knowledge brokers, intermediary level bodies, innovation intermediaries, technology brokers, regional institutions, boundary organisations and knowledge intermediaries. Howells' review highlights ten functions that intermediaries take on in the innovation process: foresight and diagnostics; scanning and information processing; knowledge processing and combination/recombination; gatekeeping and brokering; testing and validation; accreditation; validation and regulation; protecting the results; commercialisation and evaluation of outcomes.

Intermediary organisations can play a crucial role in advocating competitive niches, new visions and policies (Kivimaa, 2014), and build networks that cut across governments, markets

and different parts of civil society (Gliedt et al., 2018). The benefit and presence of these organisations in innovation systems is clear. However, Mulgan, Halkett and Sanders (2007) highlight what they term 'the missing middle' of social innovation systems. Their report compares the common presence of intermediary organisations within innovation systems to the lack of any intermediaries within social innovation systems. They point out that there are a large number of intermediaries present in the fields of science and technology who help to link the supply of ideas with the demands of users. Yet whilst there is a strong pull from politics, public agencies and civil society for social innovations, and a push from those with creative ideas, there are few intermediaries that help to spread social innovations around communities of practice. Therefore, in listing the priorities for improving the scaling-up and spread of social innovations, their research calls for more intermediary organisations.

Research on transition intermediaries may satisfy this call, as according to Kivimaa these intermediaries are "actors and platforms that positively influence sustainability transition processes."(Kivimaa, Boon, et al., 2019, p. 1072) Although the bulk of the sustainability transitions literature focuses on environmental issues, social issues are included in sustainability concerns (Köhler et al., 2019; Markard et al., 2012). Over the last 15 years, the term transition intermediaries has gained traction in the transition literature, and an overview of this literature is discussed in the section below.

2.4.2. Overview of literature on transition intermediary organisations

Although intermediaries are a fairly recent topic in the transition literature the role they play in development tracks back to the 1980s when researchers realised the potential of intermediaries in energising local groups and brokering vertical relationships to structures higher up the social ladder (Carroll, 1992). Kivimaa et al (2019) point out in their review of intermediary organisations in sustainability transitions a key role of an intermediary is to connect different actors:

> A common thread in this work is that intermediaries are found to bridge between actors involved in situations where direct interaction is difficult due to high transaction costs (e.g. locating a suitable partner to collaborate with, disincentive to collaborate) or communication problems resulting from difference in culture, interests and capacity to absorb and exchange knowledge. (Kivimaa, Boon, et al., 2019, p. 1063)

There are different phases in the transformative process and during these phases, different types of intermediary activity are necessary (Hargreaves et al., 2013; Kivimaa et al., 2020; Kivimaa, Hyysalo, et al., 2019; van Lente & Hekkert, 2003). Kivimaa et al. (2019) presented a conceptual model illustrating what the different types of intermediaries do in various transition phases, which they demonstrated through empirical cases on Dutch automobility, Finish heat pumps and UK low-energy homes. In their research, they noted that in the predevelopment phase of a transition intermediary activity focuses on supporting experimentation and articulating needs. Alternatively, in the acceleration phase, intermediaries focus on network building and stronger institutional support, aggregation of knowledge, pooling resources and capacity building.

Another example of how different intermediaries arise in different phases of transitions is how three waves of intermediaries within the community energy sector have emerged over time (Hargreaves et al., 2013). The first wave saw an increase in intermediaries that supported alternative technology movements. The second wave saw intermediaries emerge that helped to manage the spending of public money. The last wave saw an increase in intermediaries that were independent consultants, created loose networks for information exchange or advocated for community energy. The first waves described by Hargreaves (2013) aligns with the conceptual model presented by Kivimaa et al (2019) as the first two waves align with the intermediary roles of the predevelopment phase described in the model, and the third wave of intermediaries aligns with the intermediary activities described for the acceleration phase.

Different transition intermediary organisations work at different levels and with different stakeholders in sustainability transitions. Kivimaa et al (2019) differentiated between intermediaries that work on a systems level (systemic intermediaries and regime-based transition intermediaries) and those that focus on more specific parts or processes in the system (niche intermediaries, process intermediaries and user intermediaries). They also noted that the different types are not mutually exclusive, but one intermediary is likely to have more of the characteristics of one type rather than possess the characteristics of all the different types equally.

Van Lente et al (2003) described systemic intermediaries as those that help to bridge stakeholders in the system and strengthen the necessary links within the systems of innovation by articulating needs and options, aligning the relevant actors and supporting learning and experimentation processes. They used the example of a Dutch systemic intermediary, the

Innovation Network Rural Areas and Agricultural Systems (INA), which brought together different system actors from the government, knowledge institutions, societal organisations and companies to develop new types of innovation and cooperation contributing to sustainable development. Klerkx and Leeuwis (2009) later commented on the important role INA had in the transition towards novel functions for agriculture and more sustainable production systems.

Mohamed (2018) provides an example from South Africa of an intermediary working at a systems level. He describes a case study on the Water Technologies Demonstration Programme (WADER), which was commissioned by the Water Research Commission to promote coordination, cooperation, and communication in the areas of water research and development. WADER fulfils many of the roles identified in Howells' review: it scouts for innovative solutions by issuing water technology innovation calls; it demonstrates technologies in partnership with municipalities and plays a regulatory role by checking if performance standards are met; it links up actors and provides network support for water innovators by finding sites, resources, and support for tech demonstration and exposing partners and solutions to possible markets; it develops partnerships that enable greater learning and provides basic advisory services, and lastly, it acts as an institutional repository for technological learning and assessment so that duplication is minimised in other parts of the system. Nienaber (2018) mentioned the challenges WADER encountered in finding funding as few municipalities are able to free up budgets for unsolicited demonstration projects. She also argued that building partnerships that do not only look at the technology but also consider the context of setting up viable businesses is needed for a systemic shift. The intermediaries that are embedded in more localised contexts of the broader system and have important contextual information may be able to assist in building the partnerships Nienaber argues for.

There are many different types of intermediaries that focus on more specific parts or processes of the system rather than at the broader system level. For example, a paper on innovation intermediaries in sustainability transitions proposes a framework for green economic development and highlights the role of innovation intermediaries that specifically focus on linking niche and regime-level actors and activities (Gliedt et al., 2018). This paper is one of the first to apply sustainability transitions theory outside of the European context, applying it to the United States. It shows how innovation intermediaries can be set up by NGO's, businesses and/or government and do not necessarily rely on federal funding or regulatory control.

Another example is the research of Hargreaves et al. (2013) that analyses 15 UK community energy intermediaries. Their study is built on Geels and Deutan's (2006) research which described how the role of an intermediary in niche development is to aggregate lessons across multiple different projects, to assist in establishing an institutional infrastructure that can facilitate the exchange and circulation of this aggregated knowledge, and then to help guide local development by drawing on aggregated global knowledge. Hargreaves et al. (2013) note how grassroots innovations struggle to simply survive. Whilst they applied the roles suggested by Geels et al they found that learning should be seen as an ongoing process for both the intermediary and the projects, that building an institutional infrastructure is incredibly challenging when different interests are involved, and that co-ordinating action on the ground requires intensive work to build the necessary confidence and capabilities. They warn that sensitivity is required when transposing theories of transition to grassroots innovations because of the wide range of different aims, objectives and ideologies.

Much of the current research on intermediaries in transitions implies that transitions need to happen at a global or national scale, although some researchers have started to apply transition theory to more local contexts. For instance, the work of Hodson, Marvin and Medd (2013, 2010, 2012) concentrates on how intermediaries play a role in social-technical transitions in cities. They specifically focus on the role that intermediaries may play in addressing the challenges of climate change by influencing shifts in the system that lead to more sustainable practices. By analysing European intermediaries, Hodson and Marvin (2010) identify important issues for intermediaries to effectively shape transitions. They discuss how the continual development of the organisation's knowledge base requires the organisation to constantly renegotiate and integrate the different forms of knowledge and social interests generated from these networks. This calls for more face-to-face communication as the intermediary cultivates its local presence while simultaneously extending its networks to a national level. The intermediary needs to carefully consider its partners and build trust with actors that may have competing interests in other aspects. Symbolic visibility is also an important way for the intermediary to distinguish itself and be seen as a first mover. After embedding itself in the urban context, the intermediary needs to develop a shared organisational view on how they could measure success beyond the narrow metrics of external funders.

Hamann and April (2013) investigated urban sustainability transitions at a sub-city scale and illustrated the important role intermediary organisations play in transitions by helping to facilitate collaboration at this level. Successful transformative innovation is more likely when innovations are developed 'on the ground' and close to citizens (Wanzenböck & Frenken, 2020). Therefore, in the context of transformative innovation, intermediaries that work at a sub-national level to help facilitate the collaboration of local "users" are important. Hamann and April (2013) argue that the kind of collaborative processes that are required for sustainability transitions are more likely effective at a sub-city scale where participants have a personal relationship with and a better cognitive overview of the issues under discussion. They note that collaboration is especially challenging in the highly unequal society that exists in South Africa. In this context, authentic deliberation between disparate stakeholders and interests is important but challenging.

Transition intermediaries may be organisations that were specifically established for their intermediary roles or they may be existing actors in the system that emerge to facilitate the intermediary process (Kivimaa, Boon, et al., 2019). One type of organisation that may emerge to take on an intermediary role is an NGO. NGOs working at a grassroots level have received attention for the role they could play as intermediary actors (Carroll, 1992; van Welie & Romijn, 2018; Wolf et al., 2021). In 1992, Carroll published a book on intermediary NGOs that used 30 case studies to analyse the performance of intermediary NGOs and the role they played in the development of their own countries (Carroll, 1992). One of the case studies looked at POTERRA, a regional organisation in Peru that provided assistance to small-scale commercial farmers and, over a short time period, completely changed the agricultural production in the Lurin Valley. POTERRA provided individual technical assistance to farmers, including soil analysis, land surveys, the application of fertilisers and pesticides, and well exploration. They also had a legal division that facilitated the process of legal petitions, negotiated with government officials, undertook legal research for specific problems, and worked with the government to develop policies. The success of their work had far-reaching consequences, aiding not only the land reform beneficiaries in the Lurin Valley but also reaching thousands of rural families facing potential expulsion in other areas. POTERRA is just one of the many available examples that demonstrate how intermediary organisations can connect different actors and link them to the relevant activities, skills, and resources needed to create momentum for change.

Interestingly, Hamann and April's (2013) research highlights the importance of certain capabilities of the intermediaries' leadership. One of these capabilities is the leaders' comfort in spaces of high complexity and ambiguity. Another is their ability to frame conflict and tensions between stakeholders as an opportunity for creativity and innovation. This is interesting because NGO leaders that work at a grassroots level may naturally have these capabilities. These leaders have experience in dealing with complex issues because their work often involves balancing outsider funder expectations with the realities on the ground. Therefore NGOs working at grassroots levels may be well-positioned to assist with intermediary services. This assumption is supported by the research of van Welie and Romijn (2018), who explored the contributions NGOs can make towards transitions. They highlighted that transitions in low-income contexts require extra attention to local empowerment and institutional building as this is needed to facilitate locally rooted transitional processes. They conclude that development NGOs have the skills to help with this as they can build capacity through awareness creation and can help local communities to participate actively in the transition process. However, they noted that whilst the NGO in their case study had the relevant capabilities to work effectively at the community level, the NGO did need to build capabilities in order to facilitate broader systemic change.

2.4.3. Gaps in the research on intermediaries

The research on intermediary organisations is increasing, yet most studies are from developed countries. There is also an increasing interest in intermediaries in the developing world as they can play an important role in these contexts, where challenges around collaboration are common (Hamann & April, 2013; Sonday & Wilson-Prangley, 2016). Another gap in the literature is research that focuses on the nature of the relationships of intermediary organisations. Howells (2006) noted that the discussions about intermediaries often revolve around their function, and that more research is needed on the nature of the relationships that intermediaries develop and rely on. His comment still applies, as the bulk of the current research on intermediaries still focuses on their function. I suggest that the social capital perspective may be appropriate to better understand the nature of the relationships that intermediaries facilitate.

2.5. SOCIAL CAPITAL

2.5.1. History of social capital

John Field offers an eloquent summary of the theory of social capital in only two words – "relationship matters" (Field, 2016, p. 1). Although the origin of the concept is contested, three leading figures are recognised for making seminal contributions: Bourdieu, Coleman, and Putnam.

Bourdieu developed the concept of social capital in the 1970's and 1980's as part of a broader social theory that included cultural and economic capital. Bourdieu's theories were largely influenced by Marxist thinking, and his primary concern was inequality, which he saw as the production and reproduction of capital. Interested in the unequal access to resources and the maintenance of power, his fieldwork was mostly focused on the French haute bourgeoisie in the 1960's and early 1970's and as a result he viewed social capital as mostly the property of the elite. Bourdieu saw social capital 'as an aggregate of the actual or potential resources linked to possession of a durable network' (Bourdieu, 1986, p. 248). For Bourdieu social capital was cultivated by individuals that could exert power to maintain their superiority.

Like Bourdieu, a backdrop to Coleman's ideas on social capital were his concerns with social order and inequality. In fact, his first comments on the topic emerged from his attempts to explain the relationship between social inequality and academic achievement in schools. However, one significant difference between Bourdieu's and Coleman's views of social capital was that Coleman did not perceive social capital as a resource that was limited to the powerful, but instead demonstrated how it could bring benefits to the poor. Although Coleman also believed social capital was an asset of an individual, he referred to it as being built up of 'social structural resources' (Coleman, 1994, p. 302) and identified two crucial elements of social capital; the extent of obligations and trustworthiness. These three characteristics were accepted and expanded by subsequent researchers and form the basis of the current social capital theory.

One researcher that is often credited for popularising the concept of social capital is the political scientist Robert Putnam, who turned his attention to the subject of social capital in his influential publication "Bowling alone" (Putnam, 2000). Putnam diverges from the idea of social capital as an individual asset but sees it as a resource functioning at a societal level. According to Putnam social capital refers to the "features of social organisation such as

network and norms and trust, that facilitate coordination and cooperation for mutual benefit." (Putnam, 1993, p. 2)

For a while, most researchers especially in the field of community development drew upon the work of Putnam for their understanding of social capital (Carpiano, 2006; Defilippis, 2001). However, others have begun to criticise this view for its flawed application in community development, pointing out that this view of social capital does not account for the power dynamics in social networks (Defilippis, 2001).

It should be noted that although social networks is a distinct topic discussed in a body of literature that is separate from the research on social capital, these two concepts do overlap. The theory of structural holes, which arises from the literature on social networks, has been applied to studies on social capital. Burt (1992) introduced the concept of structural holes and argued that social capital is a function of brokerage opportunities across the structural holes in a social network, building on the work of Granovetter (1973). This seemingly contradicts Coleman's closure argument, which proposed that a network of strongly interconnected elements creates social capital (Burt, 2000). Despite these contradictions, the two ideas can be brought together in a productive way, and researchers have drawn upon these ideas to describe different types of social capital (Woolcock & Narayan, 2000). The section below discusses the different types of social capital.

2.5.2. Defining social capital

There are many conflicting definitions of social capital in literature due to the different perspectives of the researchers using the concept. For instance, the term 'capital' can be understood from different angles. Some adopt the economic definition of capital and propose that it should mobilise other forms of capital (Claridge & Tristan, 2020; Nahapiet & Ghoshal, 1998). Others see it as more of a metaphor, like Ronald Burt, who refers to it as an idea that people who are more connected do better (Burt, 2001). Furthermore, some researchers like Bourdieu and Coleman view social capital as an individual asset (Adler & Kwon, 2002) whereas others, like Putnam, put the community as the primary unity of analysis and see social capital as a collective asset (Falk & Kilpatrick, 2000; Putnam, 1993; Woolcock & Narayan, 2000).

Needless to say, there is not one widely accepted definition for social capital across all literature but for the purpose of this research I define social capital as:

> "The relationships between an individual, groups, organisations or communities that effect their capacity to achieve both individual and collective aims, through securing or attaining resources, knowledge and information." (building on Acquaah et al., 2014; Mpanje et al., 2018; Woolcock & Narayan, 2000)

I use this definition because it highlights how social capital can occur at different levels, is used to achieve an aim which could be individual or collective, and describes how this is done (attaining resources, knowledge and information).

2.5.3. Dimensions and types of social capital

Different types and dimensions of social capital have been identified in the social capital literature, which are particularly relevant when applying the concept to understand the role of intermediaries in transformative innovation. The literature generally accepts that social capital has three dimensions. The first two dimensions are based on the work of Granovetter who noted that most economic exchange is embedded in interpersonal relations. Granovetter conceptualised this embeddedness and labelled its two dimensions as structural, i.e., the configuration of a social network, and relational, i.e., the quality of these relationships (M. Granovetter, 1992). Nahapiet and Ghoshal (1998) expanding on this work and introduced a third dimension: the cognitive dimension of social capital. In their framework, the structural dimension concerns the structure and pattern of the connections, the relational dimension concerns the quality of the relationships due to trust or the resources created or leveraged through these relationships, and the cognitive dimension concerns the shared goals and values of the stakeholders.

Building on this framework, other researchers have categorised the structural and relational dimensions into different types of social capital namely bonding, bridging and most recently, linking (Acquaah et al., 2014a). Bonding capital can be defined as the relationships we share with parties that are similar to us. These are strong ties that are used to 'get by'. Homogenous networks are characterised by bonding capital. Bridging capital are the ties that cut across networks and communities, and are generally weak ties. These ties are used to leverage resources to 'get ahead' and they characterise heterogeneous networks. Although the term

bridging has been used to describe both horizontal and vertical ties in some research uses bridging capital to refer only to horizontal ties, whilst linking capital refers to vertical ties. Linking capital is similar to bridging capital but specifically refers to the ties that link actors to parties further up the social ladder that have more power and influence (Acquaah et al., 2014; Billett, 2011; Mpanje et al., 2018; Putnam, 2001; Woolcock & Narayan, 2000).

2.5.4. Indicators of Social capital

Due to the multi-dimensional nature of social capital, researchers have put forward a number of different indicators to measure social capital. The Network of Business Sustainability South Africa's report on social capital (Acquaah et al., 2014b) summarises these into four broad categories: 1) Networks, relationships and connections. 2) Trust 3) Civic engagement and voluntary activities (including cooperation, political participation, social participation, associational memberships, community volunteerism, etc.) and 4) Civic norms, shared norms and values.

Putnam (2000) proposed a similar set of indicators for social capital in the United States. These were grouped into five categories: Measures of community or organizational life, Measures of engagement in public affairs, Measures of community volunteerism, Measures of informal sociability and Measures of social trust.

In the social capital literature, various indicators have been used to measure social capital. However, Mpanje et al. (2018) note in their research on social capital in vulnerable urban settings, what constitutes the different types of social capital and how these types can be measured need to be understood within context. Their research put together a comprehensive framework that established culturally relevant indicators to measure social capital at multiple levels within vulnerable urban settings.

2.5.5. Building social capital

Unsurprisingly, there is a debate about whether social capital can be built, and if so, how. Putnam argues that historical factors determine social capital and therefore it cannot be enhanced in the short term. However, other researchers disagree and see social capital as a by-product of other activities. Falk and Harrison (1998)) understand learning as the mechanism for building social capital and investigated how local interactive learning processes do so.

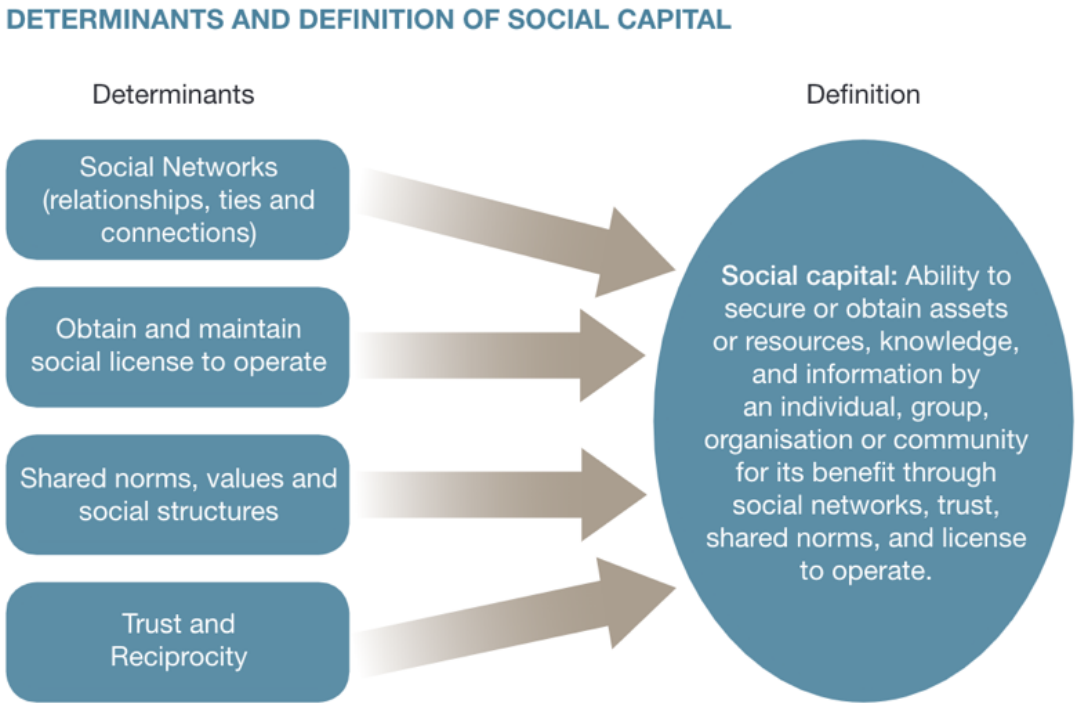
Cernea (1993, p. 13) stated that "creating organisations is equal to creating social capital". Even sport has been mentioned as an activity that builds social capital (Kania et al., 2014).

Some researchers have shown how the creation of social capital is influenced by the government (Lowndes & Wilson, 2001; Mondal, n.d.; Warner, 1999). Lowndes and Wilson (2001) comment on the importance of the institutional design of government in shaping the creation and mobilisation of social capital. They note that the levels and forms of voluntary sector activity are influenced by the institutional framework of government. The support and recognition of local groups and the influence they allow these groups to have on governmental processes determine whether social capital thrives or withers. Another way the government can help to build social capital is by supporting local NGOs by offering state funding (Huntoon, 2001).

Creating new connections across structural holes may contribute to social capital development (Burt, 2000). However, building social capital may require more than just creating new connections between different actors. As DeFilippis (2001) points out, "connections or "bridges" do not, of themselves make the people in any place rich or poor"(2001, p. 790). Assuming that connecting low-income areas and people to larger networks will result in economic change, without taking into account the power relations, is naïve. Building social capital should therefore take into account all three dimensions of social capital. This includes the structural dimension of the network, but also the relational dimension of social capital characterised by trust and the cognitive dimension, which concerns creating shared meaning and vision.

This is exemplified by a report on social capital from the Network of Business Sustainability South Africa which identifies four determinants of social capital (see Figure 4). This systematic review of social capital proposes that social capital is created when individuals or companies establish connections and networking relationships with key stakeholders; foster trust with these stakeholders; develop shared norms, common values and goals to influence attitudes and behaviour; and obtain and maintain a social license to operate, which demonstrates their commitment to key stakeholders (Acquaah et al., 2014b).

Figure 4 Determinants and definition of social capital



Note. Source: Measuring and Valuing Social Capital: A Systematic Review by Acquaah, M., Amoako-Gyampah, K., & Gray, B., Nyathi, N. Q. , 2014 Network for Business Sustainability South Africa. Retrieved from: nbs.net/

2.6. SOCIAL CAPITAL, TRANSFORMATIVE INNOVATION POLICY AND INTERMEDIARIES

The transformative innovation policy literature emphasises the importance of networks and inclusive collaboration and the transitions literature provides evidence for the important role intermediaries can play in transformation. Recently, a few researchers have proposed the social capital concept as a useful tool to better understand the mechanisms of intermediary-led participation in transitions (Kim et al., 2021; Lang et al., 2020). Similarly, Habisch and Adaui (2013) point out that social innovations often require the recombination of relationships amongst different actors, so applying the concept of social capital can help to better understand the structure and role of social innovations.

In one study looking at social innovation for sustainability transformation within marginalised rural areas in Europe, the authors noted that knowledge generated during the interactions between different actors promotes social innovation, with social capital playing a key role

(Kluvankova et al., 2021). These authors found that the transformative nature of this innovation relates to its ability to change the relationships with the community (bonding capital) and between a community and external actors (bridging capital) and among actors with different knowledge, expertise and resources (bridging or linking capital). Looking at actors and their knowledge, they identified four different types: 1) local actors with local knowledge 2) local actors with external knowledge and support 3) external actors with local knowledge and 4) external actors with external knowledge. The role of local actors was reported as key to the success of the emergence and growth of these innovations. Furthermore, this study points out that the success of social innovation driven by external actors and external knowledge has not been empirically proven and they suggest that transformative innovation in these contexts requires a deep understanding of the local context and active engagement with locals.

As discussed previously, a key characteristic of transformative innovation policy is that innovations are locally embedded. Although it is widely acknowledged that local knowledge is crucial for innovation, some studies suggest that external knowledge is equally important in the South African context (Booyens et al., 2018). Transformative innovation embedded at a local level in South Africa would therefore require bonding, bridging and linking social capital. Bridging and linking capital can provide access to external knowledge and material resources, while bonding capital allows access to local knowledge and builds the trust that is necessary for mobilising commitment amongst local stakeholders. Building bonding capital becomes important when new knowledge needs to be communicated. This is illustrated by a study on the transformations in governance of Chilean marine coastal resources, which showed how the pre-existing social network of fishers was a critical element when communicating new knowledge (Gelcich et al., 2010).

The primary function of intermediaries is to promote participation and facilitate the connections between different stakeholders, which from a social capital perspective is akin to building all three types of social capital. However, research on how intermediaries go about setting up these connections is scant. The social capital literature suggests that an organisation that needs to build social capital may first need to develop legitimacy (or a social license to operate) among key stakeholders. One study proposed that the characteristics of the individual leading the intermediary is what increases the perceived legitimacy of the organisation (Sonday & Wilson-Prangley, 2016). Maturity, wisdom and life experience are important characteristics that have been identified in intermediary leaders (Sonday & Wilson-Prangley, 2016). Similar

characteristics were found in individuals who facilitate innovation processes, and it was observed that they often build trust in the process of innovation because they are known by stakeholders and have interacted with them before (Porto Gómez et al., 2016). It is unclear what the implications are for intermediaries seeking to support transformative innovation when they are unknown to local community members.

Another relevant finding, which speaks to how intermediaries in South Africa can strengthen their social capital, is related to the intermediary's ability to generate short-term value. Whilst other intermediaries in the global north may focus primarily on creating long-term value, intermediaries in a South African context need a heightened capacity to generate short-term value in order to build trust. If intermediaries in this context are able to take advantage of opportunities to create short-term value, they can gain credibility, which then creates a pathway for continued efforts (Sonday & Wilson-Prangley, 2016).

2.7. CONCLUSION

As can be seen in this review there has been a necessary shift in innovation policy towards transformative innovation. Whilst this is a new area of focus, it is clear that inclusion of local users in the innovation process is vital. From a social capital perspective, inclusion requires building different types of social capital. Habisch et al (2013) argue that to understand how social innovations can provide solutions for a sustainable future, there is a need to look at case studies that show organisational learning, analyse how social capital investments are achieved and explore how organisations transform the relationship structure of relevant social actors. Similarly, Booysens, Hart and Ramoroka (2018) point out that there is a need to understand the micro-behaviour of actors, particularly in the Global South, where there is little evidence of the nature and dynamics of local level innovation. Additionally, Todtling et al (2021) call for more research that explores the agency of regional innovation system actors. The literature suggests that intermediary organisations have the potential to act as change agents in transformative innovation. Therefore, in response to the call for more empirical research on transformative innovation and the nature of the relationships that intermediary organisations facilitate (Howells, 2006; Sonday & Wilson-Prangley, 2016), this paper aims to explore how intermediary organisations build social capital to support transformative innovation in local BoP contexts.

CHAPTER 3 RESEARCH METHODOLOGY

3.1. INTRODUCTION AND OVERVIEW

The purpose of this study is to contribute to literature on transformative innovation policy by looking at how intermediaries build social capital within BoP contexts. Inclusive and transformative innovation is improbable if those who are most affected by social issues are not involved in the entire process. However, in highly segregated contexts, such as South Africa, the social capital required to support these processes is scarce. This research investigates intermediary NGOs that work on social issues within BoP contexts, focusing on what social capital they have acquired and how they build this social capital.

3.1.1. Research Questions:

How do intermediaries working on social issues build the type of social capital that aids transformative innovation processes?

3.1.2. Rationale for doing a qualitative study

A qualitative approach was deemed the most suitable for this research as it aims to describe the intricate process of building social capital. Although both qualitative and quantitative methods have been used to study social capital, a literature review revealed that the majority of the studies involving intermediary organisations took a qualitative approach (Hamann & April, 2013; Klerkx & Leeuwis, 2008; Sonday & Wilson-Prangley, 2016; van Lente & Hekkert, 2003).

3.1.3. Rationale for doing a case study

Case studies are a common method in research on intermediary organisations (Guerreiro & Botetzagias, 2018; Hamann & April, 2013; Kant & Kanda, 2019; van Lente & Hekkert, 2003), social capital (Bodin & Crona, 2008; Camps & Marques, 2014) and transformative innovation policy (Chataway et al., 2017; Schot et al., 2017). Researchers studying intermediary organisations seem to favour case studies, which have become popular in many fields. This method is particularly useful for understanding complex social phenomena, as it allows researchers to examine real-world cases holistically.

According to Yin (2009), the scope of a case study as "an empirical inquiry that investigates a contemporary phenomenon ("the case") in depth and within its real-world context, especially when the boundaries between phenomenon and context may not be clearly evident." (2009, p. 16). Therefore, researchers should consider using a case study method when they want to understand a real-world case and its context holistically. Yin suggests that case studies are most useful when researchers ask how or why questions about a contemporary set of events.

This research aims to understand how intermediary organisations build social capital in complex contexts. Therefore, a case study method is appropriate. The method takes into account the social context of the intermediary, which is important because the way they build social capital may be contextually specific.

3.1.4. Rationale for including autoethnographic research

I conducted four case studies, one of which involved the NGO with which I work. While I observed three cases from an external perspective, I was an "insider" (Bishop et al., 2021) using an autoethnographic approach to collect and analyse data. Eisenhardt, Graebner and Sonenshein (2016) argue that ethnographic research, as an inductive research method, is particularly useful in research that focuses on grand challenges and theory development. This is because inductive research excels in studies where there is limited theory and problems without clear answers. Although I could not find any relevant examples of autoethnographic research in the field of transformative innovation policy it has on occasion been used as a method in studies on social capital (Hoffman, 2022; Marcysiak & Prus, 2017) and intermediary organisation (Germundssona et al., 2021; Koria et al., 2022).

As I have experience founding and directing an NGO based in a South African township, which played an intermediary role, including autoethnographic methodology in my research design allowed me to draw upon my own experiences as an organisational leader. Autoethnography is "a form of critical reflexive narrative inquiry, critical reflexive self-study, or critical reflexive action research in which the researcher takes an active, scientific, and systematic view of personal experience in relation to cultural groups identified by the researcher as similar to the self (i.e., us) or as others who differ from the self (i.e., them)" (Hughes & Pennington, 2018, p. 6).

Autoethnography can be used as a standalone method or, as used within my research, a complementary methodology to case study research (Hughes & Pennington, 2018). While many types of autoethnography exist, I specifically used analytical autoethnography. According to Anderson (2006), analytical autoethnography has five key features: (1) Complete member researcher (CMR) status achieved when the researcher is a complete member of the social world under study. (2) Analytic reflexivity, where the research engages in reflective social analysis and self-analysis (3) Narrative visibility of the researcher's self, where the researchers' own feelings and observations are considered vital data for understanding the social world observed. (4) Dialogue with informants beyond the self. Whilst still grounded in self experience, analytical autoethnography reaches beyond the self-experience and is considered a relational activity so to avoid self-absorption. (5) Commitment to theoretical analysis. Where the researcher is committed to adding value to theoretical understanding on a topic.

This method allows the researcher to create a rich picture of the topic under study, as it offers in-depth access to revealing data on the topic and the short and long-term processes connected to the case (Germundssona et al., 2021). By capturing my own experience and observations and the experiences of my fellow colleagues this approach offers what Cunliffe (2010) labels as "thick" descriptions of micro-interactions in the field.

3.1.5. Research design

This research employs a combination of case study research and autoethnographic research methods to collect data on how intermediary organisations build social capital that can be used for transformative innovation in South Africa. I followed the process steps presented by Eisenhardt, presented in Table 1 below.

After conducting an initial literature review, I drafted a research question which helped me to identify the research constructs that I wanted to explore. My focus was on intermediary organisations, social capital and innovation that was directed towards social issues and these constructs helped me to define the sample population of my cases. The next step was to craft my instruments and protocols, which included different data collection methods. I gathered contextual data about the organisation from their websites and available annual reports, and I

collected perceptual data from interviews with organisational representatives and their stakeholders, as well as field notes. In the case study of my own organisation, I also included autoethnographic data in the form of reflections. The data collection process was flexible to ensure that I obtained relevant and high-quality data. This meant that I sometimes diverged from the original interview protocol and took advantages of opportunities that allowed me to observe the work of the organisation. Data collection and analysis processes overlapped, and I analysed the initial interviews in each case and my own field notes before I conducted more interviews. I conducted within-case analysis for each case and then cross-case analysis between my cases, repeating this process twice. Writing out my case studies and tabulating the findings of my cross-case analysis enabled me to identify a common process model. To draft my discussion chapter, I revisited the literature in search of similar or contradictory findings.

Table 1 Process Of Building Theory From Case Study Research

Step	**Activity**
Getting Started	Definition of the research question Possibly a prior research construct
Selecting cases	Neither theory or hypotheses Specified population Theoretical not random, sampling
Crafting Instruments and Protocols	Multiple data collection methods Qualitative and quantitative data combined Multiple investigators
Entering the Field	Overlap data collection and analysis, including field notes Flexible and opportunistic data collection methods
Analysing Data	Within-case analysis Cross-case pattern search using divergent techniques
Shaping Hypothesis	Iterative tabulation of evidence for each construct

	Replication, not sampling logic across cases Search evidence for "why" behind relationships
Enfolding Literature	Comparison with conflicting literature Comparison with similar literature
Reaching Closure	Theoretical saturation when possible

Note. Source: Adapted from Eisenhardt (1989)

3.2. RESEARCH SAMPLE

3.2.1. Research Context and sampling process

The population for this study was intermediary organisations whose work lines up with one or more of the United Nations Sustainable Development Goals in BoP contexts. My interest lies in the organisations that had relationships in the BoP contexts that could contribute to a) the design processes for social innovations and b) the distribution of these innovations. I knew from my own experience that a certain type of NGO played an intermediary role, connecting stakeholders and working at addressing social problems. The potential within these organisations to support innovations that can address social problems lies in their ability to build social capital. We can learn from NGO's that work in these spaces and have an intermediary role. Learning from these organisations could encourage successful intermediary work that would help support transformative innovation.

Guided by Eisenhardt (1989), I used theoretical and purposive sampling to identify six intermediary organisations, including my own. These were organisations that worked on social issues in a BoP context and who differed in the structure of their social network. All the organisations had projects running in BoP contexts, but I grouped them into three groups: organisations that seemed to have strong social networks within a BoP community, organisations that were run by individuals from outside a BoP community but who had over time built a social network within a BoP community, and lastly organisations whose social network seemed to include only a few people from BoP contexts.

Unfortunately, despite following up over email and phone, four of these original organisations did not have the capacity to participate in the research. I continued my search and managed to find another two organisations that fitted the basic criteria. By this stage, I decided that I would concentrate on organisations that were directly active in BoP contexts. So, although introductory interviews were done with two organisations that I thought may be relevant, I later decided that they were not a good fit for this research and this data was excluded. My reason for this was that both of the organisations did not directly work with BoP stakeholders and did not have much information to offer about how they built social capital in these contexts besides saying they used other organisations as intermediaries.

My final sample consists of four cases that are described in Table 2. Case 1 (C1) is an NGO working into the Vrygrond township within the Early Childhood Development (ECD) space. This organisation aligns with UN SDG number 4 and their work supports the connections between ECD practitioners within the community, ECD practitioners and the government and ECD practitioners and assisting organisations.

My second case (C2) is an NGO working in the Langa township that aims to create sustainable black spaces. Their work aligns with UN SDG number 8. Their work supports the connections between tourists and local businesses, government and community members, different local businesses/entrepreneurs and outside organisations and the community.

My third case (C3) is an NGO that works mostly in poorer Cape Town communities and aims to address spatial, social and economic inequalities. Their work aligns with UN SDG number 6, 11, 16 and 17. The work they do supports connections between different community members, different communities, the local leaders and their community, government and communities and different businesses and communities.

Lastly my fourth case was my own organisation (C4). The organisation aims to inspire individuals and the community around them to engage in educational activities that unlock their full potential. Our work aligns with UN SDG goal 4 and we support connections between outside organisations and the community, government and the community, different community members and different community organisations.

Table 2 Case Study Overview

	Description	UN Sustainable Goal(s) that the organisation aligns with	Facilitates/supports connections between
C1	An NGO working within the Vrygrond township. The organisation aims to set a new standard for the education, nurture and holistic development of pre-school children and their caregivers, preparing them to assume the fullness of their God-given potential in every sphere of their lives.	Goal 4. Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all	• Amongst ECD Practitioners in the community • ECD Practitioners and government • ECD Practitioners and assisting organisations
C2	An NGO working into the Langa township in Cape Town. The organisation aims to address the inequality and poverty in Langa by creating sustainable black spaces.	Goal 8. Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all	• Tourists and local businesses • Government and community • Local Businesses • Local entrepreneurs • Outside organisations and community
C3	An NGO working in communities in South Africa but mainly poorer Cape Town communities. This organisation aims to facilitate the creation of resilient, diverse, equitable and democratic cities through the pro-active participation of civil society, government and the private sector in order to address spatial, social and economic inequalities.	Goal 6. Ensure availability and sustainable management of water and sanitation for all Goal 11. Make cities and human settlements inclusive, safe, resilient, and sustainable Goal 16. Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels Goal 17. Strengthen the means of implementation and revitalize the Global Partnership for Sustainable Development	• Community members • Different communities • Local leaders and their community • Government and community • Businesses and communities

C4	An NGO working mainly within the Dunoon township. The organisation aims to inspire individuals and the community around them to engage in educational activities that unlock their full potential. We aim to do this by giving access to resources, offering learning opportunities and networking and partnering with change-makers.	Goal 4. Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all	• Outside organisations and community • Government and community • Between community members • Between community organisation

3.3. DATA COLLECTION METHODS

Mpanje, Gibbons & McDermott (2018) argue for the use of more interpretive methods to understand how bridging social capital is built in vulnerable areas. They suggest that studies incorporate qualitative methods such as phenomenological and ethnographic approaches. Therefore, I chose to use qualitative methods to collect data, which are outlined in detail below. A summary of the case study data for each case is presented in Table 3.

Before beginning data collection, I met with the directors of each organisation involved in the study to introduce myself, explain the research, and request that they read and sign the organisation consent form provided in Appendix 1. Once the organisations agreed to participate, I commenced data collection.

3.3.1. Semi-structured interviews

The gold standard for phenomenological research is the interview, with the most common method being a semi-structured interview. Table 4 summarises all the interviews conducted and their corresponding codes. As this research takes an inductive approach, a qualitative interview method was chosen, which involves a guided conversation. The epistemological conceptions of the interviewing process are described below using a metaphor of a traveller, as outlined by Brinkmann and Kvale (Brinkmann & Kvale, 2020).

> "The interviewer–traveller wanders through the landscape and enters into conversations with the people he or she encounters… 'wandering together with', [the traveller] walks along with the local inhabitants, asks questions and encourages them to tell their own stories of their lived world. The potentialities of meanings in the original stories are differentiated and unfolded through the traveller's interpretations in the narratives he or she brings back to home audiences. The journey might instigate a process of reflection that leads the traveller

> to new ways of self-understanding, as well as uncovering previously taken-for-granted values and customs in the traveller's home country." (Brinkmann & Kvale, 2020, p. 20)

I conducted the interviews whenever possible within the context that the organisation works in. Before each interview, I explained the purpose of the research and asked the participant to sign the consent form attached in Appendix 2. For each case study, I did an interview with the organisation director or some other senior representative. The pre-developed interview protocol in Appendix 3 guided the general direction I intended to go during these interviews. This protocol was a modified version of the net map tool described by Schiffer and Hauck (2010) which is an interview-based mapping tool used to collect social network data. Since the research aimed to look at how the NGO's built social capital the guiding questions focused on the relationships that they had with stakeholders. Social capital in this context was defined as the relationships the organisation had made that allowed them to serve their vision. The types of social capital are defined in the literature according to how similar or different stakeholders are and the strength of the relationship. So, gathering information that could help distinguish the different types of social capital was necessary. Considering that the issue of segregation and structural holes forms part of the problem context it was also necessary to gather data on how the organisations initially established relationships with the relevant stakeholders. Finally, the protocol included a question around trust within the relationships as this has been identified as an important indicator for social capital.

Going into the interviews with the organizational representatives I took the interview protocol as a guide, but I let the conversation flow freely only referring to the protocol if the conversation lulled or to make sure I was gathering relevant data. When the interviews began, I laid out a big piece of paper, some post-it notes, pens and different types of blocks. First, I asked the organisations representative to summarise the vision of the organization and place this in the middle. Next, I asked them to brainstorm the stakeholders they worked with, explaining that later we would use the string to make connections between each stakeholder and then stack blocks according to the perceived strength of the relationship. The representatives from C3 and C1 both started to write down the names although due to the number of connections, we tried to group them together. Whilst the C1 director did place stacked blocks for most of her mapped connections, the C2 director only managed a few before the conversation distracted him. The representative from C3 however got talking and seemed less keen to use the post-it notes or blocks. In all the interviews the conversation the initial

instructions sparked was relevant and rich in information so taking the time constraints into consideration, the conversation was prioritized over completing the map.

After these initial interviews, I asked the organisation representatives to suggest at least four of their stakeholders that they thought would be willing to participate in interviews. Although, I originally thought it was important to interview examples of all three types of social capital I was restricted to the contacts that I was given and who replied. I found that that specifically the relationships that could be considered 'linking capital' were difficult to get hold of. Although C3 and C1 did each give me one contact that fitted these criteria both contacts worked in government and after emailing I was told that the process for governmental officials to participate in research was long and tedious. Furthermore, an initial analysis of the data that I collected during the first interviews indicated that the richest information was around how the organisation built social capital within these communities rather than outside. Taking this into consideration I decided to identify four local stakeholders to interview for each case. A fifth interview with an exchange student from outside the community who worked closely with the director was included in C2.

I conducted semi-structured interviews with the local stakeholders. After introducing myself I would ask them to give me context about how they relate to the organisation in question. Letting conversation flow freely, I gathered information about how they initially connected, what their feelings were towards the organisation and if this changed over time, and if there were specific things that the organisation did or did not do that affected their relationship.

3.3.2. Field Notes

Field notes were taken to provide a commentary about what is happening in the research. These field notes (about 8 pages in total) recorded the observations I made throughout the study. This included my observations during the interviews which were all conducted within the field as well as the observations I made when observing the work of the organisation.

Secondary Data

Secondary data was gathered by looking at the organisations' websites and collecting annual reports when these were available. These provided additional information about the work of

the organisation and included quotes from their participants and organizational leaders and members.

3.3.3. Autoethnographic Data

Autoethnographic data included my own reflections on my experience as a leader of C4, which is one of my case studies, as well as more general reflections on the topic. I used different methods to capture my reflections and memories. I wrote a poem about my overall experiences as an intermediary director. I recorded my memories of how I first established the organisation, recording and reflecting on the different key events using past annual reports and newsletters to trigger my memories. Then as I began to identify common themes whilst analyzing the different cases I redrafted my accounts under these headings elaborating when I could. I then conducted interviews with one of my colleagues, one volunteer, one member of my board and one local stakeholder. During these interviews, I asked them to reflect on the different relationships we formed and the different stakeholders we introduced to each other over the years. I let the conversation flow freely and at times discussed some of the themes that were emerging in my data. I then wrote up the case study that is presented in this research, which included quotes from some of these interviews.

Table 3 Case Study Data Summary

Case	**Data**		**Month and year data collected**
C1	Interviews:	C1 Director and Founder (2) C1.1 (1) C1.2 (1) C1.3 (1) C1.4 (1)	02/2019 & 03/2019 07/2019 08/2019 08/2019 09/2019
	Documents And Online sources:	2017 Annual Report 2018 Annual Report 2019 Annual Report 2020 Annual Report Organisation Website	Website accessed 02/2019 – 08/2022 and annual reports downloaded
	Observations:	TN_Workshop - Zoning Issues TN_Workshop - Inclusive Innovation	09/2019 08/2019

C2	Interviews:	C2 Director and Founder (1) C2.1 (1) C2.2 (1) C2.3 (1) C2.4 (1) C2.5 (1)	03/2019 08/2019 08/2019 08/2019 08/2019 08/2019
	Documents and online sources:	Stakeholder List Organisations Website Data from Facebook page	08/2019 Website and Facebook accessed 03/2019 – 08/2022
	Observations:	Two trips to the observe the work at the centre	03 & 08/2019
C3	Interviews:	C3 Programme Co-ordinator (2) C3.1 (1) C3.2 (1) C3.3 (1) C3.4 (1)	08/2019 08/2019 09/2019 11/2019 11/2019
	Documents And Online sources:	Organisation Website Annual Report 2004/2005 Annual Report 2014 Annual Report 2015 Annual Report 2016 Annual Report 2017 Annual Report 2018	Website accessed 04/2020 – 08/2022 and annual reports downloaded
	Observations:	C3 Seminar C3 Community Surveys	08/2019 09/2019
C4	Interviews:	C4.1 (1) C4.2 (1) C4.3 (1) C4.4 (1)	05/2022 05/2022 05/2022 05/2022
	Documents:	Personal Reflections Annual Reports Newsletters	04/2020 – 04/2022 Accessed 04/2020 – 05/2022 Accessed 04/2020 – 05/2022

Table 4 Interviews and corresponding codes

	Participant	Code

C1	C1 Director (Female)	C1 Director
	ECD Principal (Female)	C1.1
	ECD Principal (Female)	C1.2
	ECD Principal (Female)	C1.3
	ECD Teacher (Female)	C1.4
C2	A volunteer working at C2 from Finland ((Female)	C2.1
	A local artist who works from and sells painting at the center, manages the craft department and is a Senior tour Guide at the organisation (Male)	C2.2
	A local community member who runs a homestay in the community that the C2 Director supports (Female)	C2.3
	A young community member who is part of the ambassador programme (Male)	C2.4
	A local community member who is an employee who helps with marketing and is learning to be a tour guide (Male)	C2.5
C3	A community activist from Langa who has attending their workshop and community meetings (Female)	C3.1
	An older active community member who is part of the neighborhood watch and who did a learnership with C3 and who at times helps C3 do research in her community. (Female)	C3.2
	A Dunoon community member who is active in the community and has attended workshops by C3 (Female)	C3.3
	A Dunoon community member who is active in the community and has attended workshops by C3 (Female)	C3.4
C4	Co-Director at C4 (Female)	B1
	Primary School Principal (Female)	B2
	Board Member and community member (Male)	B3
	Volunteer at C4 from outside the community (Female)	B4

3.4. DATA ANALYSIS

3.4.1. Within –Case Analysis

There was an overlap of data collection and analysis which allowed for flexibility in data collection. After conducting the initial interview with the organisational leader, time was taken to reflect on the emerging themes, which were then explored through interviews with organisational stakeholders. Reflecting on initial interviews with the organisational leaders, it became apparent that an important aspect of building the social capital needed for transformative change in these BoP contexts was how the organisation initially rooted itself in the community. Building the necessary bonding ties allowed them to design and implement their initiatives. With theory-building research the goal is to understand with as much depth as possible, and being flexible with data collection allows the researcher to explore emergent themes. Therefore, instead of interviewing stakeholders who represented bridging and linking ties, I chose to concentrate on those with bonding ties.

To analyse the data, I applied both thematic and content analysis. I used a combination of inductive and deductive coding to search for data that linked to my topic and identify the emergent themes. After all the interviews were transcribed, time was taken to read through the field notes, organisational documents and interview transcripts for each case. Working at first on one case at a time, open coding was done to break down the available data into segments. Word by word and line-by-line analysis was done both manually and using Nvivo. Axial coding helped to reassemble the data and identify the relationship between and within categories. This process overlapped with writing up a descriptive case study for each case. Analysis was done over three years and was an iterative process. As ideas and patterns emerged, data was reanalysed to explore the emergent themes and finally the case studies were redrafted. The final coding scheme applied to each case is shown in Figure 5. The aggregate themes, such as “barriers” and “first admission,” are used to structure my findings section in the next chapter.

Figure 5 Final Coding Scheme

3.4.2. Cross-case analysis

Cross-case analysis was performed to search for a common process. Two rounds of cross-case analysis were undertaken. Initially, I created a table comparing how each organisation connected and built social capital using the determinants of social capital framework presented in the Network of Business Sustainability South Africa's report on social capital (Acquaah et al., 2014b). The analysis examined how the organisations established a shared

vision, earned and maintained a social license, and built trust. However, after discussing the results with my research supervisor, it was decided that the findings lacked novelty and depth. During further discussions, a more interesting theme emerged, indicating a common process model (Eisenhardt, 2021). To shape these findings, another round of analysis was conducted, resulting in a table of cross-case analysis, which is included in Appendix 4. This table provides evidence for the staged development of different types of trust that each organisation built over time and the affordances that each type of trust provided. Finally, the case studies presented in the following chapter were drafted.

3.5. ETHICAL CONSIDERATIONS

Using the guidelines set out by Miles, Huberman and Saldanna (2014), Table 5 below show how the research dealt with relevant ethical considerations.

Table 5 Ethical Considerations

Worthiness of the project:	The worthiness is addressed in more detail in the introduction and literature review which point out the research gaps that this research fills and the discussion chapter which elaborates on the practical implications this research offers. One implication of this research is that future transformative innovation ventures will have valuable data to design strategies and a more detailed understanding of how intermediary organisations build social capital to facilitate transformation in South African communities.
Competence:	I am competent to understand the general topic, although my experience could create bias. The research design monitors this by allowing transparency in my work. The research methods used were under the close supervision of my supervisor.
Benefits and costs:	The participants were not paid for their participation. I aim to share my findings with participants, as agreed.
Harm and risk:	The participating organisations names were removed from the final research. No harm has or will come to participants or their organisations as a result of this research.
Honesty and trust:	Trust was built by explaining the purpose and design of the research upfront and explaining the experiences I had in the field. In the initial meeting with the directors of the organisations I went over the organisational consent form that

	is presented in Appendix 1 which summarises my research and outlines what and how I intended to collect my data. Similarly, before all the interviews I went over the consent form presented in Appendix 2 which also includes a paragraph giving background and context to my research. I specifically mentioned to all the interviewees that I was familiar with the context since I ran an NGO located in a township.
Privacy, confidentiality, and anonymity:	The real names of the organisations and the individuals interviewed were not used to protect their privacy.
Research integrity and Quality:	The research integrity and quality are discussed in dedicated sections below and were considered throughout the research design
Ownership of data and conclusions	Some of the organisational documents I used are owned by the organisations and I was given consent to use these in the research. The rest of the data (interviews, observation notes, case study drafts and draft versions of this research) as well as the model and conclusions within this dissertation are owned my me as the researcher.
Agreements with study participants:	The participants and the organisations' leadership were briefed on the purpose of the research. The overall research design was explained upfront, and a clear indication was given of what the interviews and sessions would involve. We agreed that although the personal identity of all participants would remain anonymous, their general position in relation to the organisation would be disclosed in the research. The participants were briefed and then asked to sign a consent form that detailed their informed consent for the researcher to use all information collected throughout the study in the final research paper. The participants were told that they could at any point ask to stop participating in the research. They were also told if any information that is confidential in nature came up, the participant would be able to ask for that information to remain confidential.

3.6. ISSUES OF TRUSTWORTHINESS

3.6.1. Positionality statement

I am a white, able-bodied, Christian female researcher who has grown up in a middle-class family in South Africa. I have founded an NGO in a local township and lived there for almost two years. My upbringing, socialization and professional experience has undoubtedly shaped my perspectives and experiences, and I acknowledge that these factors influence my research

and analysis. As a researcher, I strive to be aware of my positionality and to critically examine how my background and privileges may impact my work.

Whilst my race often positioned me as an obvious outsider in the communities that I conducted my research, my work experience did create a common bond that I used within the interview process. As Gary and Holmes (2020) point out working in a similar context made me familiar with the space, culture and language and gave me a prior knowledge that I used to ask insightful questions. Although my position as a researcher who was familiar with the context and subject of my research, did have advantages, I am also aware of some of the disadvantages. At times I did not ask the interviewees to clarify their responses, assuming that I knew what they meant. This limited the data where direct quotes could have potentially strengthened, or challenged, my research. Although I tried my best to not impose my own experiences on the other case studies, I am aware that some bias was inevitable, and my experiences did impact how I collected and analysed the data. Whilst a different researcher may have identified different themes in the analysis process, I decided to be transparent with my process and experience and use these to strengthen my research.

3.6.2. Credibility

As discussed previously, I have my own experience with this topic and rather than ignore this, I decided to include it in the form of an autoethnographic case study. Being personally engaged in the research topic can have its benefits as it gives a depth of understanding (Cunliffe, 2010; Germundssona et al., 2021). However, it is important to acknowledge that my own experiences will naturally create a bias for how I conduct my research. This may have affected the type of questions I asked in the interviews and created a sub-conscious lens through which I analysed the data. Whilst I tried to monitor my own subjective perspectives, this does form part of the limitations of the study which is discussed in the next section. To counter my own biases and ensure that my data is credible and accurately represented the organisations' processes, I took the following steps: I conducted the interviews whenever possible within the context that the organisation works and spent time in the field observing the initiatives of the organisations. This helped to get a more in-depth understanding of their context and processes. I used different data collection methods and sources to triangulate my findings and corroborate my conclusions. I also had numerous conversations with my research supervisor, examining my data and discussing my assumptions.

3.6.3. Dependability

The sections above provide detailed explanations for how the data was collected and analysed. Although only a portion of the data was included in this thesis all the data was stored and is available for review.

3.6.4. Transferability

This study looked at organisations that built social capital in South African Townships. The barriers discussed in the finding section and the time it took to build different types of trust is strongly influenced by these specific contexts. This contextual origin of my findings needs to be taken into consideration when extrapolating to other contexts, even though many of the key characteristics of South African townships, such as poverty and informality, are also relevant in many other parts of the world. Furthermore, this research attempts to provide rich descriptions so that future researchers can obtain a holistic and realistic picture and decide whether similar processes may occur in other communities.

3.7. LIMITATIONS OF THE STUDY

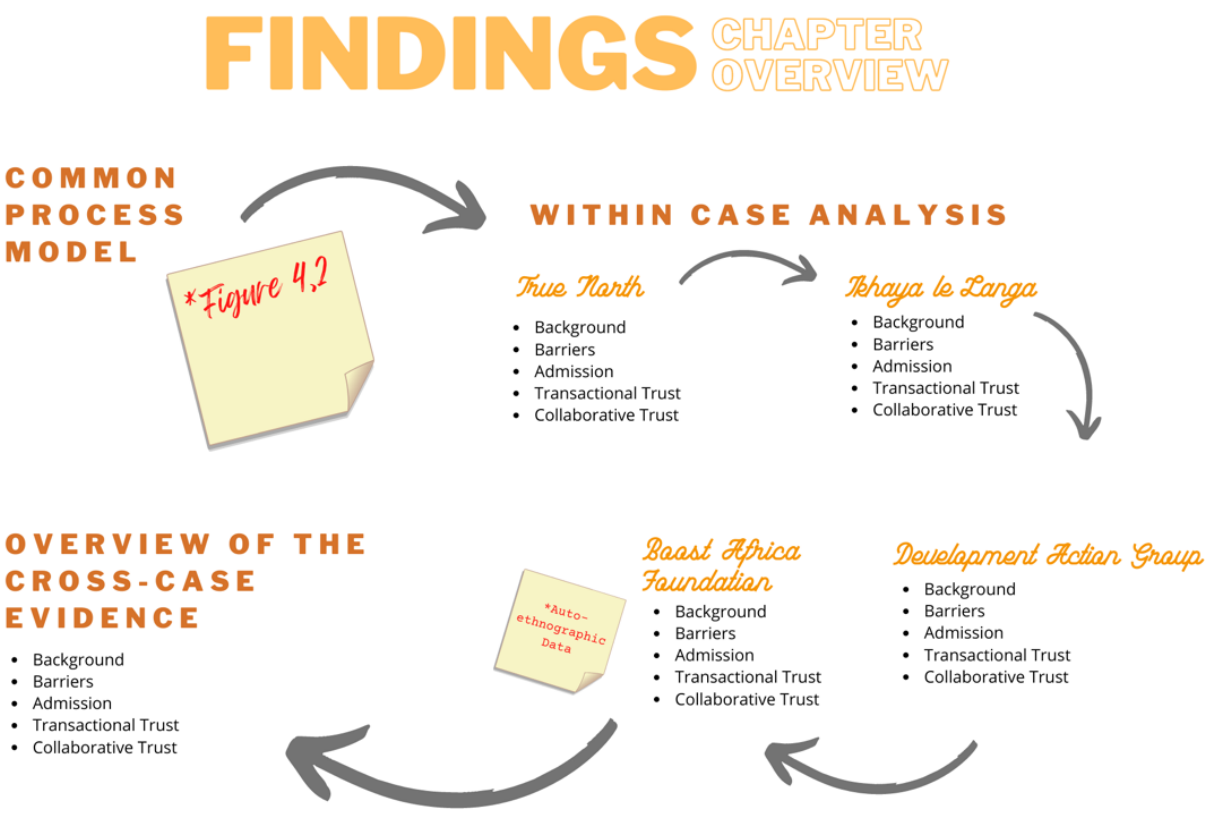
One limitation of this study is my familiarity and personal involvement with the topic, which can produce subjectivity and potential bias. I acknowledge this potential bias and have implemented proactive measures to mitigate it. I had initially planned to present my model to the research participants to obtain feedback that could improve the research, but unfortunately, this was not feasible due to Covid restrictions. I discussed this with my supervisor, and we agreed that the data I had already collected provided a strong enough basis for my conclusions.

Another limitation is that the research sample was restricted. Due to research constraints, I had a smaller number of cases than initially planned. Although the four intermediaries included in this research worked within different communities, they were all based in Cape Town. However, as discussed in the literature review, the uniqueness of a local context influences transformative innovation and so the goal of this research was to offer thick descriptions to increase the transferability rather than focus on producing research that was nomothetically generalizable.

CHAPTER 4 RESEARCH FINDINGS

To explore how Non-Governmental Organisations (NGOs) that function as intermediary organisations enter into BoP communities and start building the social capital that is necessary for transformative innovation, this research looked at four organisations that work towards addressing socially complex issues. The proposed model, as shown in Figure 6, is presented first, followed by evidence for the model in each case, and finally an overview of cross-case evidence.

Figure 6 Findings Chapter Overview



4.1. COMMON PROCESS

The model presented in Figure 7 is a result from common process design of the Eisenhardt Method (Eisenhardt, 2021) for data analysis. This figure describes the common process that emerged across my four cases. It shows how outsider change agents, who aim to address complex social problems in BoP settings, go through a staged development of building social

capital for their organisations in the community, yielding different types of trust and associated affordances.

This model shows the phases that change agents go through to develop social capital in BoP communities that allow them to design and implement locally rooted innovations that have the potential to transform these spaces. The temporal duration of these phases was not necessarily the same in each case, although in all cases, this process did span across years. This process describes how change agents, who represent the organisation, go about building social capital to achieve the vision of the organisation. In three of the cases, the change agent was the founder of the organisation, and the process of building social capital in the community started before the organisation was officially founded.

The model first describes the barriers that make it difficult to access these BoP communities. Firstly, these communities are unsafe and entering in these spaces may put outsider change agents at risk. Secondly, the common access points into the community that do exist, such as local forums and community leaders, are not always trustworthy because individuals that hold these positions often misrepresent the community or act as gatekeepers to maximize their gain. Thirdly, due to the many unfilled promises of government or past change agents these communities distrust outsiders.

During the first phase of the model, outsider change agents find ways to overcome the barriers and gain admission into the community. Unless the change agent already has a reputation within the community of being able to provide valuable services, they develop a relationship with someone who already has access and influence in the community that can champion their admission. Leveraging the trust of the local champion, the change agent gains access to the community and is introduced to an initial group of stakeholders. One allowance of admission is that change agents can observe local issues and opportunities, which builds local knowledge. This local knowledge often shapes the vision and strategy for how the organisation will go about their work in the community. A second allowance is that change agents can identify an initial group of stakeholders, whom they can start working with. Even when the organisation already has established strategies and transactional trust within the community, this admission phase is still necessary as it helps them build local knowledge of the community that is used to ensure that the right stakeholders are being engaged. Admission may not immediately translate

into community participation because of the distrust the community has towards outsiders. To motivate participation, change agents need to build trust with community stakeholders.

Once change agents have local knowledge and, thanks to the local champion, have made connections to an initial group of stakeholders, they enter the next phase where they start to earn transactional trust for the organisation. Transactional trust is earned when the change agent can show the community that the organisation can offer the community members something of value. To motivate initial participation, the services first offered to an initial group may provide short-term benefits that meet an immediate need. This allows community stakeholders to observe how the organisation works, and by proving that they are consistent in their work and can offer value, they earn transactional trust not only with this initial group but also with other stakeholders who observe how this group benefits. Unless the change agent is part of an organisation that already has a robust strategy and is already well-known within the community, the services they offer will change over time.

Transactional trust encourages participation and as the community stakeholders observe the work of the organisation and see how the initial group benefits, they are willing to participate and the organisation's local network naturally grows. Transactional trust allows the organisation to continue their work in the community and gives them on-the-ground experience. This experience can stimulate locally embedded, innovative ideas and the increasing levels of transactional trust towards the organisation motivates community stakeholders to participate even when the organisation transitions from meeting immediate needs to more empowering and long-term initiatives. Another affordance of this phase is that the organisation's local network attracts bridging and linking ties outside the community. As the organisation engages with community stakeholders, it can offer an alternative point of contact for outsiders looking to channel resources into the community other than the politically charged connections of local forums and community leaders. The organisation can help facilitate these bridging and linking ties by connecting outsiders to local community members and help guide the transfer of resources by applying their local knowledge and, when necessary, help translate knowledge into locally appropriate forms.

While the transactional trust in the community allows the organisation to implement and grow its network, participation that is based on this type of trust is self-serving and therefore driven by how each community stakeholder can benefit. Transactional relationships can also

perpetuate the roles of the organisation as a supplier and of the community members as recipients and beneficiaries, which produce unhelpful power dynamics that can create dependency and hinder collaboration. Transformative innovation requires a deeper level of trust where stakeholders do not only trust the organisation to meet their own needs, but start to share and take ownership of the vision. The next phase involves building a different type of trust which motivates stakeholders to collaborate toward transformation.

Entering the last phase, the change-makers start to build collaborative trust with local stakeholders. Collaborative trust is a trust that motivates the stakeholders to collaborate towards a shared vision to see transformation by contributing their own ideas and experiences and championing causes. Personal relationships that develop over time produce collaborative trust and transparent communication and the positive characteristics of change agents like their passion, helpfulness and friendliness help to build this type of trust. Spending time with the change agent allows community stakeholders to observe how they work towards the vision and inspires them to start sharing the vision. Collaborative trust motivates stakeholders to offer their own feedback and ideas on how to improve innovations. This type of trust also promotes bonding capital because when community stakeholders begin to share a vision, they are willing to support each other in working towards this vision.

The next section presents four case studies and gives evidence for the model by showing how each phase was present in each case