MSc Thesis – Global Business & Sustainability

Impact measurement – A catalyst or obstacle for social entrepreneurs to access financial capital?

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Preface

Acknowledgements

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Executive summary

Humanity is confronted with formidable grand challenges, including climate change and biodiversity loss which pose a threat to humanities welfare. The planetary boundaries framework proposes a safe operating space for humanity, but exceeding tipping points may cause irreversible changes to the Earth system (Rockström et al., 2023). Addressing these complex and interdependent grand challenges in order to drive transformative change requires collective action from governments, businesses and individuals.

Social entrepreneurs emerge as key players to effectively address grand challenges. They are driven individuals with a strong sense of purpose to achieve social and environmental change compared to traditional entrepreneurs who predominately pursue financial profit (Schöning, 2013). Their unique position is characterized by a hybridity of two institutional logics – the impact and the profit logic – which is shaped by their individual values and beliefs (Almuraikhi & Shirazi, 2022). These social entrepreneurs tackle grand challenges by implementing nature-based solutions (NbS) which are "actions to protect, sustainably manage, and restore natural or modified ecosystems, that address societal challenges effectively and adaptively, simultaneously providing well-being and biodiversity benefits" (Cohen-Shacham et al., 2016, p. 4). The *Bioregional Weaving Labs (BWL) Collective*, an entrepreneurial ecosystem (Roundy, 2016), recognizes the power of collective action and has set the ambitious goal of regenerating one million hectares of land and sea in Europe by 2030. Through their weaving approach, they facilitate connections among individuals and projects that foster collaborative efforts for systematic change (Müller et al., 2022).

Despite the recognition of NbS benefits, social entrepreneurs encounter numerous challenges – the most significant being the acquisition of financial capital (Roundy, 2017). The current allocation of financial capital towards grand challenges is extremely inadequate, with less than 1% of climate finance being allocated towards NbS (Seddon et al., 2020). This funding gap can be attributed to uncertainties surrounding financial returns and a lack of standardized practices for measuring the impact of NbS. Social entrepreneurs navigate these challenges by seeking external financing from various sources, each driven by a distinct institutional logic. For instance, impact investors adopt a hybrid approach of dual logics, combining financial returns with social and environmental impact whereas philanthropic grant providers follow an impact logic without expecting a financial return. The confrontation of multiple institutional logics between social

entrepreneurs and financial institutions lead to institutional complexity resulting in competing demands that impact the implementation of impact measurement practices.

While existing literature provides valuable insights into the role of social entrepreneurs and NbS in addressing grand challenges, complications arise from the absence of standardized impact measurement and the existence of an abundance of terminologies (Rouwhouser et al., 2019). This research defines impact as "the portion of the total outcome that happened as a result of the activity of the venture, above and beyond what would have happened anyway" (Rosenzweig et al., 2004). Common frameworks for measuring impact include the triple bottom line (Elkington, 2004), SROI (social return on investment) (Whatson & Whitley, 2017) and balanced scorecard (Gomes & Liddle, 2009). This complication highlights the inadequacies of current research and limits our theoretical and practical understanding of impact measurement. Addressing this gap is crucial to unlock the full potential of NbS and enable social entrepreneurs to secure the necessary financial capital for their initiatives. This study assumes that effective impact measurement can help social entrepreneurs to obtain financial capital (Lall, 2019) and therefore aims to answer the following research question: *"How can social entrepreneurs utilize impact measurement to reduce institutional complexity for accessing financial capital?"*.

This qualitative study adopts a grounded theory approach by drawing from multiple cases of the BWL to interpret patterns of impact measurement practices and understand the different institutional logics of social entrepreneurs and financial institutions. This inductive approach lets new theory emerge through comparative analysis of qualitative data, mainly consisting of semi-structured interviews, that explicates new constructs and models relationships around them (Gioia et al., 2022).

The research findings are developed into a conceptual model (Figure 10) that elucidates three distinct pathways for social entrepreneurs to obtain financial capital. Each pathway is characterized by catalysts and obstacles that influence impact measurement practices and ultimately shape the investment decision of capital providers. The first pathway involves low institutional complexity with impact measurement having minimal influence on the investment decision. This predominantly includes philanthropic grand providers within the same ecosystem as social entrepreneurs. Their investment decision is based on interpersonal connections and trust-building activities such as face-to-face interactions. The second pathway reveals that enhanced collaboration has a strong influence on the investment decision. While the collaborative aspect of

impact measurement leads to several benefits such as revised indicators and inclusive financial systems, it also contributes to a moderate level of institutional complexity. Furthermore, closer collaboration builds emotional connections that can compensate for measurement uncertainties and limitations. The last pathway exhibits the highest level of institutional complexity due to the absence of social capital and rigid impact measurement practices. This mainly involves public funding bodies, such as the European Union, that demand specific measurement metrics, creating institutional barriers and highlighting the disconnection between practitioners and policymakers.

This model offers valuable theoretical and practical contributions. Existing literature has in large quantity separately explored impact measurement and financing mechanisms for social entrepreneurs. This study takes a novel approach by investigating these aspects through an institutional theory lens, considering multiple financial institutions and social entrepreneurs, thereby extending the knowledge on social entrepreneurship and financial theory (Thompson, 2022). The research contributes to entrepreneurship theory and social network theory by emphasizing the significance of social capital as a precondition for accessing financial capital. This aspect builds upon previous findings that highlight the role of social skills and interpersonal connections relating to the financial success of social ventures (Lan & Luc, 2020).

Practical contributions of this study include three distinct roles that the BWL should assume. Firstly, it is recommended that the BWL takes on an educator role to inform social entrepreneurs and financial institutions about impact measurement, as this aspect is often neglected. Secondly, the BWL can serve as a connector to enhance access to financial opportunities for social entrepreneurs. Lastly, the BWL can assume a lobbyist role to bridge the gap between policymakers and practitioners. By fulfilling these roles, the BWL can enhance the effectiveness and scalability of social entrepreneurs to address grand challenges.

Keywords: social entrepreneurs, impact measurement, institutional theory, financial institutions, nature-based solutions

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List of Abbreviations

BWL	Bioregional Weaving Lab
NbS	Nature-based Solutions
KPI	Key performance indicator
EU	European Union
AB1	Additional financial institution interview from another student of the research group

1 Introduction

The Anthropocene era presents humanity with global challenges that require comprehensive and collaborative approaches. These grand challenges are complex and multifaceted, involving diverse actors and perspectives. The uncertainties associated with these challenges make it difficult to predict future outcomes (Grewatsch et al., 2021). Among the most pressing global issues are climate change and biodiversity loss – a double crisis – both of which pose significant threats to socio-ecological systems and humanities survival (Rockström et al., 2023). The increased human activities including, but not limited to, burning fossil fuels and land use changes cause environmental degradation, climate change and loss of biodiversity. Burning fossil fuels is one of the main drivers for greenhouse gas emissions that increase the global temperatures resulting in extreme weather events such as floods, droughts, and wildfires**.** The planetary boundaries (Rockström et al., 2009) provides a framework that defines safe operating limits for humanity, emphasizing the urgent need for transformative change. The proposed threshold for atmospheric carbon dioxide concentration is already exceeded causing loss of ice sheets and rising sea levels (Rockström et al., 2009). Grand challenges are intricately interdependent and interconnected, continually reinforcing each other through positive feedback loops (Grewatsch et al., 2021). The underlying trigger mechanisms for climate change have been heavily researched while biodiversity loss requires more attention. Climate change is the main driver for land-use changes which amplifies biodiversity loss. Large-scale deforestation poses a threat to biodiversity and diminishes the capacity to sequester CO_2 emissions resulting in intensified effects of climate change. The Earth system crosses tipping points of planetary boundaries which may cause irreversible changes to the operating space (Rockström et al., 2023). To prevent the loss of resilience of ecosystems; collective action from governments, businesses, and individuals is required to drive the system towards sustainable development. As the planetary boundaries are closely linked to common pool resources such as biodiversity and freshwater, Rockström et al. (2023) propose to integrate the framework with economic concepts and policy instruments to remain in a Holocene state that protects basic human needs.

To tackle grand challenges, it is crucial to foster collaboration among stakeholders at various scales, as acknowledged by the United Nations when they devised the 17 Sustainable Development Goals (SDGs) in 2015. These goals encompass a diverse range of indicators aimed at achieving peace and well-being for people and planet. Within this context, the Paris Agreement was

established as a global commitment to address climate change, with a particular focus on reducing greenhouse gas emissions and limiting global temperature rise to below 1.5°C.

In this context, social entrepreneurs emerge as key actors who are capable of making significant contributions towards addressing grand challenges through implementation of systemic interventions (Antadze & Westley, 2012). Social entrepreneurs pursue social and environmental objectives while simultaneously providing innovative solutions to societal needs (Schöning, 2013; Urbano et al., 2010). They are driven individuals with a strong sense of mission and purpose, going beyond traditional business models. They operate across a diverse range of organizational forms, including for-profit, not-for-profit, and hybrid organizations. Their primary focus lies in generating social and environmental impact rather than solely pursuing financial profit (Schöning, 2013). Nature-based solutions (NbS) represent a systemic intervention employed by social entrepreneurs to address social and environmental challenges such as healthcare improvement and environmental conservation. NbS are ecosystem-based approaches that simultaneously contribute to climate change mitigation, biodiversity conservation, and human well-being (Eggermont et al., 2015). They have gained significant attention particularly due to their potential to reduce 30% of greenhouse gas emissions, aligning with the goals of the Paris Agreement (Shaw, 2021).

Addressing grand challenges requires the understanding that no single organization can resolve these complex and wicked problems on their own. Scholars argue that collective action involving multiple stakeholders with diverse capacities is required to foster collaborate approaches leading to systematic change (Couture et al., 2022; Ferraro et al., 2015; Trujillo, 2018). Drawing from an ecosystem-thinking approach, social entrepreneurs can enhance their effectiveness by operating in supportive ecosystems that provide them with essential resources, knowledge, and information (Gonzales & Dentchev, 2021). Entrepreneurial ecosystems consist of various elements such as a conducive culture, institutional support, and the availability of resources (Roundy, 2016). The *Bioregional Weaving Labs (BWL) Collective* recognized the benefits of collective action to combat climate change and biodiversity loss. The collaboration of Ashoka, Commonland and Savory Institute facilitates a learning network by providing expertise, knowledge, and resources to support socio-environmental entrepreneurs that implement NbS. Their mission is to support one million changemakers with the aim to regenerate one million hectares of land and sea in Europe by 2030. Through their weaving approach, they facilitate connections among individuals and projects that foster collaborative efforts for systematic change. The BWL identified 10

geographical bioregions in Europe where resources are inequitably distributed, and the ecosystems' integrity is threatened. Each bioregion is characterized by different environmental and social challenges and therefore must be addressed with individual solutions. (Müller et al., 2022)

Due to the high implementation costs and comparatively lower focus on profit of NbS, social entrepreneurs require early-stage investment capital (Roundy, 2016) as a catalyst to begin their operations (Seddon et al., 2020). However, despite the recognition of the benefits of NbS, there is a significant funding gap estimated between US$ 598 and 824 billion per year for biodiversity conversation (Atteridge et al., 2022) and less than 1% of climate finance is currently allocated to NbS (Seddon et al., 2020). This funding gap, particularly from the private sector, represents a major barrier to implement and scale NbS on a large scale. One of the main challenges for NbS investments is the lack of impact measurement and reporting (Atteridge et al., 2022). Seddon et al. (2020) argue that the investment gap can be attributed to investors' failure to acknowledge expenditures on social and environmental returns as valuable assets. The dynamics between social entrepreneurs and the finance sector introduce conflicting institutional logics (Thornton & Ocasio, 2008). Financial capital providers often prioritize financial returns on investments, while social entrepreneurs pursue blended value creation, involving social, environmental, and economic returns (Castellas et al., 2017). The institutional complexity arises from the conflicting priorities and expectations between stakeholders (Thornton et al., 2012). Overcoming this complexity is crucial for securing the necessary funding for NbS initiatives. Scholars have highlighted that social entrepreneurs who perform impact measurements are more likely to secure capital investments (Lall, 2019). By effectively measuring and reporting their impact, social entrepreneurs can bridge the gap between their social and environmental objectives and the financial expectations of investors.

However, the existing literature lacks a standardized approach to comprehensively measure the multidimensional impacts of NbS interventions, including human, social, natural, and financial capital (Lee et al., 2019). This hinders the ability to compare the effectiveness of different NbS innovations and to attract financial investment for social entrepreneurs. While it would be desirable to develop universal applicable measurement standards for practitioners and researchers to reduce uncertainty, there would be significant "trade-offs between the scope of application of standards and the validity of comparison" (Rawhouser et al., 2017, p. 97). Nevertheless, scholars demand

more standardized impact measurements that include quantitative and qualitative metrics (Lall, 2019).

This study aims to understand the different institutional logics of social entrepreneurs and financial institutions on impact measurement in order to help social entrepreneurs to secure financial capital by resulting in answering the following research question: "*How can social entrepreneurs utilize impact measurement to reduce institutional complexity for accessing financial capital?".* To answer this question, the research utilizes information from multiple cases (Yin, 2016) of the BWL, including social entrepreneurs and financial institutions, to have sufficient diversity of the sample. The research was developed with the key objective of sense-making of funders and investors as well as interpreting social entrepreneurs' institutional logic to enhance understanding of impact measurement practices. Qualitative data mainly consisting of semi-structured interviews were analyzed to provide a data structure (Gioia et al., 2022) that answers the research question at hand. This model facilitates an understanding of existing concepts and extends on this knowledge to explicate new constructs and model relationships around them (Gioia et al., 2022). Contributing to addressing grand challenges requires novel approaches "to reveal new concepts, relationship and logics of organizing while also advancing social progress" (Eisenhardt et al., 2016, p. 1113). Grounded theory offers an inductive approach to let the theory emerge from rich and constantly compared data that is relevant to tackle grand challenges (Eisenhardt et al., 2016).

The findings are developed into a conceptual model that elucidates different pathways for social entrepreneurs to gain access to financial capital where impact measurement plays a diverse role in each pathway. This model makes contributions in three key areas. First, it explains that impact measurement plays a less important role for receiving philanthropic grants – contradictive to previous research (Benjamin, 2010; Ebrahim, 2016; Lall, 2019). Second, it contributes to the theory of social capital by emphasizing the necessity of interpersonal connections as a precondition for financial capital (Gedajlovic et al., 2013; Hazenberg et al., 2016; Lan & Luc, 2020; Nahapiet & Ghosal, 1998). Lastly, the model indicates institutional barriers for impact measurement especially when applying for European Union funding (Mikołajczak, 2021). The research reveals catalysts and obstacles of impact measurement for social entrepreneurs to secure financial capital. This study extends knowledge on the relationships and institutional logics between social entrepreneurs and financial capital providers and the limitations of impact measurement of NbS.

2 Literature Review

This literature review aims to explore the strategies employed by social entrepreneurs and financial institutions to measure the impact of NbS, as well as different institutional logics that drives both actors. The review synthesizes existing research, identifies gaps, and provides insights into the potential pathways for addressing this pressing challenge.

2.1 Defining social entrepreneurs and NbS

Social entrepreneurship is a dynamic field that combines entrepreneurial principles with a focus on creating positive social change (Dees, 2001). As a sub-discipline of entrepreneurship, it gains more attention in the management literature. It is associated with the Bill Drayton's foundation of Ashoka from the late 1970s, an organization that builds a community of social entrepreneurs to create collective impact for a regenerative future. Nevertheless, the first academic literature was only published in the early 1990s, where social entrepreneurs were identified as agents of change (García-Jurado et al., 2022). Despite the academic development especially during the last ten years, the concept of social entrepreneurship is still not clearly defined and lacks a common global language. It involves identifying and addressing societal problems through innovative and sustainable business models (Mair & Marti, 2006). Social entrepreneurs aim to achieve social impact while pursuing financial sustainability, leveraging their entrepreneurial skills to bring about transformative change (Nicholls, 2006). This business model differs in two ways from traditional entrepreneurship. First, income streams are directly linked to pursuing their social mission and secondly, their performance is measured by blended values including social and financial returns (Hadad & Găucă, 2014).

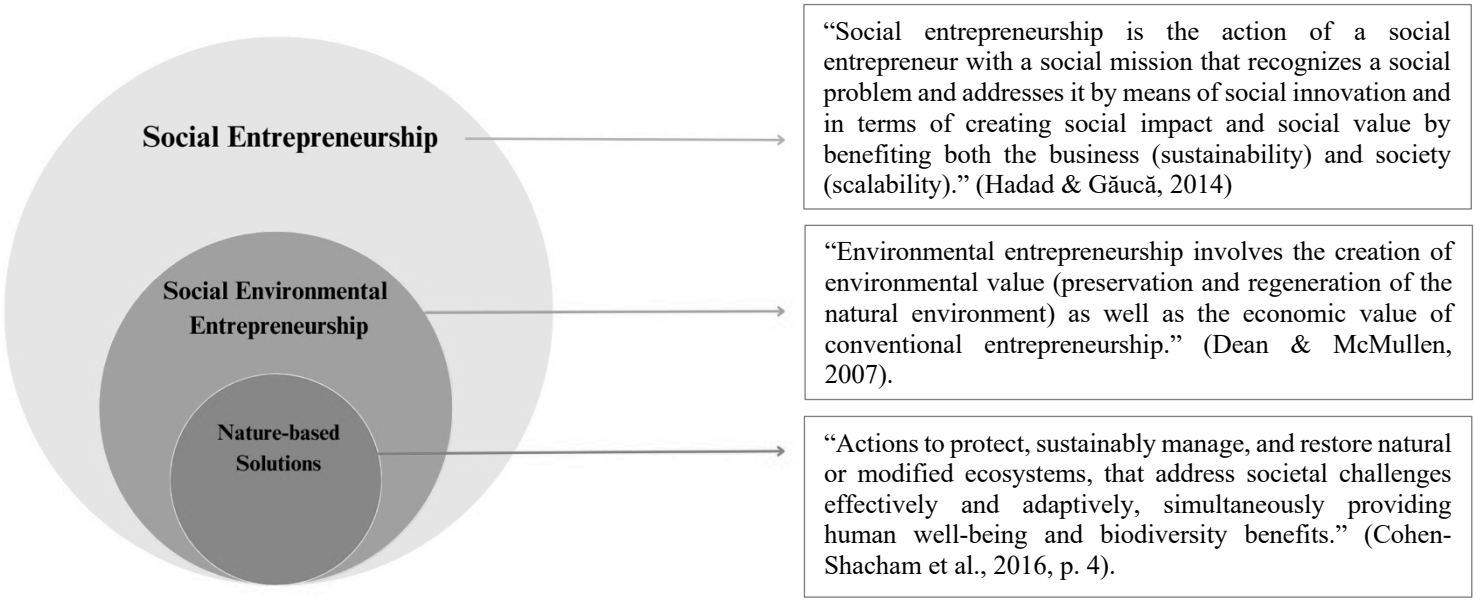
Environmental entrepreneurship can be seen as a specific form of social entrepreneurship that focuses on addressing environmental challenges and promoting sustainability (Dean & McMullen, 2007). While social entrepreneurship encompasses a broader spectrum of social issues, environmental entrepreneurship narrows the focus specifically to ecological concerns. It recognizes the importance of the environment as a critical component of social well-being and aims to create positive change by integrating environmental considerations into entrepreneurial ventures. Environmental entrepreneurship focuses on the identification and resolution of environmental challenges through entrepreneurial actions (Schaltegger & Wagner, 2011). It involves the development of innovative sustainable business models, products, and services that

contribute to the protection and conservation of the environment (Dean & McMullen, 2007). These ventures seek to mitigate or solve environmental problems such as climate change, pollution, habitat loss, and natural resource depletion. For simplicity, this study refers to social entrepreneurs.

An effective strategy to address these global challenges is by implementing NbS. Social entrepreneurs implementing NbS recognize the complexity of socio-ecological system in a holistic manner by utilizing ecosystem services while simultaneously creating societal and economic benefits (Eggermont et al., 2015). Integrating NbS into social and environmental entrepreneurship ventures offers a promising pathway to sustainably tackle grand challenges such as climate change and loss of biodiversity. Reducing greenhouse gas emissions and enhancing carbon sequestration are proven methods to mitigate climate change. Social entrepreneurs can implement NbS that promote sustainable land use to enhance carbons sinks, offset emissions and support climate resilience (Bennett et al., 2019). Additionally, by preserving natural habitats, protecting endangered species, and promoting sustainable resource management, social entrepreneurs can contribute to ecosystem conservation and preservation of biodiversity (Hockerts, 2017).

Figure 1

Interrelationship of social entrepreneurship, environmental entrepreneurship, and nature-based solution



Note: Adapted from Thorp et al., 2023

2.1.1 Social entrepreneurs' capabilities

In order to acquire the necessary financial resources, scholars investigated various characteristics and capabilities of social entrepreneurs for the venture's success. The emerging literature identified the following resources as critical social skills, identities, social capital, narratives, and storytelling (Zhao & Lounsbury, 2016). Various social skills include accurate perception of others, creating favorable first impressions and influencing other's view or behavior as well as convincing others to adopt their beliefs. (Baron & Markman, 2003). It is important that social entrepreneurs adapt their capabilities according to the financial provider, as these investors prioritize distinct values that guide their decision in supporting certain social entrepreneurs (Zhao & Lounsbury, 2016). Also the role of social competence gained increased attention in the literature. Results of studies from the cosmetic and high-tech sector found that high social competence of entrepreneurs, characterized by effective interactions with others, leads to greater financial success. The effectiveness of face-to-face interactions can especially have strong influence (Baron & Markman, 2000). Additionally, findings support the notion that a high level of social capital, including a favorable reputation, an extensive social network, and direct personal contacts, helps entrepreneurs gain access to individuals which is crucial for their success (Baron & Markman, 2000). Social capital is defined as "the sum of the actual and potential resources individuals obtain from their relationships with others" (Baron & Markman, 2003). Existing literature shows that social capital contributes to success by providing entrepreneurs with improved access to information, increased cooperation, and enhanced trust from others. Entrepreneurs with high social capital, built on extensive social networks, status, personal connections, and referrals, are more likely to secure funding compared to those with lower social capital. After establishing their social capital especially with financial providers, entrepreneurs must instrumentalize their social competences in a mindful manner to determine the success of the social capital. (Baron & Markman, 2003) This has strong practical implications; unlike personal character traits, social competence skills can be developed and enhanced through training over time. This suggests that entrepreneurs have great potential to leverage opportunities for obtaining financial capital by enhancing these skills. This is supported by Vesper (1990), who identified that effective personal relationships are one of the key elements in establishing new enterprises. Previous research explains this behavior due to the fact that new ventures are often highly dependent on other stakeholders including financial providers, suppliers, and customers. These connections are

especially important during the formation process which is characterized by high levels of uncertainty. Effective communication skills are then needed to build relationships and facilitate expectation management. (Baron & Markman, 2003)

2.1.2 Hybridity of institutional logic

The concept of institutional theory is widely used for understanding the inherent values of social entrepreneurs (Lall & Park, 2022). Institutional theory has its roots in the 1950s when scholars like Selznicks began to study organizations and their institutional environment. Several scholars created a new approach of institutional theory that bases their study on institutional logics that define the meaning of institutions (Thornton & Ocasio, 2008). Thornton and Ocasio (1994, p. 804) defined institutional logics as "the socially constructed, historical patterns, material practices, assumptions, values, beliefs and rules by which individuals produce and reproduce their material subsistence, organize time and space and provide meaning to their social reality". These rules can be formal such as law and business agreements or informal including social norms and cultural aspects (Cherrier et al., 2018). Institutional logics aim to understand individual and organizational behavior and its institutional environment. Social entrepreneurs' logic is influenced by their individuals' values and beliefs. The complex mission of social entrepreneurs of combining social and financial returns cause a hybridity of two logics – impact and profit logic – that pursues multiple, often conflicting institutional logics. Each logic consists of a set of values that shape mindsets and influence action (Almuraikhi & Shirazi, 2022). For example profit logic is characterized by efficiency, wealth accumulation and profit maximization (Roundy, 2017). The confrontation "with incompatible prescriptions from multiple institutional logics" is defined as institutional complexity (Cherrier et al., 2018). These competing demands create an institutional environment for entrepreneurs that shape their strategies and actions. Scholars still argue if institutional complexity inherently constrains or enables social entrepreneurs to create societal change (Cherrier et al., 2018) When social entrepreneurs co-exist with both logics successfully, it can create new opportunities, resource mobilization and room for innovation (Roundy, 2017). Paradox theory can help to understand competing institutional logics as pathway for positive impact. In the literature paradox is defined as a "persistent contradiction between interdependent elements" (Cherrier et al., 2018) and that these tensions cannot be resolved. Following this theory, contradictions in logics can foster a virtuous circle of innovation and creativity. There are different

approaches to effectively manage tensions; key approaches from the literature are acceptance and resolution strategies by embracing tensions rather than rejecting them. Synthesis strategy facilitates a new perspective that embeds both institutional logics by offering an overarching element (Hahn et al., 2015). This way the coexistence of tensions provides an opportunity for even larger success that would not have been possible if dismissing tensions. Social entrepreneurs must respond to paradoxical tensions with dynamic and constantly adapting strategies. A study by Cherrier et al. (2018) showed that the "coexistence of multiple, overlapping and contradictory institutional logics can trigger the social venture to develop innovative and creative responses, which in turn can amplify, extend, bridge or even transform the social value proposition". Despite the obvious tensions in social entrepreneurship not many researches have addressed paradoxical complexity.

2.2 Access to finance

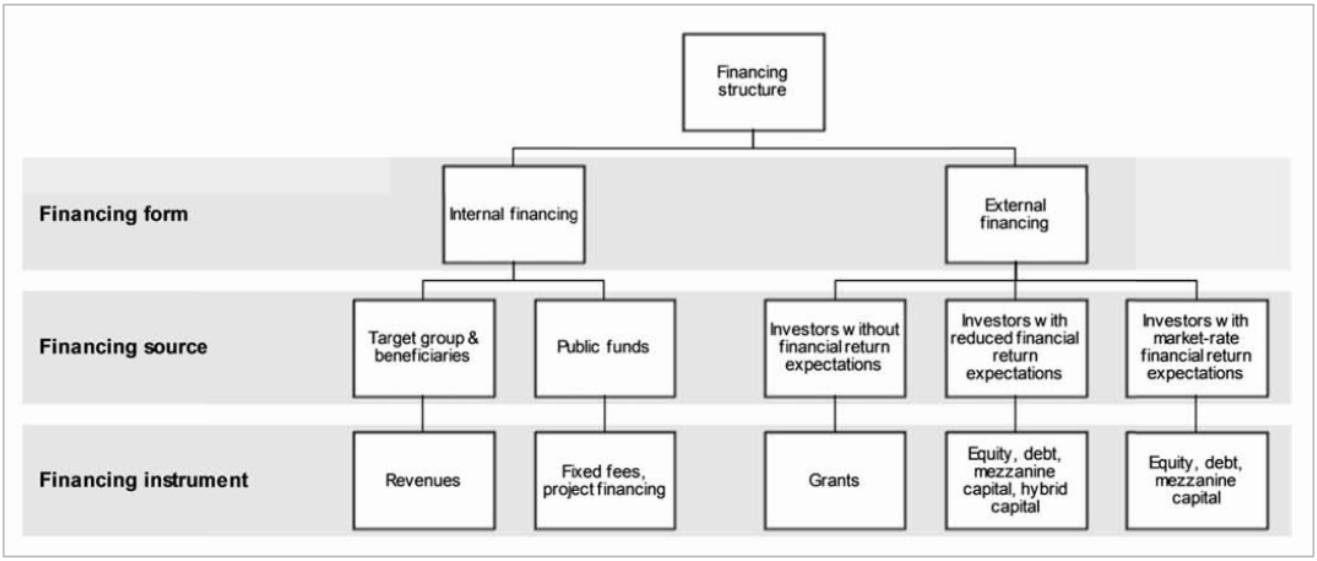
Access to financial resources is crucial for the success of social entrepreneurs (Almuraikhi & Shirazi, 2022). Their hybrid nature of combining social and commercial returns positions them somewhere between non-profit organizations and for-profit firms, making it more challenging for accessing financial capital. Financial providers prefer investments with financial returns, creating a competitive advantage for traditional ventures to access financial capital while limiting access to the same capital for social entrepreneurs (Austin et al., 2006). This is especially challenging for early-stage ventures, including social entrepreneurs. They often face difficulties because they are a new and small business. Information asymmetry further complicates the funding process. Compared to commercial ventures, social entrepreneurs have even more limited access to early-stage finance. Many investors are hesitant to invest in ventures with dual objectives or have unrealistic financial return expectations (Lall & Park, 2022). These challenges pose significant obstacles for social entrepreneurs in securing the necessary funding for their ventures.

Securing financial capital of social entrepreneurs as illustrated in Figure 2 is twofold. On the one hand, social entrepreneurs can generate capital internally by providing services or products. Ideally the target group or other third parties pay for the ventures services to create revenue streams to cover the costs of the social entrepreneur. Another internal financing source are public funds, such as from the European Commission, which are often project-based and usually only accessible for non-profit organizations.

On the other hand, external financing can provide temporary or long-term financing. This can include donations, impact investors that accept lower financial returns for higher social and environmental returns or investors that use equity and debt financing instrument to secure market-conform returns. To compensate trade-offs between financial, social and environmental returns, social entrepreneurs often create blended finance approaches where multiple sources of financing are utilized. This approach can help leverage diverse financial resources and increase the viability and scalability of NbS initiatives.

Figure 2

Internal and external financing for social entrepreneurs



Note: Adapted from Spiess-Knalf and Achleitner, 2012

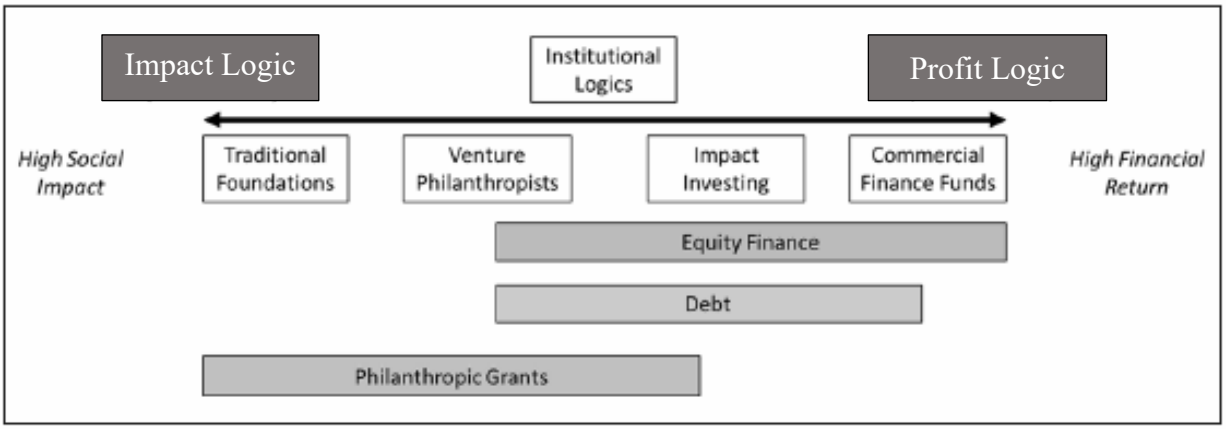
2.2.1 Institutional logic of external financing

Social entrepreneurs are hybrid constructs that face dual logics, combining impact logic with profit logic to become self-sustainable. Scholars acknowledged, that the institutional complexity of social entrepreneurs can be successfully addressed, when external finance providers are placed on a spectrum based on their institutional logic (Lall & Park, 2022). Figure 3 highlights various finance providers. The two ends of the spectrum are commercial investors and non-profit charitable investors. Traditional investors are motivated by a purely finance only approach and expect financial returns from their investment – encouraging a strong profit logic. On the contrary, philanthropists and grant providers primarily focus on social and environmental impact

disregarding any financial returns. Impact investing represents a hybrid finance approach which can either follow an impact first or a finance first approach depending on their individual perspective.

Figure 3

Institutional logic of external financing



Note: Adapted from Lall and Park, 2022

2.2.2 Impact investing

Impact investing refers to investments made with the intention of generating measurable financial returns and positive social and environmental impacts (Reeder et al., 2015). Impact investors often support NbS projects that align with their mission and seek to achieve sustainable outcomes alongside financial gains. Investing in NbS entails several risks for impact investors. On the one hand, financial risks may arise from projects with no steady cashflow, and impact metrics that may not accurately measure impact. On the other hand, impact risks can stem from innovations that have trouble to deliver the anticipated social and environmental returns. In order to mitigate the associated risk, impact investors often use baselines and counterfactuals to establish additionality which determines the added value of the project. There are several implications of impact investing in NbS. Firstly, there is a need to ensure that the financial motives of investors do not overshadow the intended social and environmental impacts. To retain equal importance for impact and profit logic is essential to maintain the credibility of the investment. Secondly, the success of early impact projects plays a vital role in establishing a positive track record, as long-term support from investors relies on the early projects delivering the promised financial returns

and impacts. Failing to deliver the expected returns can diminish the credibility of NbS and the approach of impact investing. Impact investing lies in middle between traditional investment and traditional philanthropy. It can be categorized into “finance first” and “impact first” investing based on their willingness to sacrifice profit or social and environmental returns and to accept higher or lower investment risk (Thompson, 2020). Finance first investors prioritize positive financial returns over social and environmental impact, whereas impact first investors focus on the potential of social and environmental impact while accepting lower financial results. This is demonstrated in research by Thompson (2020) showing that impact investing is expected to yield financial returns between 1.54% and 4.14% compared to debt-financed investment ranging from 7% to 10%. Combining the profit logic with the motive of investing in social and environmental projects referred to as impact logic highlights the hybridity of institutional logics of impact investors. They operate based on the belief that investments can contribute to positive change and create value beyond financial returns including social and environmental impact. Pursuing hybrid institutional logics is very challenging because it requires diverse knowledge, skills, and resources for effective management. This can lead to tensions and trade-offs between profit and impact logic, potentially overshowing impact goals with profit motives. Simultaneously, it creates synergies and opportunities for NbS to achieve both financial returns and social and environmental impact in the long-term (Thompson, 2020). Impact measurement plays a crucial role in impact investing using a variety of tools and data, to strengthen its position against “impact washing”. Harji and Jackson (2012, p. 41) described impact washing as “managing expectations, acknowledging not all investments will have the desired results and the importance of addressing the causes of results that are below expectations” (Findlay & Moran, 2019). Therefore, measuring impact is essential to demonstrate their true intention for positive impact and maintain market integrity. There are different approaches for measuring impact, such as calculating outputs as impact proxies. Studies show that impact measurement is more successful, when the individual metrics were agreed on jointly between the social entrepreneur and investor (Findlay & Moran, 2019). Although impact measurement is a distinguish factor of impact investing, its precise evaluation remains a challenge. Various approaches and frameworks have been developed to address this limitation, with Impact Reporting and Investment Standards (IRIS+) being the most prominent one. Global Impact Investing Network (GIIN) created a standardized framework as a comprehensive system that

provides specific metrics to translate intentions into measurable impact assessment, alongside the evaluation of risk and return (Lall, 2019).

2.2.3 Public funding

Governments at national, regional, and local levels often provide financial support for NbS projects through public budgets, subsidies, and grants (Bennett et al., 2019). Public funding can play a crucial role in creating an enabling environment and supporting the implementation of NbS initiatives. For the European Union, the success of NbS is especially relevant to support major EU policies such as the European Green Deal. EU research and innovation for NbS is currently implemented through the EU's key funding program Horizon Europe (Research Policy, 2022). The EU program aims with a budget of 95.5 billion euros to tackle climate change and help to achieve the UN's Sustainable Development Goals. 30% of this budget is directly contributed to climate objectives and 70% of the budget of the European Innovation Council (10.105 euros) is allocated to small and medium enterprises. This funding is paid directly through grants to grantees and selection criteria consists of impact and quality of implementation among others (European Commission, 2021).

Public funders operate within a specific institutional logic that influences their decision-making processes, funding priorities and accountability. They may prioritize certain policy objectives and outcomes, which can influence the funding decision related to NbS. It also remains a challenge for public funders to accurately evaluate and measure impact of NbS initiatives. Existing research has primarily focused on specific ecosystems, resulting in a lack of comprehensive knowledge about other NbS, such as carbon storage and sequestration. Additionally, although new measurement tools have been developed to assess NbS, many of these lack robust indicators or the ability to be applied to diverse NbS in different conditions (Wild et al., 2020). This multidimensionality adds complexity to the evaluating process and highlights the necessity to develop robust measurement frameworks that capture the full range of impacts generated by NbS projects (Cohen-Shacham et al., 2019). Therefore, the European Commission requested from the EU Science-policy-society mechanism, EKLIPSE (Knowledge & Learning Mechanism on Biodiversity and Ecosystem Services), to develop an impact evaluation framework, that assesses the performance of NbS. This framework focusses on ten global challenges including climate mitigation and social justice. The outcome highlights the importance of considering

context-specific factors and created a list of indicators for assessing each challenge to its local conditions and their applicability to different geographic and temporal scales. Additionally, the Expert Working Group (EWG) recognized the importance of including NbS into the European strategy for tackling societal challenges and provided the European Commission with recommendations to improve the assessment of the effectiveness of NbS (Raymond et al., 2017). The selection of appropriate indicators and methods of measuring the effectiveness of NbS depends on the objective of the project, type of action, potential expected impact, available resources, and scale of the analysis.

Despite these challenges, public funders represent significant opportunities for NbS innovations, as they can leverage financial resources and regulatory power to drive the adaption and scaling of NbS. For example, the Horizon funding program can provide the necessary support for research and development and set-up pilot projects which are essential for the successful implementation of NbS (European Commission, 2020). Moreover, the institutional logic of public funder can contribute to the legitimacy and credibility of NbS innovation, as it often requires rigorous accountability mechanisms and transparent procedures. This can enhance public trust in NbS projects and ensure that public resources are allocated effectively and efficiently.

2.2.4 Philanthropy

Philanthropic organizations, foundations, and international development agencies offer grants to support NbS initiatives without any expectation of repayment. Compared to other financial instruments, grants comprise the majority proportion of financing social entrepreneurs. Their support ranges from providing seed funding, research funding, or project-specific funding to advance the implementation of NbS (Martin, 2015). Despite the importance of philanthropic grants for social entrepreneurs, it is compared to other financial resources, rather under researched (Lall & Park, 2022)

Grants can be especially attractive for social entrepreneurs as they do not require the recipient to pay them back while following their social mission to pursue income-generating activities. Studies show that philanthropic grants are the second largest source of financial capital after internal financing of social entrepreneurs. Philanthropic grants are also described as filling the “pioneer gap” or as catalysts for social ventures to help them establish themselves on the market. (Lall & Park, 2022) Therefore, philanthropic grant making plays a crucial role in the early

stage of social ventures. Philanthropists are characterized by a strong value-based or impact logic, as they primarily focus on social impact disregarding any financial returns (Lall & Park, 2022). They are driven by the social mission, provide tolerant high-risk investments and are patient funders.

Nevertheless, the financial capital provided by individual funders or foundations is often project-related, periodic, and limited to three to five years which hinders a constant cashflow for social entrepreneurs (Martin, 2015). Grants are unreliable and cannot keep up with the increasing capital demand social entrepreneurs are facing on the long-term. Therefore, it is advised that social entrepreneurs follow a blended financing scheme, to avoid being solely dependent on grants (Almuraikhi & Shirazi, 2022). This helps social entrepreneurs to secure financial capital to scale and grow their business until they improve their financial performance to attract less impact-focused investors.

2.3 Impact measurement

Previous research emphasized that there is no coherent definition for impact measurement resulting in abundance of terminologies. Especially the term social impact has been associated with social value (Santos, 2012), social performance (Mair & Marti, 2006) and social returns (Emerson, 2003). Therefore scholars demand to define the concept of social impact more precisely in order to improve the research findings (Rawhouser et al., 2019).

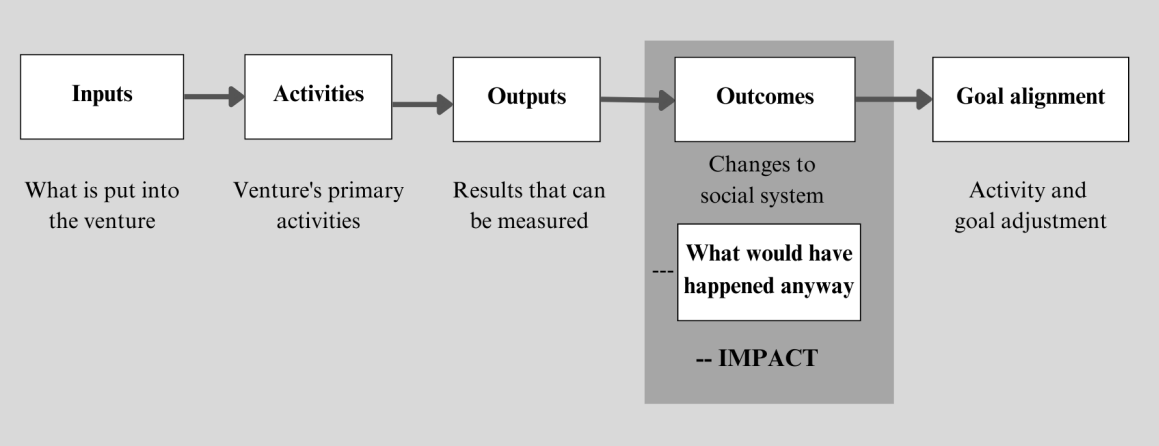
The term impact is the new buzz word and gains increased attention from social entrepreneurs, funders and investors. While everyone assumes what it means, it is not consistently defined in literature (Ebrahim & Rangan, 2014). Rosenzweig and colleagues (2004) defined impact as “the portion of the total outcome that happened as a result of the activity of the venture, above and beyond what would have happened anyway”. The aim of impact measurement is to provide evidence that changes happened based on the intervention and not because of other factors (Ferraro, 2009). However, this process of providing this evidence is very resource-intensive, especially regarding financial resources (Rosenzweig et al., 2004). Counterfactual thinking can help to identify alternative explanations for the observed outcome. Through experiments and quasi-experiments, data can be collected that eliminates other plausible interpretations and hidden biases of outcomes and ultimately identifies the impact on outcome indicators (Ferraro, 2009).

Clark et al. (2004) presents a logic model for the impact value chain that consists of inputs, activities, outputs, outcomes, and impact. It can be used for measuring performance and linking results to certain practices. Using logic models often implies the development of a theory of change (McLaughlin & Jordan, 2015). Figure 4 illustrates the logic model of the impact value chain where inputs represent the resources such as time, labor, and financial capital necessary for the social venture to function. Outputs, unlike outcomes, are indicators that can be directly measured. In contrast, outcomes demonstrate specific changes in behavior, skills or knowledge of people that result from the activities of the social venture and are ultimately more challenging to measure. In addition, some models distinguish between short-term outcomes, intermediate and long-term outcomes (McLaughlin & Jordan, 2015). It is rather difficult and complex to measure outcomes because it requires to assess issues that are influenced by external factors which are out of the social entrepreneurs' control (Ebrahim & Rangan, 2014). The core element of the model is impact which is even more challenging to measure. This is because it can take up to several years to achieve impact (Galtung, 2019) and because of the influence of overarching social and economic systems that are outside the boundaries of a social entrepreneur (Ebrahim & Rangan, 2014). Lastly, goal alignment involves the comparison whether the pre-defined goals of the interventions were accomplished by measuring the outcomes or impact (Rosenzweig et al., 2004).

Galtung (2019) analyzed the impact reporting of 24 agribusinesses according to the logic model. He discovered that most reports consist of input and output indicators, where input indicators accounted for 15.4% and output indicators for 38.1%. Followed by 44% of outcome indicators and lastly only 2.4%, which represents 8 indicators, were mentioned to report on impact. Additionally, he analyzed that more sophisticated indicator reported on environmental performance and health whereas input and output indicator were used for measuring livelihoods, human rights, and governance issue (Galtung, 2019).

Figure 4

Impact value chain



Note: Adapted from Rosenzweig et al., 2004

2.3.1 Impact measurement frameworks

Existing literature does not provide a coherent understanding how to measure impact of social entrepreneurs. Researchers argue this is because, traditionally, social enterpreneurs adapt slowly to reporting on metrics and measures are in general less standardized (Lall, 2019). According to Nguyen et al. (2015) "social impact measurement refers to the process of defining, monitoring, and employing measures to demonstrate benefits created for the target beneficiaries and communities through evidence of social outcomes and/or impacts". There is a rising demand for developing measurement frameworks that verify capital investments, establish legitimacy and accountability, and support the progression of social enterprise effectiveness. However, due to the complexity and intangibility of indicators it is very challenging to measure social and environmental impact. The diversity of social enterprises including different industries, outcomes and goals increases the challenge of developing a universal framework. This is also true for innovations that are focusing on the same sector. According to the literature there are several qualitative metrics to measure social and environmental impact, which include the triple bottom line (Elkington, 2004), SROI (social return on investment) and Balanced Scorecards (Gomes & Liddle, 2009). Whereas financial indicators measure past performance, qualitative metrics are even more important to capture the long-term value creation.

Triple Bottom Line Assessment

This framework considers the social, environmental, and economic dimensions of NbS impacts. It examines the social equity, community well-being, environmental quality, and economic viability associated with NbS projects. The triple bottom line approach helps assessing the holistic sustainability and multiple benefits of NbS interventions (Schaltegger & Wagner, 2011).

Balanced Scorecard

The Balanced Scorecard combines financial measures with three additional indicators: customer perspective, internal process and learning and growth (Kaplan, 2001). The study by Mamabolo and Myres (2020) shows that measurement frameworks must be flexible to adapt to every social enterprise individually. This study used innovation as one of the sub criteria for internal process to measure its performance. Measuring the financial performance of social enterprises is more challenging because typical financial indicators are less reliable. This research used descriptive statistics to analyze social enterprises performance; therefore, further contextual indictors must be explored. Although the Balanced Scorecard framework includes short and long-term aspects, the approach is lacking in measuring social value and economic impact (Clark & Brennan, 2016). Clark and Brennan created a three-dimensional framework combining the impact logic model from Whaley (1979) with the balanced scorecard. This incorporated short and long-term perspectives as well as the measurement of externalities within one model. While this framework showed success in adapting most of the case data, it still lacked in measuring the true impact (Clark & Brennan, 2016).

Social Return on Investment

One of the most common measurement frameworks is called Social Return on Investment (SROI). This provides monetary values to social returns using financial figures. The advantages are that it uses a language that is understood by investors. Moreover, the approach includes the performance on the entire community and stakeholders involved. This method was first developed by the Roberts Enterprise Development Fund (REDF) in the US and was then further expanded on by the New Economics Foundation (nef) in the UK (Watson & Whitley, 2017). This rather robust framework comes with its limitations. Monetizing social value does not represent the full impact

of social interventions and is rather oversimplifying the outcome of a complex enterprise. The result of SROI can only be understood in context; therefore, it is important to triangulate the outcome with interviews and secondary data. The REDF approach includes the measurement of values the innovation created for the community as well as the return on the investment. Since data availability is often limited, assumptions must be made that reduce the validity of the analysis. In order to evaluate the performance of the social enterprise, industry comparisons help to benchmark the return. Additionally, investors can compare the SROI ratio with their internal data base to make informed investment decisions (Watson & Whitley, 2017).

4-Return on Investment

After collaborating with experts from the public and private sector as well as investors, Commonland created the 4-return on investment framework to calculate the value of landscape restoration projects. It is a practical tool that provides a common language to build relationships and trust among stakeholders (Commonland, 2020) to encourage funding mechanisms and influence international discussions about policies (Dudley et al., 2021).

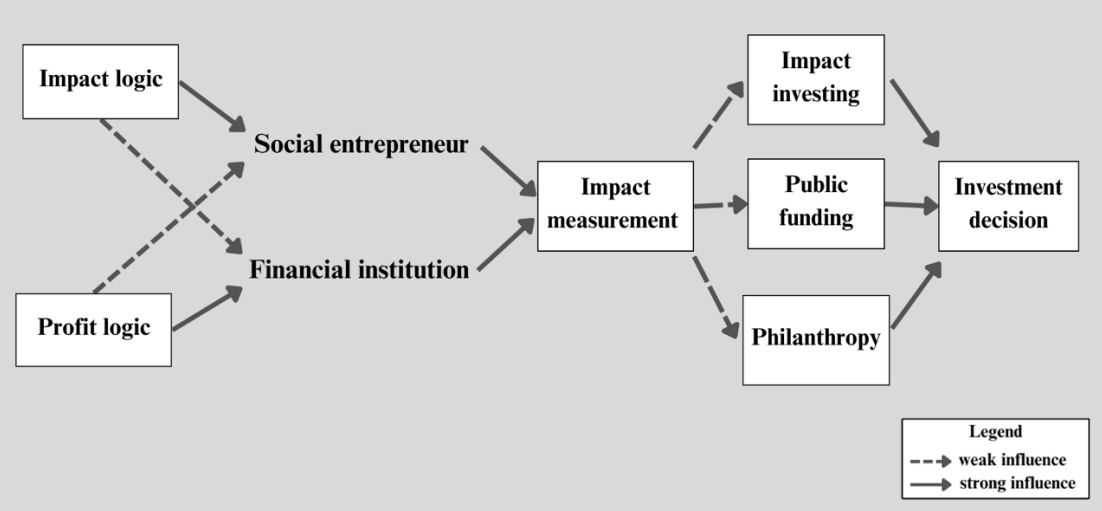
The framework is built on 4 returns – inspirational, social, natural, and financial. The goal is to relate monetary values to all returns to facilitate well-informed decisions for investors and other stakeholders (Dudley et al., 2021). While this is still challenging in practice the focus lies on delivering quantifiable and long-term returns, resulting in a better understanding of the benefits and risks for investors (Commonland, 2020).

The foundation of this framework is the return on inspiration to create a sense of hope and purpose through educational activities and shared learning. The social return concentrates primarily on job creation and improved livelihoods. Natural returns focus on ensuring ecosystem services and improving biodiversity. This includes promoting healthy soil, water security, increased carbon sequestration and preventing land erosion (Commonland, 2020). Lastly, financial returns highlight direct financial returns to attract investment opportunities for sustainable business models (Dudley et al., 2021). An overview of the framework can be found in Appendix A: 4-Returns on investment framework

2.4 Theoretical Framework

The literature provides an understanding about the importance of social entrepreneurs to tackle grand challenges. They provide innovative solutions that benefit society and nature while contributing to financial returns. Due to their hybrid nature, it is especially challenging for social entrepreneurs to secure financial capital. Figure 5 illustrates that social entrepreneurs are primarily influenced by an *impact logic* that focusses on social and environmental returns while financial returns labelled as *profit logic* has a weaker impact on social entrepreneurs. On the contrary, previous literature argues that in general financial institutions base their investment decision predominantly on the *profit logic* with considering social and environmental impact only if the financial returns meet their expectations. This research assumes that the dual logics of social entrepreneurs and financial institutions influence the practice of impact measurement. The diverse interpretation and the lack of standardized practices of impact measurement increases the challenge for social entrepreneurs to gain access to financial capital. The different sources of financial capital including impact investing, public funding, and philanthropy, have all different expectations on impact measurement. While they all indicate that impact measurement has a strong relevance for their investment decision, there is no clear and mutual understanding of impact measurement practices. Therefore, this research aims to investigate the current practices of impact measurement and the institutional logics of social entrepreneurs and financial institutions in order to improve the access to financial capital.

Figure 5
Theoretical framework of the influence of impact and profit logic on impact measurement affecting the investment decision of diverse financial institution



3 Methodology

The literature review shows the complexity of impact measurement and the various institutional logics of the diverse actors involved. The following section proposes a research design to answer the research question including the sampling method, data collection and data analysis.

3.1 Research design

3.1.1 Qualitative research

This study addresses the research question by adopting a qualitative research approach, as it seeks to explore the subjective experiences and perspectives of individuals in-depth. Qualitative research is underpinned by the main idea that individuals socially construct meaning by interacting with their world (Merriam, 2002). There is no objectively perceivable phenomenon; instead, social entrepreneurs and financial institutions have multiple constructions and interpretations of their reality based on their experiences (Merriam, 2002). Qualitative research enables the researcher to understand how these individuals experience and interact with their social world and the meaning they have constructed about their reality (Yin, 2016). Yin (2016) argues that qualitative research represents the views and perspectives of the people in a study and explicitly focuses on real-world contextual conditions. By applying this approach a comprehensive understanding of the complexities and nuances surrounding the utilization of impact measurement can be developed to explain social behavior and thinking (Yin, 2016).

The orientation of this study is inductive in order to derive theories and concepts from the collected data during the interview. Instead of testing pre-existing hypotheses the focus is on exploring the research question in an open-ended manner, allowing patterns and themes to emerge from the data. Thus, inductive efforts produce deeply meaningful insights that cannot be easily constructed in deductive proposition testing (Gehman et al., 2017). The primary objective of this research design is to generate new insights and theories by closely examining the experiences, perspective, and strategies of social entrepreneurs and financial institutions regarding impact measurement. Eisenhardt et al. (2016) emphasize that inductive reasoning is particularly useful to address grand challenges because it can generate novel ideas, reveal effective processes and cope with complexity to solve these wicked problems. Additionally, inductive methods are especially helpful for exploring hard-to-measure constructs (Eisenhardt et al., 2016). Inductive research is particularly well-suited for studying intuitional complexities, as it aims to comprehend the unique

circumstances that shape individuals' behaviors and actions. By employing inductive methods, social constructs can be identified, especially those related to people's perceptions and their influence on behavior within the context of grand challenges (Eisenhardt et al., 2016). This makes inductive research indispensable for advancing solutions to grand challenges by gaining a deeper understanding of individual perspectives and facilitating progress.

3.1.2 Drawing from multiple cases of the BWL

To answer this question, the research draws information from multiple cases (Yin, 2016) of the BWL, including social entrepreneurs and financial institutions, to have sufficient diversity of the sample. This allows the researcher to analyze similarities and differences between the cases to balance the tensions (Gustafsson, 2017). The main objective is to explore sense-making of various funders and investors as well as interpretations of social entrepreneurs' institutional logic to enhance understanding of impact measurement practices. Hence, the unit of analysis being analyzed in this research are specific landscape restoration projects. As impact can be understood very subjectively, it is important to provide multiple perspectives on this subject. Investigating several cases helps to broaden the scope on this subject and to detect patterns across the cases (Yin, 2009). The analysis of similarities and differences provides potential explanations of the phenomena of impact measurement that contributes to the literature. By drawing from several cases, the researcher can compare different patterns and themes among social entrepreneurs that facilitate confident scientific outcome. It is also argued that results of this methodological approach of a case study are stronger and more reliable (Gustafsson, 2017).

3.2 Sampling

This study followed a non-probability sampling strategy from a predefined population of the systematic innovation portfolio of the BWL. Theoretical sampling is originally defined by Glaser and Strauss (1967, p. 45) as "the process of data collection for generating theory whereby the analyst jointly collects, codes and analyzes his data and decides what data to collect next and where to find them, to develop his theory as it emerges". It involves the purposeful selection of a sample to examine the phenomena where it occurs (Coyne, 1997) and based on the ability to elucidate relationships among constructs (Eisenhardt et al., 2016). The innovations were chosen based on a thorough selection process from the BWL. The most important innovation criteria include to provide a new solution to a pressing problem and the ability to scale on a larger landscape,

Additionally, the entrepreneur shows a high level of creativity, commitment and passion and has strong entrepreneurial skills. A precondition for the selection process is that the innovation passed the start-up phase and can provide evidence of impact measurement and assessment. To become part of the innovation portfolio, the entrepreneur must ultimately pass several interviews, site visits, reference checking and a final panel discussion. (Ashoka, 2022)

3.2.1 Interviewed organizations

Based on this pre-selected population, purposive sampling methods were carried out. This approach is particularly beneficial in case studies where the selection of information-rich cases is crucial (Saunders et al., 2007). Information-rich cases can be defined as "cases from which one can learn a great deal about issues of central importance to the purpose of the research" (Patton, 1990). This strategy is the most effective method to collect data for increasing the relevance of the sample to the population of interest and selecting information-rich cases (Coyne, 1997). The BWL provided a list of potential interview partners, the screening yielded an extensive list of social entrepreneurs as well as financial institutions. Ultimately, 13 cases were selected based on the criteria described above and the companies' willingness to share information within the scope of the interview. During the data collection process, additional interviews surfaced, and the utilization of the theoretical sampling approach provide the necessary flexibility to adapt interview questions and explore different categories with specific participants (Coyne, 1997). Lastly, additional interviews were carried out by five other students who simultaneously conducted research for the BWL. The BWL initiated the contact and connected the researcher with the CEO or founder of the organization.

3.3 Data collection

The data collection comprises primary and secondary data. Data triangulation ensured the reliability and validity of the research findings (Thurmond, 2001). Primary data consists of in-depth interviews with social entrepreneurs as well as financial institutions; secondary data are archival data including company reports, impact reports and transcripts of previous conducted interviews with the BWL. Lastly, transcribed records of previously interviews enrich the data collection as only a limited number of interviews can be carried out during this study. The utilization of multiple data collection methods facilitates data triangulation, enhancing the ability

to interpret the findings (Thurmond, 2001). By combining interviews and archival data, a more holistic understanding of the implementation of impact measurement was achieved.

3.3.1 Interviews

Primary data is collected through semi-structured interviews with selected members of the BWL to gather in-depth information about personal perceptions and motivations for impact measurement. The interviewees consist of social entrepreneurs, diverse financial institutions, and industry experts. Based around the BWL, together with five other students, the research formed a research group. The overview of the students as well as a summary of their research can be found in Appendix B: Overview of research group. The research group incorporated each other's questions about impact measurement in their individual interview guide to collect additional data for the research group. This facilitated the collection of supplementary data and expanded the sample size to a total of 58 interviews within the constraints of the limited timeframe. An overview of the interview partners from the researcher can be found in Table 1.

Table 1

List of primary data collection

Interviewee Code	Interviewee	Category	Position
A1	Social entrepreneur	BWL Portfolio	CEO
A2	Social entrepreneur	BWL Portfolio	International Partnership Director
A3	Social entrepreneur	BWL Portfolio	Co-Founder
A4	Social entrepreneur	BWL Portfolio	Founder
A5	Social entrepreneur	BWL Portfolio	Founder CEO
A6	Social entrepreneur	BWL Portfolio	Co-Founder
B1	Financial institution	Impact Investors	Community Investment Programme Manager
B2	Financial institution	Private Equity Investors	Co-Head Nature & Biodiversity Practice Executive Director
B3	Financial institution	Financial Supporter	Founder
B4	Financial institution	Private Equity Investors	CEO
B5	Financial institution	Impact Investors	Director
B6	Financial institution	Private Foundation	Parnership Associate
B7	Financial institution	Foundation	Senior Project Manager Climate Change
B8	Financial institution	Impact Investors	Director, Strategy and Philanthropic Relations
X1	Expert	Impact Measurement	Impact Manager
X2	Expert	Impact Measurement	Co-Founder and CEO

In total 15 interviews were carried out by the researcher. This includes interviews with founders and CEOs of social enterprises from the BWL portfolio, professionals from the financial

sector and other industry experts. The three groups of interviewees provided a holistic understanding of impact measurement; interviewees A1 until A6 gave insights from the social entrepreneurs' perspective including their motivations and experiences in this field, interviewees B1 until B7 are financial institutions along the continuum such as philanthropists, impact investors and funds. These interviews helped specifically to understand not only the financial perspective but more in detail helped to identify the differences between the spectrum of investors. Lastly, interviewees X1 and X2 are experts on impact measurement and contributed to a more sophisticated understanding of impact measurement in general.

The interviews were organized in a structured manner; and were scheduled in advance. The conversations took place either via MS Teams or by a regular phone call and lasted between 30 and 60 minutes. The interviews were mainly conducted in English, some interviewee preferred to do it in German. Two sets of interview manuals including predetermined open-ended questions provided the foundation for the interview while it gave room for additional questions to emerge during the interview (DiCicco-Bloom & Crabtree, 2006). The two interview manuals, one for social entrepreneurs and one for financial institutions can be found in Appendix B: Overview of research group and Appendix C: Interview manual – Social entrepreneur The interview guide consists of main questions, follow-up questions and probes in order to answer the research question (Rubin & Rubin, 2012). The introduction highlighted the topic of the research and scope of the interview and ensured anonymity of the interviewee as well as asked for permission to record the interview. The second part consisted of general questions to determine the background of the interviewee as well as to establish a mutual understanding of impact measurement. Specific questions were tailored to individual interviews to gain insights into the level of depth of impact measurement carried out, the motivation behind it and the perception of the 4 Return on Investment framework. The interview ended with a friendly conclusion and gave space for unanswered questions. The individual, in-depth interviews dove deeply into personal the perception of the interviewee and uncovered individual knowledge and assumptions about impact measurement (DiCicco-Bloom & Crabtree, 2006).

3.3.2 Archival data

For the majority of social entrepreneurs, the individual 4-return on investment framework was reviewed. These assessments were used to gain a preliminary understanding of the extent and

experience of impact measurement from the social entrepreneurs. Second, company resources including internal impact reports and measurement metrics from social entrepreneurs and financial intuitions were directly send to the researcher after the interview. This gave additional insights into the depth of impact reporting of different organizations and provided access to specific quantitative and qualitative indicators that have been used for impact measurement.

3.4 Data quality and ethics

The Netherlands Code of Conduct for Research Integrity (2018) proposes five principles that should guide the researcher. First, honesty means to report on the research process truthfully and refrain from falsifying data. The research design provides detailed information on the methodologies and data collection to ensure the research honesty. Second, scrupulousness represents scientific methods in designing the research. This study is based on scholarly methods and was carried out to the best capabilities of the researcher. Third, transparency refers to the validity and reliability of data and research results. This study takes on an institutional theory approach, deriving institutional logics from the collected data. Through a grounded theory approach, the quality of the results is constantly challenged and analyzed in relation to emerging themes to create robustness and transparency of the results. Next, independence to ensure the impartiality of the research design. To achieve this, multiple sources of data were triangulated including primary and secondary data to limit the risk of induced bias of the researcher. Lastly, responsibility refers to the legitimate interests of involved parties along the research process. The researcher protected the identity of the interview participants and respected their confidentiality. Therefore, the identities of the interview partners including their names, company names and any other unique characteristic that could reveal their identity were kept anonymous. To ensure the confidentiality an informed consent form was created and signed by all involved actors.

3.5 Data analysis

The data analysis of this qualitative research uses a grounded theory approach that is described as “the discovery of theory from data systematically obtained from social research” (Glaser & Strauss, 1967, p. 2). Grounded theory aims to generate an ‘explanatory theory that furthers the understanding of social and psychological phenomena’ (Chenitz & Swanson, 1986, p. 3) by inductively discovering a theory of process, action, or interaction (Strauss & Corbin, 1998). The theory is generated through simultaneously collecting, analyzing, and coding data (Glaser,

1998). The primary emphasis revolves around constructing theory from emerging data through an ongoing process of comparative analysis of data obtained through theoretical sampling (McCrae & Purssell, 2016).

This study aims to understand the underlying values and beliefs of social entrepreneurs and capital providers that influence the practice of impact measurement and ultimately the investment decision. Contributing to addressing grand challenges requires novel approaches "to reveal new concepts, relationships and logics of organizing while also advancing social progress" (Eisenhardt et al., 2016, p. 1113). Grounded theory offers an inductive approach to assess the personal opinions and experiences of the interviewees to construct theories by constantly comparing the data (Eisenhardt et al., 2016).

Prior to formulating the research question, an extensive literature review of institutional theory, social entrepreneurship, impact measurement and finance literature was carried out. Additional conversations with industry experts from the BWL highlighted the urgency of developing new theory of impact measurement for practitioners and researchers. The initial approach included the aspect of impact communication; however, due to the complexity and time constraints of this research, the focus was solely on impact measurement. Becker (1993, p. 256) summarizes the theoretical sampling approach of grounded theory as "The inductive process involves the emerging theory from the data, whereas the deductive process involves the purposeful selection of samples to check out the emerging theory". After the initial sampling of interviewees, additional samples emerged from the interviews to clarify surfacing themes and concepts. Using this process of data analysis allowed to identify concepts and codes after each interview and contributed to an extended sampling. Strauss and Corbin (1998, p. 201) described this methodology as "maximize opportunities to discover variation among concepts and to densify categories in terms of their properties and dimensions".

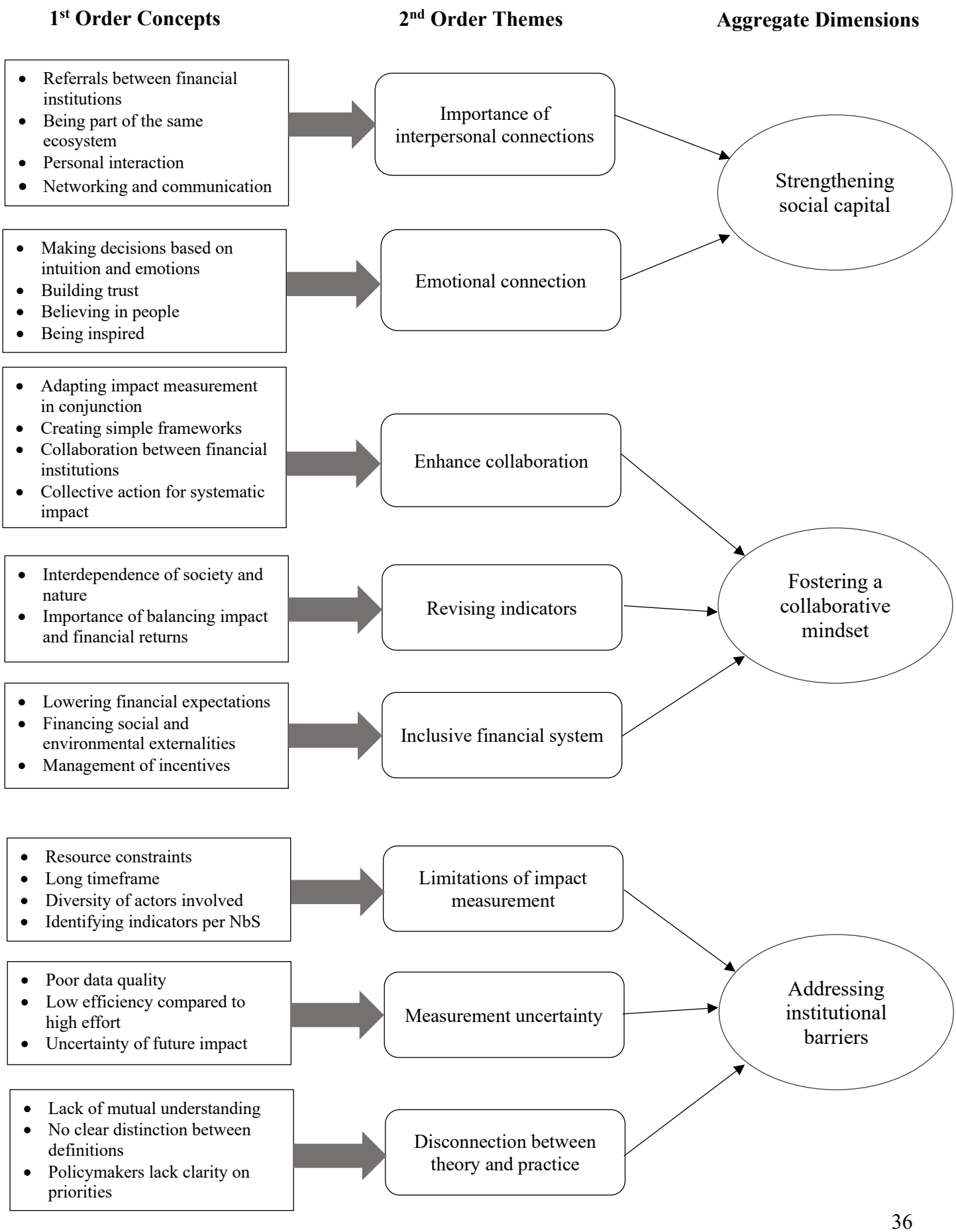
Throughout the data collection, all interviews were transcribed using the transcribe function of MS Teams. Next, the data was cleaned in terms of utterances such as 'yeah' and 'uhm' and 'hmm' for example and corrected according to the video recording if necessary. Afterwards, the completed transcripts were shared with the other students. The data was inductively analyzed and coded adhering to the principles of the Gioia method because this method demonstrates rigor in the process of concept development and theory building (Gioia et al., 2013). This model facilitates an understanding of existing concepts while extending on this knowledge to explicate new

constructs and model relationship around them (Gioia et al., 2022). The collected data was analyzed to provide a data structure (Gioia et al., 2022) that answers the research question at hand. This method includes three levels of coding resulting in a hierarchical data structure. The final data structure was supported through memo writing. This served as a tool for the research to capture and write down ideas about patterns and themes and emerging theories throughout the data collection process (Charmaz, 2006). These notes guided and supported the research in analyzing and coding the data. Additional conceptual drawings of relationships between concepts and themes helped to interpret the findings.

First, the data were analyzed by developing in-vivo codes using open coding. During this step, the coding was closely connected to the respondents' expressions, using a word or short phrase taken from a section of the data (Langley & Abdallah, 2011). Next through constant comparison techniques open codes were grouped into first-order concepts (Glaser & Strauss, 1967). These codes built the foundation to create a higher level of abstraction in terms of second-order themes. By seeking similarities and differences among the initial concepts (Gioia et al., 2012), relationships between and among the first-order codes were identified, which allowed the codes to be grouped and clustered into second-order concepts. This was done by comparing data and iterating data sources, until the large number of open codes was reduced, and the most significant themes were crystalized (Langley & Abdallah, 2011). The last step derives from continuous comparisons of the data distilling the emergent second-order themes (Gioia et al., 2012) to "arrive at a limited number of aggregate dimensions or core categories that serve to summarize the elements of an emerging theoretical model." (Langley & Abdallah, 2011). These concepts are interconnected, with first-order and second-order themes forming the foundation from which they emerge in a hierarchical manner. This is an iterative process involving continuous movement between codes and data, allowing new concepts to emerge that lead to additional interviews. Data was collected until no new theory emerged and theoretical saturation was reached (Glaser & Strauss, 1967). The data structure resulted in 27 first-order codes, 8 second-order concepts, and three aggregate dimensions. This creates a visual understanding and graphic representation of how the overarching themes were derived from the initial raw data (Gioia et al., 2012).

Figure 6

Data structure



4 Findings

This chapter highlights the derived findings from the performed interviews with social entrepreneurs and various financial institutions. The collected data sheds light on the challenges of impact measurement, as well as the importance of values and beliefs of social entrepreneurs and financial institutions equally. Each aggregate dimension connects the identified themes with important elements influencing the performance of impact measurement. As illustrated in Figure 6, interviewees shared insights on three topics: the importance of personal interconnections, limitations of impact measurement and its potential to change mindsets. In order to understand the aggregate dimensions, it is important to analyze the different institutional logics.

4.1 Institutional logics of social entrepreneurs and financial institutions

Both, social entrepreneurs, and financial institutions are equipped with distinctive institutional logics. Table 2 provides an overview of how different beliefs and motivations influence the role of impact measurement and how this increases the complexity of an investment decision. In addition, impact measurement is in itself very complex resulting in a substantial need of resources, poor data quality and various understandings and requirements to follow. This is highlighted by the following quote: ***"All models are wrong, some are useful." [A6]***

Overall, it can be said that social entrepreneurs operate with a mission-driven institutional logic. They are deeply committed to creating positive social and environmental changes. Their focus goes beyond financial returns, and instead view money as a vehicle for driving meaningful change. Social entrepreneurs focus on creating impact on a mindset level and address societal challenges at their root causes. They have high expectations on themselves and constantly strive to do good. They recognize the urgency of addressing social and environmental challenges and are annoyed to be slowed down by administrative obstacles. Impact measurement is currently conducted only in response to incentives, despite its recognition as a crucial factor in securing financial capital. This was recognized throughout the interviews with all social entrepreneurs. Assessment frameworks include balances scorecard, baseline studies, EU funding metrics, audit approaches and official carbon credit certification schemes.

In contrast, the financial institutional logic is highly nuanced depending on the type of capital provider. In general, financial institutions adhere primarily to a logic centered around financial viability. The degree of this logic varies between types of financial institutions. For most of them,

the main goal is to generate profits and ensure long-term sustainability, whereas for philanthropic grant providers profit generation is not relevant. While they acknowledge the importance of positive social and environmental outcomes, these considerations often take a secondary role. For financial institutions, money builds the foundation of their business, therefore financial returns are necessary for them to conduct future business. However, the amount and timeframe for financial returns varies depending on the type of investor funder involved. The interviewees showed that foundations or funds are willing to lower their expectations of financial return whereas for private equity, there must be a strong profitable business model. However, they only invest in matured and scaled businesses. Financial institutions have limited knowledge over social and environmental impact and are therefore relatively easily satisfied with small changes. A lack of emphasis on differentiating terminology concerning impact measurement results in a failure to distinguish between outputs, outcomes, and impact indicators. This increases the institutional complexity and leads to different expectations of the investment. In general, impact measurement is a necessity in most investment decisions, however the role it plays differs per funder and investor. For philanthropic grant providers, impact measurement plays usually a minor role compared to capital providers requesting financial returns where frameworks are individually tailored to the social entrepreneur. The most standardized framework demand public funders. Despite all these differences in characteristics and drivers of the institutional logic between social entrepreneurs and financial institutions, similarities are seen in the use of certain vocabulary. Terms such as trust, emotions, communication, collaboration as well as supporting and engaging are observed from both parties. While Table 2 provides a practical overview to inform about the different institutional logics at play, it is a simplified summary of the research findings that creates limitations that must be considered when interpreting the data.

Table 2

Overview of institutional logic of social entrepreneurs and financial institutions

Characteristic	Social entrepreneur logic	Financial institution logic
Source of identity	Mission-driven	Financial viability
Basis of mission	Positive social and environmental changes	Positive outcome focused
Basis of strategy	Money as vehicle for change, want to address the mindset level	Money as vehicle for business, content with small changes
Motivation	Impact measurement based on incentives	Impact measurement as a necessity
Basis of norms	Persistent, high expectations on themselves	Impatient, financial return depends on type of investor/funder
Frameworks	Balanced scorecard, carbon credits assessment, four levels of income, audit approach, CAP funding framework, baseline studies	Direct giving, outcome harvesting, scorecards, discussions, SDG, tailored approaches
Logic investment	Time to act is now, no time for administrative obstacles	Diverse among financial institutions, impact measurement first, emotions second
Excerpts from vocabulary repertoire indicative of institutional logic	"Storytelling", "support", "collaborative", "high level of trust", "quality data", "helping people", "transform", "emotions", "communities", "change the mindset"	"Stable financially", "common language", "engage with them", "trust", "relation", "assumptions", "transparent", "passionate people", "risk", "outcome", "communication"

Note: Adapted from Durand and Szostak, 2010

4.2 Strengthen social capital

While the focus of this research is to determine how impact measurement can help social entrepreneurs to obtain financial capital, the interviewees highlighted the element of social capital as a precondition of their investment decision. This can be seen as a meta-solution to address institutional complexity and facilitate an easier access to financial investment. The importance of establishing social capital runs as a common thread through all interviews. Even though the level

of its influence varies between the cases, as some social entrepreneurs are less dependent on external financing than others, it can be seen as an essential "door-opener" to discuss potential investment opportunities.

4.2.1 Importance of interpersonal connections

Establishing personal connections between social entrepreneurs and financial institutions is at the core of every interview; almost all financial investment decisions were made based on this precondition. For social entrepreneurs that provide a service and therefore generate their own income streams, this element was less important. However, for receiving external funding, these personal connections are essential and can take place on several dimensions. Often these connections consist of several intermediaries. A social entrepreneur themselves or somebody from the team knows someone from a financial institution. By starting the conversation off on this personal level, it reduces the barrier of accessing finance drastically. In these situation, it all comes down to conveying a compelling and inspiring story that catches the interest of the capital provider. This is especially relevant for philanthropic grant providers and when impact measurement is insignificant. In these cases, impact measurement was not applicable at all or only concentrated on basic output indicators. When that person is then motivated and enthusiastic about the NbS, the social entrepreneur can receive, rather easily, financial capital. A social entrepreneur stressed the importance of interpersonal connections, when they received donations from a public fund:

"*It's always about people knowing people. So when I started [company name] within a few years, I met somebody who is very plugged into that world. […] So we had a conversation. And we talked about [company name]. He came on board as a partner. […] He knew the people in the [public fund]. So he knew the woman. So he took our story and she said I'm liking the sound of that. And together her team helped us hone our story into a format that they could fund." [A4]*

Interesting enough, the interviewee highlighted that this was the only time that the company received a donation from this fund, because afterwards their contact person left the company. This demonstrates not only the relevance of social entrepreneurs knowing people from the financial institution, but also the necessity of knowing the right people at those institutions. While the institutional logic on an organizational level has a company logic that can be more or less

influenced by an impact logic, it comes down to the personal identity of the person who is in charge of the investment decision. This emphasizes the need of strengthening social capital on a direct personal level in order to gain access to financial capital.

Another dimension of interpersonal connections can be found when social entrepreneurs and financial institutions are part of the same ecosystem. The interviewees are all member of the BWL which facilitates an easier networking process between social entrepreneurs and potential financial providers. This points out the possibility to be introduced to each other through a shared connection, that can lead to a door opener for financial capital. In this situation, the investment decision is based on sharing the same values as the intermediary, and therefore without hesitation projecting these values on the social entrepreneur. The final decision is made after engaging in personal meetings with each other to get to know each other and the business model of the social entrepreneur. Also, in this case, impact measurement plays a minor role, the deciding factor is that the investor believes what they see and trust that it is a good investment. One interviewee invested in a company, because they are both members of the BWL portfolio, and he trusts their selection process and therefore he believes in the social entrepreneurs' capabilities to succeed. Being part of the same ecosystem was the door opener for the social entrepreneur to meet a potential investor and the underpinning motive for the investor to invest in the innovation. The BWL ecosystem represents the cohesive force that brings social entrepreneurs and financial providers together. He stated:

"I met the founder. I use the stamp of Ashoka [BWL collaborator] who made the selection and he said he was a good guy. I believe that. I did some workshops with him. I really liked his vision and I think I just gave the money and it's not giving. It was a loan. […] My role can be flexible, just believing his story. And as long as he is doing well, I'm happy and he's happy so."[B3]

Lastly, there is also the dimension of social capital between financial institutions themselves. It is common practice, that investors recommend to each other possible investment opportunities. They have close relationships with each other and know the individual requirements for an investment. Based on this business partnership, it is possible for social entrepreneurs to be passed through the next investor. Often these investors are not working in competition, instead they prioritize different investments based on the development stage of the NbS. Some investors are

interested in early-stage businesses, which are associated with higher risks while the next investor only invests when the social entrepreneur passed this stage and has a more developed innovation that involves lower investment risks. This way financial institutions are 'priming the pipeline for other organizations" [B6]. Interviewees emphasized, that they collaborate with other investors who either invest in the same social entrepreneur before them or to whom they refer social entrepreneurs for potential future investments afterwards. This is an ecosystem within financial institutions and because they share personal relationships and trust each other, other investors might be more inclined to invest in a social entrepreneur then without this connection. The next investor is familiar with the work of the previous investor resulting in a risk adverse investment. Being referred from one investor to the other provides the social entrepreneur with certain credibility that facilitates easier access to financial capital.

"[Foundation name] be considered as the following fund or we would be priming the pump and priming the pipeline for the other organization as after our support because we know for sure if an organization is going through the three years of our support, they will have an established framework to measure their impact. […] [Other investors] are feeding our pipeline as well." [B6]

4.2.2 Emotional connection

In addition to building interpersonal connections, it is equally important that social entrepreneurs and financial providers connect on an emotional level. All interviews shared insights that trust and belief in a social entrepreneur and their business are contributing factors to the investment decision. To build trust between the two actors, it is necessary to meet each other in person and have face-to-face conversations about the business. The investors are very eager to meet the social entrepreneurs and experience their passions for their innovation in person. In the early stages of their journey, social entrepreneurs place significant importance on trust. Often impact measurement played then a minor role in these cases and was exceeded by positive emotions. Unlike established entities with an extensive track record, they rely on the "power of people" and their ability to inspire trust. When social entrepreneurs obtained internal financing such as public funding, this emotional connection is absent. In addition to the importance of trust, investors point out that they base their decision to a certain extent on their intuition. Nevertheless, this does not imply that impact measurement is no longer important for investment decisions,

instead, it necessitates both a balance between factual evidence and emotion consideration. When it comes to philanthropic grants, impact measurement is less relevant, and the focus lies on the emotional connection that develops between the investor and social entrepreneur. This behavior was also observed when talking to foundations that expect a financial return of 2 or 3%. Two of the interviewees who provide philanthropic grants mentioned that they do not consider any impact measurement in their decision, while others who expect a financial return stated, to look at the impact measurement but it does not have a strong influence on the final investment decision. This sentiment was emphasized by an interviewee who works at a fund.

"How can, I be sure? I feel myself warm. I feel myself inspired or not, and that's a very, very early stage when I can say, hey, that's for me, give it a name, intuition […]. I like to know the people I like to know the idea. […] So these are the human way of measurement, does it feel good and when it feels good for sure then also the numbers will be good and when the numbers are not yet good […] they need that we trust." [B5]

From the social entrepreneur perspective, the relevance of emotional connections compared to impact measurement was contradicting. Some interviewees do not believe in impact measurement and are not focused on factual evidence. For them, it is more important to address the emotional level of investors or funders. They believe that addressing the mindset level of others has a much larger impact than looking at some output indicators that do not mean anything to anyone. This was said from a social entrepreneur that only received philanthropic grants.

"What I want is to see if we can trigger an emotion in a decision maker. That actually is much braver than following the data, because it says I can hear what you're saying. […] She [grant provider] wanted to believe in the stories of the people that were pitching to her […] she thought, right, OK, I get that. I like that. I'm gonna back that." [A4]

On the contrary, other social entrepreneurs stress the cruciality of impact measurement. It is interesting to mention, that these two only received financial capital from the European Union and otherwise create their own income streams by being paid for their services. Additionally, it is important to highlight that the same social entrepreneurs are currently also not measuring their

impact, because they do not depend on external funding and therefore it is not necessary for them to carry out impact measurement. At the same time both believe that impact measurement is important for receiving external capital. They believe that financial investors are interested in quantifiable measurements and that this is more important than just telling a good story. This was also confirmed by another social entrepreneur who argued that the storytelling approach of communicating impact measurements is very vague and unreliable. It is possible to tell a good story without actually creating any impact and even if the story contributes to positive change that does not necessarily lead to obtaining financial capital.

To sum up, the emotional connection was very strongly experienced from financial investors. On the contrary, social entrepreneurs strive for creating a change within the emotional capacity but believe that measuring impact based on factual evidence is more important than telling a good story.

"But there's a push from funders to indeed kind of quantify, and even for kind of monetizing a return on investment, social return, on investment type of approaches. Which is even more complex, but it depends also very much on the sectors." [A2]

Lastly, both actors underscored the importance of networking and communication. Four interviewees highlight that communication can hold even greater significance than impact measurement itself. While impact measurement remains important, the manner in which impact is communicated holds substantial value. It is not merely about the act of measuring impact, but also about effectively conveying the achieved outcomes and showcasing the value created. They want to build a connection between financial institutions and social entrepreneurs to get to know each other, therefore open communication is essential. Especially in the absence of impact measurement, philanthropic grant providers highlight the importance of regularly scheduled meetings to exchange information on the progress of the innovation.

"But for me, transparency, openness, just communication is much more important than strict frameworks." [B3]

4.3 Fostering a collaborative mindset

Impact measurement has the ability to be utilized for promoting a collaborative mindset between social entrepreneurs and financial institutions. Every interview provided interesting insights that systematic change can only be realized through collective action. This includes to revise the main indicators of impact measurement, providing a realistic and fair financial environment for social entrepreneurs and ultimately creating impact measurement frameworks in collaboration.

4.3.1 Enhance collaboration

Working together and increasing collaboration is a shared insight from all interviewees. It is understood that collaboration can lead to a larger positive outcome than when a single actor acts on the own. Collaboration can take place on different dimensions. Measuring impact in conjunction with financial institutions was a shared insight through most of the interviews. There are nuances to what extent this is being done in practice depending on the type and requirements of the financial provider. Nevertheless, the collaborative measurement does not apply to European funding since it follows a standardized process mandated by the European Union. The collaborative approach is beneficial for both parties. First, financial institutions are aware of the challenges to measure impact and they do not want to create an extra burden for the social entrepreneur. Their main concern is that the most important key performance indicators (KPIs) are taken into account. Furthermore, social entrepreneurs know best which variables they can measure and are therefore not forced to report on indicators that are not applicable or even impossible for them to measure. While collaboration in establishing KPIs can be advantageous for the relationship, it can also potentially hamper the aspirations of the social entrepreneur. This occurs because the agreed-upon KPIs are often derived from the least challenging objectives that are mostly defined by financial institutions. Due to the lack of clarity and understanding of the innovation and the associated potential social and environmental impact, financial institutions do not have high requirements for certain indicators. As a result, the potential for setting more ambitious goals for social entrepreneurs is compromised.

"We created them together. Yeah, like they had some ideas. We also had some ideas, depending on the nature of the project […] Like we needed some like KPIs and measurements. So

we decided on those together. It was a mutual effort. […] I want to say they're not very demanding, basically they're happy when we reach their KPI's […] that's enough impact for them, but it's not enough impact for us like we always want to do more than that. I mean they are looking from a more of a like corporate standpoint. They have the KPI's that they think is enough for now at least for one year project and as long as we meet them, it's good enough." [A1]

When agreeing on certain KPIs for impact measurement, social entrepreneurs as well as financial providers emphasized that applied measurement metrics should be realistic and fair for the social entrepreneur to measure. Both parties acknowledge the intricacy of measuring impact and the considerable resources it demands. Consequently, instead of imposing additional burden on social entrepreneurs, the focus should be on developing impact measurement frameworks that are simple and uncomplicated to implement. Moreover, interviewees emphasized the importance of social entrepreneurs recognizing significant indicators themselves, as this not only provides legitimacy and credibility but also demonstrates their understanding of their own business and showcases their entrepreneurial and strategic thinking abilities.

"So you basically have to figure out, something that's simple. I mean it should not have too many KPIs. So, easy to measure and in line with what the company the founders find important themselves. So I certainly don't think that it means that, say you're big impact fund and you go to a company and say well this is the way we measure impact and we want you to confirm to this. I don't think that's the way it should be. It should be a discussion. OK, what works, what is feasible? What is not too expensive? What does not take too much time, What is important to you?" [AB1]

Furthermore, seven of the interviewees emphasized the considerable significance of inter-actor collaboration to achieve systematic impact. Systematic change requires a multitude of stakeholders and organization working together to create meaningful and lasting impact. The complexity of interconnected systems and the multitude of variables involved make it challenging to isolate and attribute impact to a single actor in the system. As an additional factor, the importance of changing mindsets was established by several social entrepreneurs. They realized that changing mindsets could have a larger effect than correct impact measurement. The

interviewees recognized that collective action, collaboration and coordinated initiatives are key to driving systematic change and addressing complex societal challenges effectively.

"And I believe that we, along with others, if we build enough alliances and partnerships, can have an impact on that system that we will never be able to say how much it was […] trying to work on the mindset level as much as possible. Believing that. While we might make mistakes on the policies and on the metrics, et cetera, as long as we have changed mindsets, things are going to go in a good direction." [A6]

Lastly, collaboration was also recognized between different financial institutions. They are also aware of the fact that when they are working together and pull their resources together they have bigger chances of creating an impact. This was demonstrated when several financial institutions discussed a scenario where they collectively applied for public funding from the European Union for the BWL consortium to increase the chances of receiving funding. They do not see each other as competitors, instead, they collaborate and share a common effort to acquire resources for positive change. Interviewees highlight to harness the influence of multiple financial institutions to increase the power and credibility of the BWL ecosystem.

"So it's all about relationship and collaboration and together with [company name] and with [company name] the three of us did call for EU subsidy for the bioregional weaving labs. And with that, we show that when we want to commit some money, so they get from Brussels, they will get hopefully a 60% of the of the amount they ask for." [B5]

4.3.2 Revising indicators

Impact measurement can take place in a variety of ways. The cases suggest the following three categories for developing impact indicators: social, environmental, and financial. The intensity and depth how these indicators are measured depends on the type of NbS and financial institution. In practice it is often seen that either social or environmental indicators are prioritized. Most NbS innovation tackle environmental challenges, thus, most social entrepreneurs focus on measuring the environmental impact. The current practices and technologies also allow for measuring environmental impact more concretely and in tangible numbers. Inaugurating monetary

values for environmental and social impact becomes especially more important. Currently, the carbon market is the best-established system for providing a monetized value for a ton of carbon. The next step will be to create a similar system for biodiversity; however, it is more complicated to define measurable units to identify positive changes towards biodiversity. This is an interesting discussion for social entrepreneurs to follow. Additionally, measuring social impact is more complex and challenging to measure. It is a shared understanding among social entrepreneurs and financial institutions that financial indicators play an important role in impact measurement. Even though social entrepreneurs are primarily driven by profit generation, they understood that financial indicators are key for investors and that they can only be successful when their venture becomes financially sustainable on the long-term. Nevertheless, the alignment between the expectations of financial providers regarding financial returns and the consideration of social and environmental impact are not always adequately balanced. These expectations vary significantly depending on the type of investor or funder.

"They are all important. I think as long as our system still, whether we like it or not, functions a lot on finance and economy, we definitely need to be able to show those the value creation element also in economic terms and I think in the field of biodiversity, it's crucial […] I guess the prerequisite will always be there some financial return where there is high or low for financial investors. So it depends who you talk to […] but I guess to broaden the lens of them to see also the other benefits and that also in the end has a impact on sustainability. Financial return is really important I think." [A2]

While the presence of financial indicators is indisputable, interviewees with social entrepreneurs and financial institutions additionally stress the manifestation of social and environmental indicators. They perceive nature and society as existing in symbiosis, because one cannot thrive without the other. Social and environmental activities are inherently interlinked with each other. A community performs best in a healthy and sustainable environment which then can lead to income generation resulting in lower financial risks. Consequently, only when social and environmental factors function sustainably in conjunction can long-term financial returns be ensured. By adapting this perspective into impact measurement, financial institution must value and incorporating all three categories into their investment decision. However, while social

entrepreneurs underscore this interdependence, it does not necessarily translate into consistent action in impact measurement practices. In practice, social entrepreneurs often focus only on one or the other; instead, interviewees recommend reporting on both indicators simultaneously. This viewpoint was affirmed from at least three social entrepreneurs and two financial providers:

"If the social metrics aren't positive, the environmental metrics are not going to last very long. […] So you have many cases where people are getting more sophisticated about capturing environmental data if they're not capturing good social data, it's going to be a very high risk. ***There is no scenario in which nature is thriving while people are suffering.*** *That doesn't happen. Nature will then also suffer eventually, right then. So many nature based projects eventually fail if people aren't thriving as well." [A5]*

4.3.3 Inclusive financial system

Lastly, it is essential to create a system where impact measurement can be utilized to value all operational activities carried out by social entrepreneurs. The current system is not incentivizing nor compensating valued-added practices resulting in low impact measurement performance. Evidence from several interviewees demonstrates the effectiveness of significant incentive management for social entrepreneurs. Through the implementation of financial incentives, farmers feel appreciated and valued for the social and environmental impact they provide. Cases from different social entrepreneurs show that farmers feel encouraged when they are incentivized for their ecosystem services. It creates a fair system where the payment depends on their performance. Currently, the best-established market involves payments for carbon credits; it allows farmer to receive financial contributions for their environmental services that sequester or store carbon emissions. Similar efforts are being made to inaugurate payments where farmers get paid for their contributions to improve biodiversity. These different cases show that incentivizing ecosystem services does not only increase environmental impacts, but also fosters intention for social entrepreneurs to report on their activities to obtain additional payments.

"We need to make sure that that we report on this. We need to build a society in which we pay for these positive outcomes, not just through the food, but also through different systems such as subsidy system, but again also beyond that. […] Carbon credits make sense because they allow

us to develop an agreed upon system for paying for positive externalities. […] The carbon market is by far the best model we have." [A6]

Despite the shared understanding that impact measurement is important for receiving external funding, in practice not all social entrepreneurs are measuring their impact. This primarily applies to those who are not reliant on external funding, as they lack the incentive to measure their impact. This is in line with the previous argument that the current system fails to provide financial support for the positive externalities generated by NbS, thereby diminishing the social entrepreneurs' motivation to measure their social and environmental impact. It was established that impact measurement only becomes relevant when they have a reason to do so. Due to the necessary resources that are required in terms of skills, time and money, impact measurement is often not a priority for social entrepreneurs. Therefore, an inclusive financial system that provides incentives and appreciation for social entrepreneurs can contribute to enhanced collaboration that motivates all actors to document and report on their positive changes to the system.

"We're trying to do is to find ways to incentivize clients to act so that we can really measure because in the end that's what we're interested, right? […] But we're not being asked to measure. I mean to report on our impact that systems level or so by our stakeholders and therefore it is also just not doable and not a priority." [A2]

An inclusive system also means that social entrepreneurs of all types of NbS innovations have a chance of receiving financial capital. NbS projects are intrinsically long-term innovations that require time to demonstrate their contribution in terms of social and environmental impact. This has a direct impact on the financial performance of NbS. Therefore, it is crucial, especially in the early stages of the project, that financial institutions lower their expectations on financial returns on the investment. They must develop a comprehensive understanding about the time-consuming progress it takes to see results of NbS and consequently change their behavior. Only when financial institutions become more patient and are willing to accept higher risks and lower returns at the beginning of a project do social entrepreneurs have a chance of surviving and getting a chance to address the grand challenges of our time. Once they invested in NbS innovations, the

social entrepreneur is able to build a sustainable business that can comply with the demands and requirements of traditional investors.

"Investors must accept lower returns and higher risks in order to create enough projects where traditional finance can step in." [B3]

4.4 Addressing institutional barriers

The last aggregate dimension is characterized by three institutional barriers which limit the potential of impact measurement. Although all interviewees acknowledge impact measurement as important and relevant for obtaining financial capital, in practice social entrepreneurs face a range of challenges that hinder its current effectiveness or even impede the implementation of impact measurement.

4.4.1 Limitations of impact measurement

A primary constraint for measuring impact identified by all interviewees is the lack of resources. Measuring impact is very complex and takes a lot of resources for social entrepreneurs. Social entrepreneurs who are determined to produce high quality data and report on outcomes instead of output indicators require more resources. It begins with developing a certain level of knowledge and expertise to learn about how to measure impact and report on it. Many entrepreneurs have no time and capacity to spend on acquiring this kind of understanding. Social entrepreneurs usually work in a rather small team, where no employee has available capacity to take on additional tasks, especially not such complicated ones as impact measurement. Another resource constraint includes not having the financial means to produce good quality data. Depending on the level of impact measurement, the timeframe and scope, it can be very expensive to conduct comprehensive impact measurement. Additionally, measuring impact of NbS is a time-intensive process; it can take several years to provide rich quality data on outcome indicators.

"We've always wanted to do a social impact measurement, but we never had time […] but I'm thinking if we actually have some time and funds to allocate for this, [company name] has definitely more impact than we know." [A1]

Furthermore, different financial institutions request different types of impact measurement reporting which creates another challenge for social entrepreneurs. Within the limited time available to conduct impact measurement, social entrepreneurs are also asked to provide the information tailored to the individual financial provider. There are many different frameworks, which is overwhelming for social entrepreneurs. It is complicated to navigate through the different measurement techniques and methodologies while also taking the international, national, and regional level into account. Therefore, social entrepreneurs require an alignment from funders and investors that reduces the complexity of impact measurement. In this regard, the 4-Return on Investment model (Commonland, 2020) is considered as an acceptable and plausible impact measurement framework from both parties – social entrepreneurs as well as financial institutions. Despite recognizing the suitability and benefits of this model, none of the interviewed organizations are applying this framework in practice. They know that it exists, filled it out after joining the BWL and then never updated or utilized it again. Financial institutions are less aware of the 4-R model; however they would also accept it as a possible framework.

"Yeah, there's need for alignment, ideally from the different types of funders as well, because that's another burden. It's always different formats in different ways of reporting impact, but." [A2]

4.4.2 Measurement uncertainty

Another obstacle of impact measurement is the presence of uncertainty and its associated challenges in data quality and effectiveness. All the interviewees unanimously agree that impact measurement is an intricate process, and it is challenging to generate accurate measurements within the analyzed limitations. Experts in impact measurement acknowledge that attempting to measure systematic impact is both unfeasible and unnecessary for social entrepreneurs. The nature of systematic change is too dynamic and complex to be captured by a single actor. Both social entrepreneurs and financial institutions emphasize that no impact measurement framework capture the holistic impact of a NbS. Nevertheless, impact measurement remains a vital element in investment decision-making, even though it often only includes output data. However, uncertainty remains within the sector regarding the level of accuracy and strength of evidence required for financial institutions. This inherent degree of uncertainty is considered when interpreting impact

measurement frameworks. Furthermore, experts reveal that the effort required to conduct impact measurement for social entrepreneurs is ultimately deemed not worth the effort. As mentioned within the limitations, comprehensive impact measurement requires a substantial amount of resources, that social entrepreneurs often do not possess. Despite the allocation of resources towards impact measurement, experts point out that the obtained results often suffer from low quality due to complex circumstances of impact measurement. This results in low resource-efficiency and a limited willingness to allocate resources towards comprehensive impact measurement.

*"**All models are wrong, some are useful**. […] I don't like impact measurement and if you do impact measurement you have to reduce it down to something that's meaningless, right?" [A6]*

4.4.3 Disconnection between theory and practice

The final barrier underscores the evident gap between theory and practice in impact measurement. The struggle begins with the abundancy of impact measurement interpretation. The interviews highlighted that the terminology of impact value chain is highly ambiguous. At present, social entrepreneurs are primarily able to measure output and sometimes outcome indicators, with little progress in capturing true impact data. Social entrepreneurs have higher expectations of their own work and they want that their produced outcomes are being valued. However, financial institutions often do not distinguish between outputs, outcomes or impact data resulting in low expectations and inconsistencies in measuring data. They are often content with output information and do not encourage additional measurements. This may be attributed to the lack of knowledge regarding the nuanced differences in definitions or simply low expectations in terms of impact measurement, resulting in a focus on outputs or outcomes instead. The 4-Return on investment model was identified as a comprehensive framework from both parties; however this framework also only reflects output metrics.

"It isn't a big issue to define the two and make the proper separation between the two definitions. And while it's actually impact what is actually outcome because it's more impact focused. […] we're kind of in that sweet spot where it's impact driven funding where we are working with the organization. [B6]

Furthermore, a disconnect between social entrepreneurs and policymakers becomes apparent. Several social entrepreneurs highlighted a substantial gap between the expectations of policymakers and what is feasible for them to measure in practice. This gap is marked by a significant level of unawareness, as various silos within academia, scientists and practitioners remain confined to their respective areas of expertise. Consequently, individuals managing available funding lack clarity on priorities and struggle to determine the most effective utilization. Interviewees advocate for greater cooperation and partnership in the development of policies to ensure their practical effectiveness and relevance of impact measurement. This aligns with the argument that the European Union imposes unrealistic requirements for impact measurement. The requested indicators are often irrelevant and meaningless in practice. Social entrepreneurs assert that these requirements can either be excessively challenging or poorly defined, ultimately failing to have the intended effect at the national level. Furthermore, the individual interpretation of European indicators by Member States leads to insignificant and low-quality impact measurement.

"Academics who produced the theory and policymakers and practitioners who realize the actions do not talk to each other, do not speak the same language, are not on the same page" [A4]

5 Discussion

The outcome of this research provides insights into the relevance of impact measurement for social entrepreneurs to improve access to financial capital. Nevertheless, the results should be interpreted with caution due to the limitations of the current research. The limitations and potential consequences of the design are discussed, as well as the implications for the interpretation of the results. Lastly, recommendations for future research and practical implications for the BWL are suggested.

5.1 Discussion of key findings

The results indicate that impact measurement plays a dynamic and intricate role in the process of receiving financial capital. The study demonstrates three distinct pathways through which social entrepreneurs can obtain financial access. With each pathway, impact measurement plays a different role and holds varying relevance in influencing the investment decision of capital providers. This directly effects the practice of impact measurement as well as the institutional complexity associated with each pathway.

5.1.1 Pathway 1: Low institutional complexity

The findings of this research confirm previous literature results that social capital plays a crucial role for social entrepreneurs in obtaining financial capital (Baron Tang, 2009; Gedajlovic et al., 2013; Luc & Lan, 2020). In this pathway, financial institutions provide philanthropic grants without expecting reporting on impact measurement. It can be argued that in such cases, the influence of *social capital* becomes even more significant as a compensatory factor for the absence of impact measurement reporting. Instead of relying on impact reports, the financial providers prefer to have face-to-face meetings with social entrepreneurs and personally witness the NbS innovation themselves. This is in line with previous research from Baron and Markman (2000) which highlights the effectiveness of face-to-face interactions for investment decisions. Additional research emphasized that face-to-face interactions can create trust between people who do not know each other (Luc & Lan, 2020).

The importance of extensive social networks and referrals as part of *social capital* for the success of the social venture is supported by existing research (Baron & Tang, 2009). The study demonstrates that *interpersonal connections* positively influence *emotional connections*. This

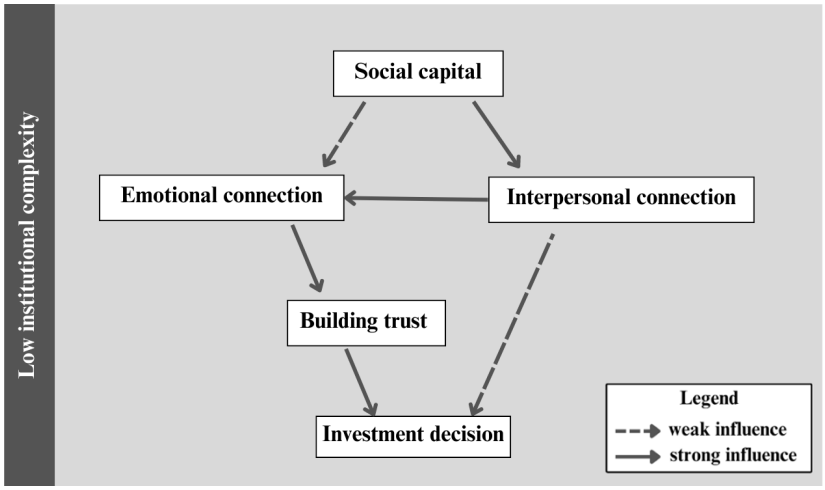
phenomenon is also recognized in the literature where the social environment creates opportunities for social entrepreneurs, especially in terms of social relationships (Gedajlovic et al., 2013). Based on Coleman's so-called bonding perspective, social capital is a collective good that functions as an intermediary to enable financing ventures which can lead to a better performance (Gedajlovic et al., 2013). Social capital can be considered as a resource that provides financial support, information, and trust (Barong & Tang, 2009; Lan & Luc, 2020). Nahapiet and Ghoshal (1998) propose a multidimensional view of social capital that is based on structural dimension (e.g. network ties), cognitive dimension (e.g. shared codes and language) and relational dimension (e.g. trust and norms). They argue that the three dimensions create new intellectual capital.

Social entrepreneurs with large social networks are associated with high social skills which ultimately leads to more successful social ventures (Baron & Tang, 2009). Once social entrepreneurs establish personal contact with financial providers, their social skills play a significant role in addressing the emotional capacity of the funder. Through strong social skills, social entrepreneurs can interact in face-to-face situations that create high levels of trust and empathy (Baron & Tang, 2009). It is beyond the scope of this study to identify the exact social skills that are necessary to gain the trust of capital providers. By eliciting positive emotions, social entrepreneurs can create a sense of trust and comfort that, in turn, encourages investors to rely on their intuition and invest in the social entrepreneur. Trust is needed when social entrepreneurs are confronted with an unfamiliar environment that is complex and risky. The investment decision-making process in this pathway primarily hinges on shared values and beliefs, such as trust and inspiration, resulting in low institutional complexity. These findings build on existing evidence from Siisiäinen (2000) who states that trust is based on shared values that exist between social relations who do not know each other. Both social entrepreneurs and financial institutions are mission driven and align their focus on an impact logic, thereby reducing institutional complexity by disregarding the element of financial returns. The research findings support the notion put forth by Lall and Park (2020) that philanthropists operate on a strong value-based logic, leading to a significant overlap in institutional logics between them and social entrepreneurs. Both parties strive to create social and environmental impact, while recognizing the crucial role of financial capital in achieving these goals especially in the early stages of the social venture. Financial providers are motivated to alleviate the burden on social entrepreneurs and find fulfillment in their ability to contribute to addressing grand challenges.

While previous research argues that grant-providers require strong evidence of impact measurement (Lall & Park, 2020; Maas & Liket, 2011; Phillips & Jung, 2016), these findings demonstrate that investment decisions are made on conversations and storytelling without factual evidence of impact of NbS. This is contradicting to existing research that emphasized "it is important to measure efficiency and profitability to verify entrepreneurship as a basic component of assessing overall effectiveness" (Bagnoli & Megali, 2009).

Figure 7

Pathway 1: Low institutional complexity



5.1.2 Pathway 2: Moderate institutional complexity

Similar to pathway 1, do the findings of pathway 2 contribute to existing literature and confirm the high importance of *social capital* for securing financial capital. This is in line with research from Baron and Markman (2003) that argues that social entrepreneurs with high social capital are more likely to secure funding. In addition to social capital, impact measurement is equally important for the investment decision. The *interpersonal connection* can either take place between financial institutions or because individuals and capital providers are part of the same ecosystem. In literature, referrals are part of social capital and are seen as influencing opportunities that foster reputational endorsement for social entrepreneurs (Nahapiet & Ghosal, 1998). While *interpersonal connections* are equally important as in the first pathway, the relationship between the *emotional connection* and investment decision is initially rather tenuous and become more relevant during the 'second chain reaction' as highlighted in Figure 8.

The involved actors see impact measurement as a necessity and the impact it has in their decision-making varies from financial institution. For instance, impact investors that focus on impact-first investments demand stringent impact measurement practices (Thompson, 2022). Their intention is to utilize their financial capabilities for the purpose of doing good, as long as it also yields financial returns for the company. The extent of this return varies when talking to different types of investors. For example, impact investors, belonging to the finance-first spectrum, prioritize financial returns compared to impact-first investors who are less concerned about financial risks (Thompson, 2022). On the contrary, social entrepreneurs are intrinsically motivated by creating a positive impact with financial returns being viewed as necessary for sustainability rather than a means to generate substantial profits.

However, compared to the last pathway that views impact measurement as a strict and rigid instrument, it is acknowledged in this context as a flexible tool that should be collaboratively developed by both the social entrepreneur and investor. It is understood that the process of impact measurement is challenging and time intensive. Therefore, the aim is to create simple and realistic frameworks that work for both sides. The findings show that this can include to revise measurement indicators accordingly to the NbS and create an inclusive financial system that values the social and environmental activities of social entrepreneurs. The collaborative aspect of impact measurement is also recognized by Lall (2019). The findings highlight a significant understanding of the burden of impact measurement of investors; the collaborative manner emphasizes the establishment of legitimacy between investors and social entrepreneurs. Through this *collaborative mindset*, *institutional barriers* can be successfully addressed. By creating impact measurement frameworks in collaboration, the financial institution becomes actively aware of the *limitations* and *uncertainties of impact measurement*. These findings build on previous research that concluded collaboration leads to better impact measurement practices (Phillips & Jung, 2016).

Furthermore, both actors are characterized by a hybridity of two logics, with opposite strong poles, that creates an overlap as well as a divergence between the two logics. While the enhanced collaboration offers more flexibility and independence for social entrepreneurs, it also increases institutional complexity of this relationship. Both actors share a common goal of addressing grand challenges and recognizing the potential of NbS to enhance the environmental and social well-being. However, there is a fundamental difference in their underlying motivations. While social entrepreneurs prioritize impact, financial institutions are primarily driven by a profit

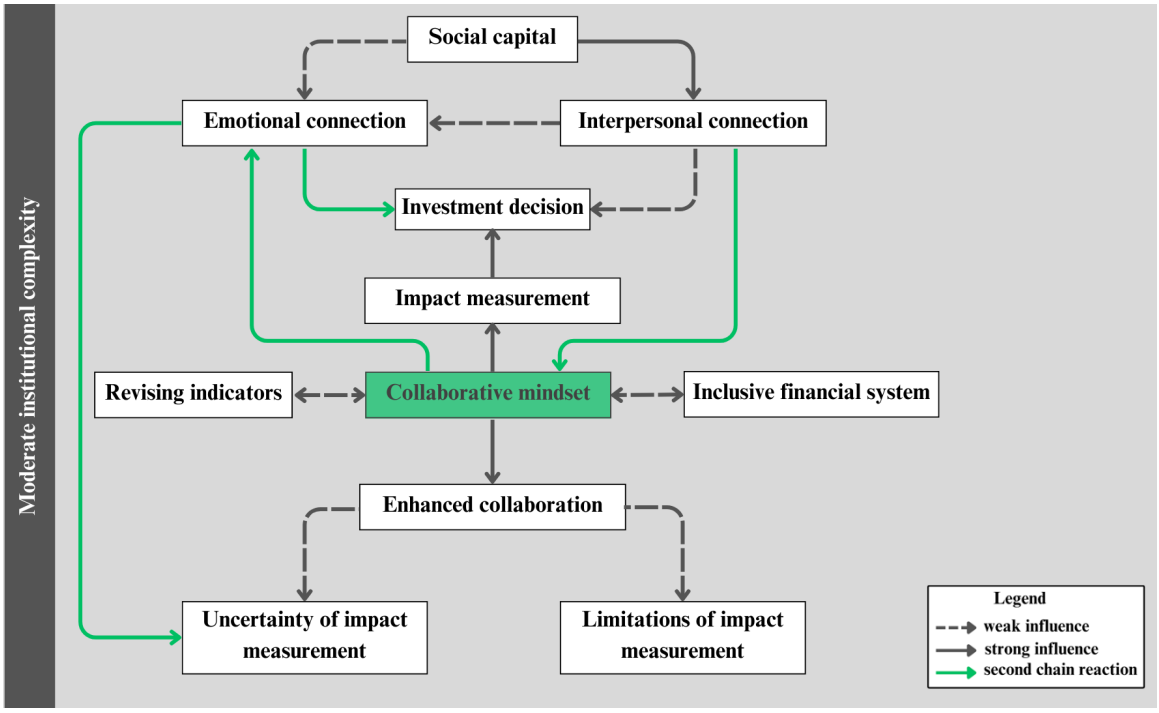
logic, although accompanied by an impact logic. This alignment between profit and impact orientation in financial institutions is acknowledged in the literature, which highlights the influence of investors' rules and beliefs on impact measurement (Maas & Liket, 2011).

The findings provide with the 'second chain reaction' new insights into the relationship process between social entrepreneurs and financial institutions. The 'second chain reactions' are triggered through a high level of *collaboration* that eventually increases the *emotional connection* between social entrepreneurs and financial institutions. While this is a rather poor link at the beginning of the relationship, constant and continuous collaboration builds trust and personal relations. The collaborative aspect is also confirmed in several previous studies. According to Bourdieu (1986) "interaction, thus, is a precondition for the development and maintenance of dense social capital" (Nahapiet & Ghoshal, 2020, p. 258) and Luc and Lan (2020) argue that collaboration leads to better business performance. A strong *emotional connection* can act as a compensating element for *limitations and uncertainty of impact measurements*. In this context, financial investors make investment decisions not solely based on reporting but also consider the *emotional connection* they have with the social entrepreneur. This finding is consistent with the literature and emphasizes the significance of creating positive first impressions and persuasive communication as being important social skills (Zhano & Lounsbury, 2016).

To conclude, the findings shows that this pathway is the most successful for social entrepreneurs and financial institutions. The presence of *social capital* serves as a precondition for *enhanced collaboration* that leads to improved impact measurement practices. These aspects combined together with *emotional connection* create a solid foundation for making investment decisions that align with the goals of both parties involved.

Figure 8

Pathway 2: Moderate institutional complexity



5.1.3 Pathway 3: High institutional complexity

The last pathway is characterized by various institutional barriers that influence the investment decision. When social entrepreneurs apply for European funding, they are required to meet certain impact measurement criteria mandated by the European Union. As the funding originates from the European Union and is available through application, the involvement of *social capital* is excluded. Investment decisions in this context are solely based on the provided written evidence of impact, limiting the opportunities for social entrepreneurs to establish *interpersonal and emotional connections* with public funders. Consequently, *collaboration* between social entrepreneurs and public funders is essentially nonexistent, preventing the development of impact measurement frameworks in conjunction with NbS. By eliminating *social capital and collaboration*, the gap of information asymmetry between policymakers and social entrepreneurs widens (Gilmore et al., 2013).

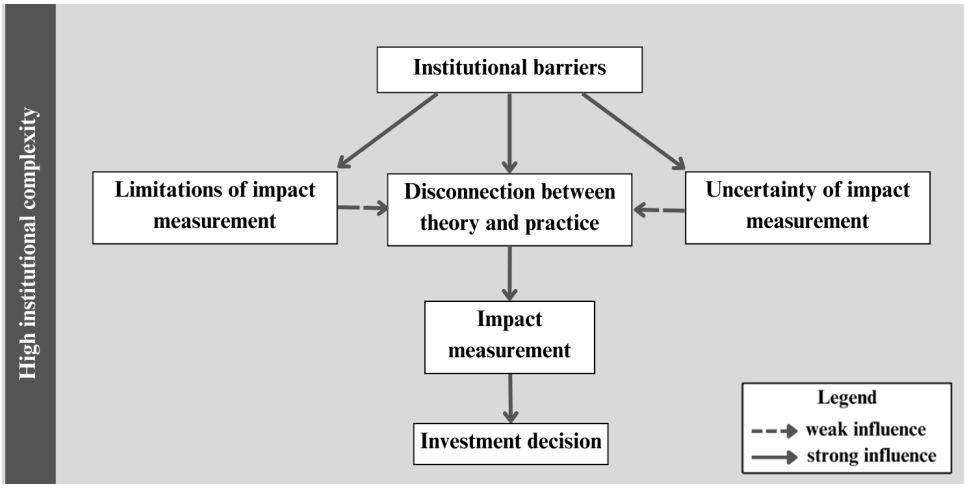
The European Union's demand for specific impact reporting, which can be unrealistic and irrelevant for social entrepreneurs, contributes to an overall increase in *institutional barriers* including institutional processes, bureaucracy, and regulations (Mikołajczak, 2021). Brinkerhoff and Brinkerhoff (2004) emphasized that reducing bureaucracy and eliminating redundant

regulations are important elements that foster the sustainable development of social entrepreneurs. Additional barriers exist within identifying impact measurement metrics and developing policy instruments that implement risks and returns of NbS for public players (Toxopeus & Polzin, 2021). Previous research points out the importance of small and medium enterprises for the European development, emphasizing the need for easier funding mechanisms (Gilmore et al., 2013). The findings of this study build on the evidence from Gilmore and colleagues (2013). They identified key obstacles for social entrepreneurs including administrative barriers, such as time intensive and complex processes, insufficient access of finance and internal challenges related to required competencies for securing public funding.

In this pathway, the level of institutional complexity is the highest. While both social entrepreneurs and public funders share the mission of supporting NbS to tackle grand challenges, social entrepreneurs are intrinsically driven by their social missions as they genuinely believe in their cause. On the other hand, public funders have a broader perspective and view funding as an instrument to achieve policy objectives (Faivre et al., 2017). The European Union suggests measurement indicators that may not be relevant to NbS implemented by social entrepreneurs, highlighting the disconnection between theory and practice. Additionally, these indicators often focus solely on outputs and fail to include comprehensive impact metrics. This finding aligns with research by Galtung (2019), which reveals that only 8% of the analyzed indictors report on impact metrics.

Figure 9

Pathway 3: High institutional complexity



5.1.4 Summary of three pathways

The three distinct pathways identified in this study are developed into a comprehensive conceptual model that elucidates catalysts and obstacles that social entrepreneurs encounter when seeking financial capital (Figure 10). The model highlights two primary resource "buckets" that serve as the starting point for social entrepreneurs to secure an investment. The BWL ecosystem is presented as the guiding star that can influence the level of institutional complexity and assist social entrepreneurs in navigating the obstacles and boosting the catalysts.

The first resource bucket is social capital, which emerged as a crucial factor for all interview partners. Social entrepreneurs can access social capital through different channels within shared ecosystems like the BWL. The highest institutional complexity occurs when social entrepreneurs lack pre-established social capital, resulting in institutional barriers and a significant disconnect in the investment decision-making process.

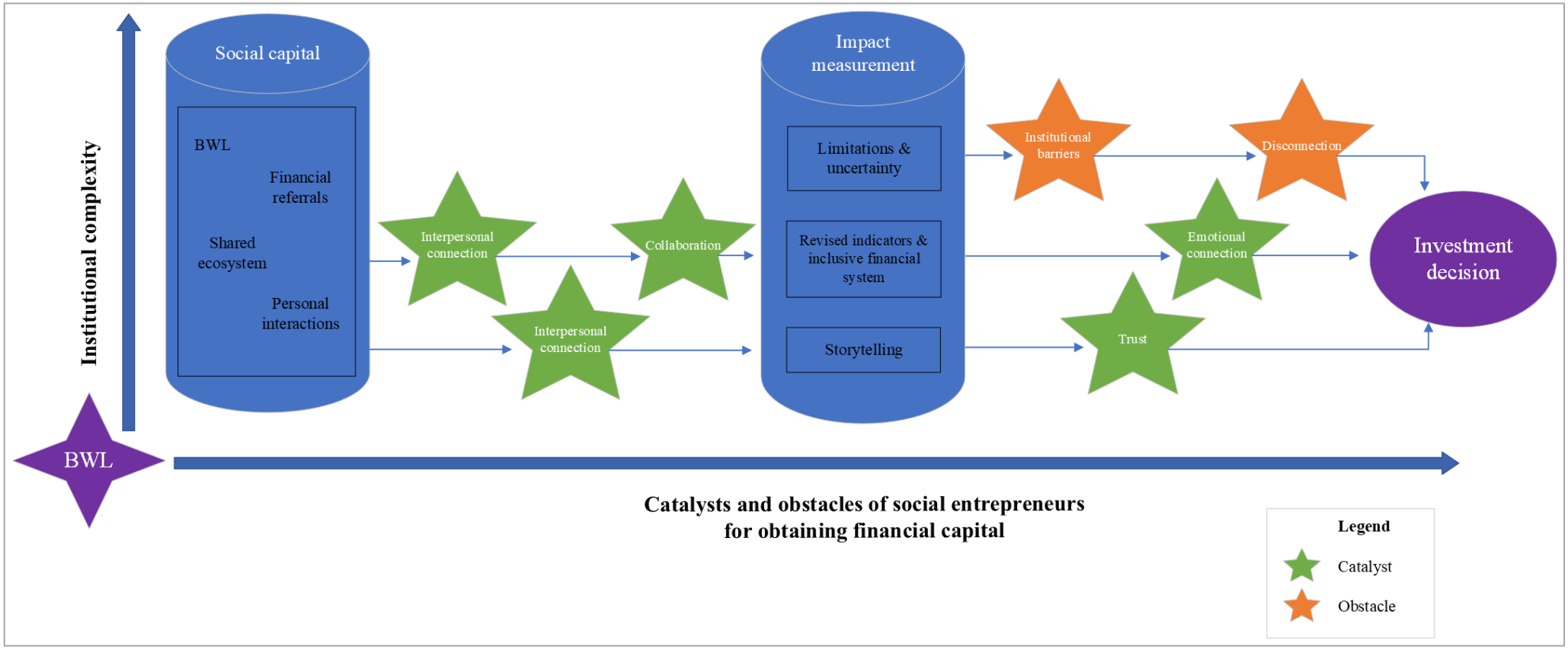
The second resource bucket is impact measurement, which serves as the main source for obtaining financial capital; however, it is subject to various limitations and uncertainties. Institutional complexity is minimized when impact measurement primarily relies on storytelling rather than demanding tangible evidence of the impact of NbS. Trust in the capabilities of social entrepreneurs and initial contacts established through interpersonal connections shape the investment decision tremendously.

A moderate level of institutional complexity is observed when social capital and impact measurement play equally important roles for the investment decision. Collaboration between social entrepreneurs and financial institutions leads to the co-creation of impact measurement indicators, resulting in revised indicators and reduced institutional barriers. The collaborative mindset fosters emotional connections that can compensate for potential measurement limitations or uncertainties.

It is important to acknowledge that this model naturally consists of limitations and does not capture all variables influencing the investment decisions. However, it provides a visual representation of the relationships between social capital and impact measurement, along with the varying levels of institutional complexity associated with them.

Figure 10

Conceptual model of research findings



5.2 Contributions

5.2.1 Theoretical contribution

One of the biggest challenges for social entrepreneurs is receiving financial capital (Bloom & Dees, 2008; Gonzalez & Dentchev, 2020; Roundy, 2017) which is further compounded by the uncertainties of impact measurement. The conceptual model elucidates different pathways for social entrepreneurs to gain access to financial capital where impact measurement plays a diverse role in each pathway. Based on this model the study introduces important theoretical contributions. Firstly, the study extends the research on literature of social entrepreneurship and institutional complexity for receiving financial capital (Thompson, 2022) by exploring the institutional logics of social entrepreneurs and financial institutions. The results indicate that institutional logics differ for each type of financial institution and thus, directly influence how impact should be measured from social entrepreneurs. The findings in this research highlight that philanthropic grant providers do not demand any impact measurements are contradictive to previous research which indicates that these funders expect more rigorous and less flexible measurement mechanisms (Benjamin, 2010; Ebrahim, 2016; Lall, 2019).

Secondly, the research contributes to the entrepreneurship theory and social network theory by emphasizing the necessity of interpersonal connection as a precondition for financial capital (Gedajlovic et al., 2013; Hazenberg et al., 2016; Lan & Luc, 2020; Nahapiet & Ghosal, 1998). This topic is still unresearched but contributes to the findings from Baron and Markman (2003) who identified that social skills influence the financial success of social ventures. The study builds on previous research regarding the relationship between social entrepreneurship and social capital and identified social interaction and trust as key concepts (Lan & Luc, 2020; Nahapiet & Ghosal, 1998) These findings simultaneously contribute to ecosystem literature that facilitate an understanding that social entrepreneurs can only thrive with collaboration (Lall, 2019) and in embedded ecosystems that provide resources and knowledge to scale their social impact (Gonzalez & Dentchev, 2020). Finally, this research takes a novel approach by investigating impact measurement and financing mechanisms through an institutional theory lens of diverse financial institutions and multiple social entrepreneurs.

5.2.2 Practical contribution

This study introduces a new model that explains three distinct pathways for social entrepreneurs to gain access to financial capital. Based on the proposed catalysts and obstacles, social entrepreneurs can recognize their individual advantages when collaborating with investors or funders on impact measurement. Additionally, the model also helps them to understand that when impact measurement is executed without collaboration it involves several limitations and uncertainties that result in a disconnection between theory and practice. Social capital can be a natural catalyst for social entrepreneurs; therefore, this study should inspire social entrepreneurs to be part of an entrepreneurial ecosystem that provides support and knowledge and especially access to financial capital. The obvious gap between social entrepreneurs and policymakers should alert and notify politicians to improve the current processes and standards of impact measurement. The findings of this study suggest collaborating with ecosystems such as the BWL can help to identify a common language that does not hinder social entrepreneurs to apply for European funding and instead encourages and motivates them to conduct impact measurements. Financial institutions should engage in regular interactions with social entrepreneurs and enhance collaboration on impact measurement in order to create mutual benefits for both parties. This is further underscored when emphasizing personal interactions to strengthen and produce trust that ultimately can lead to higher business performances. It enables researchers to understand the complex process for social entrepreneurs to conduct impact measurement with the aim of securing financial capital. Practitioners can realize the importance of ecosystems such as the BWL, that can build the overarching element for social entrepreneurs to strengthen social capital, enhance collaboration and reduce institutional barriers of impact measurement. These ecosystems should gain more attention to be further expanded and empowered to help and support social entrepreneurs in achieving their mission to tackle grand challenges.

5.3 Limitations

The conducted research is subject to several limitations. First, due to the subjective nature of qualitative research, the researcher has a strong influence on data collection and data analysis. In this study, data was primarily collected through semi-structured interviews which have the potential to be subconsciously influenced by the researchers' own knowledge and experience. Morse and Mitcham (2002) introduced the concept of the 'pink elephant' which refers to the

tendency of researchers to anticipate and expect certain data during the analysis – potentially biasing the findings.

In order to mitigate researcher biases, multiple data sources can be used to triangulate and verify the findings (Thurmond, 2001). However, in this study, the availability of archival data was limited, making the triangulation process more challenging. The researcher attempted to use impact measurement reports to verify the data. However, it was discovered during the interviews that most social entrepreneurs were not actively measuring their impact due to institutional barriers. This lack of available archival data hindered the capability to triangulate the interview findings with additional sources, reducing the robustness of the data.

Additionally, only during the interviews it became evident that the 4-return on investment framework was not used in the daily operations of social entrepreneurs. Although this framework was initially used for entering the BWL, the current relevance and accuracy are questionable. Despite this limitation, the main findings of the study still hold validity in answering the research question as the study's focus on highlighting the importance of intangible aspects of the investment decision.

Another way to reduce researcher biases and provide credibility to the findings is by applying investigator triangulation (Thurmond, 2001). The data collection was supported by five other students, who asked the same questions to their interviewees. Afterwards the interview transcripts were shared among the students. The group of students collaborated throughout the entire research process which decreased biases in gathering data and increased the validity.

Moreover, the generalizability of the data is limited due to the theoretical sampling approach. The theoretical sampling approach involves purposefully selecting participants based on their relevance to the research topic and the emerging themes or concepts identified during the data collection and analysis process. Potential interview partners including social entrepreneurs and financial institutions were selected from the BWL ecosystem based on their applicability to exploring the research topic. By selecting information-rich cases, the aim was to gain a deep understanding of the concepts of interest within the BWL ecosystem. However, this sampling method introduces inherent biases in qualitative research (Morse, 2015). The deliberate selection of participants based on their relevance to the research topic means that the findings may not be representative of the broader population or context. The small sample size limits the

generalizability of the findings to other social entrepreneurs or financial institutions outside of the BWL ecosystem.

Moreover, the fact that the sample of financial institutions is diverse, including foundations, private philanthropists, impact investors and funds, further impacts the reliability and validity of the findings. The heterogeneity among financial institutions means that there is an even smaller sample size for each specific type of financial institution. The reduced sample size per type of financial institution makes it challenging to draw robust conclusions or generalize findings specifically for each category. Consequently, it was beyond the scope of this study to identify the individual logics per type of financial institution.

Furthermore, the sample of the financial institutions is part of the same ecosystem and social entrepreneurs and financial institutions partly know each other. This familiarity and existing relationship among the sample participants may influence the data collected during the interviews.

5.4 Recommendations

The recommendations are categorized into two parts: practical implementation and future studies. Practical implementation suggestions are tailored to each pathway individually and directly addressed to the BWL. These recommendations aim to provide actionable steps for the BWL to implement. Secondly, suggestions for future research studies are included to guide further investigations in this field.

5.4.1 Practical implementation

The fist pathway enables social entrepreneurs to obtain financial capital without impact measurement practices. While this helps them in acquiring financial resources in a short timeframe and circumventing administration obstacles, it also raises concerns regarding the efficiency of these investments when there is no reporting on the impact and contribution of the investment. Based on the findings of this study, which show that collaborative impact measurement practices help social entrepreneurs to overcome institutional barriers and increase the access to financial capital, the BWL is advised to encourage both parties to conduct impact measurement. This provides valuable insights and allows for better understanding of the effectiveness of the NbS intervention and ultimately improves the performance and impact. The 4-return on investment model offers a simple and accessible framework that can help social entrepreneurs to start reporting

on output indicators. The BWL can assume the role of the *educator*, offering support to social entrepreneurs in implementing impact measurement frameworks through workshops, coaching sessions and share best practices from other social entrepreneurs. Additionally, they can educate financial institutions, particularly foundations and philanthropic grant providers, about the benefits and importance of impact measurement. In entrepreneurial ecosystems, intermediaries play a crucial role in exchanging and producing knowledge (Brown & Mason, 2017). Gaining access to knowledge is also important for entrepreneurs because their knowledge is limited to the subjective notion and based on prior experience. Economics describe this phenomenon as the "knowledge problem" that is especially relevant for early-stage entrepreneurs (Sullivan & Ford, 2013) because there "will always be information unknown to the agent that is relevant to their decision" (Yates, 2000, p. 60). By providing education and trainings, the BWL can empower social entrepreneurs and provide guidance with the relevant impact measurement tools and knowledge to navigate the complexities. In prior research, intermediaries assume the role of "important informal disseminators of knowledge" (Goswami et al., 2018; Howells, 2006, p. 716) and transfer knowledge "across people, organizations and industries" (Hargadon & Sutton, 1997, p. 716). This fosters continuous improvement and encourages collaboration and knowledge sharing among members of the BWL resulting in a supportive ecosystem environment (Alvedalen & Boschma, 2017). The findings identify the challenges and complexities associated with reporting on impact measurement. Most financial institutions are primarily interested in output indicators and do not distinguish between outcomes and impact. This observation should reduce the entrance barrier for social entrepreneurs to begin reporting on impact measurement. For the BWL, it is crucial that all social entrepreneurs perform impact measurement in order to effectively monitor and evaluate the progress on achieving the mission of regenerating one-million-hectare land by 2030.

The second pathway for receiving financial capital is based on strong social capital and a collaborative mindset for developing impact measurement frameworks. It is recommended to the BWL to embrace the moderate level of complexity to provide a new perspective of innovation and creativity. The BWL can be identified as the overarching element that creates an ecosystem around social entrepreneurs and additional players that fosters innovative and pioneering solutions for tackling grand challenges. 'Innovation intermediaries' or 'innovative brokers' (Klerkx & Leeuwis, 2009) such as the BWL provide valuable resource channels which are essential for social entrepreneurs to achieve systematic impact (Bloom & Dees, 2008). In prior research,

intermediaries are referred to as *connector* that "connects individuals or organizations within a specific context through knowledge and information" (Goswami et al., 2018). The BWL bridges the gap between social entrepreneurs and financial institutions by overcoming information asymmetry. By building relationships and trust between both actors, the BWL generates a mutual understanding that increases the success of a collaboration. They create connectedness within the system and hold the network together by enhancing trust and resolving conflict resulting in a catalyst for innovation (Klerkx & Leeuwis, 2009). This also includes matchmaking activities (Klerkx & Leeuwis, 2009) regarding finding suitable investors or funders that match the needs of social entrepreneurs in terms of impact objectives, financial requirements, and stage of social venture. As this research shows that social capital facilitates access to financial capital, it is recommended that the BWL pursues the role of the *connector* to bring social entrepreneurs and capital providers closer together. Additionally, the BWL should promote a collaborative mindset to reduce institutional barriers and enhance collaboration within the ecosystem.

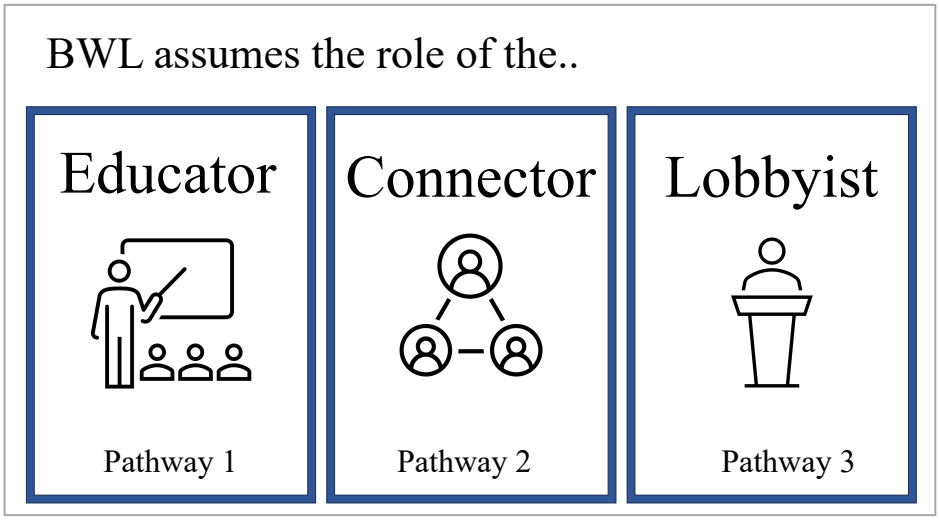
The last pathway highlights the discrepancies between social entrepreneurs and public funders in terms of impact measurement. In this situation, the BWL can take on a *lobbying* function to advocate for more realistic and fair impact measurement frameworks. As one of the challenges for social entrepreneurs is to meet the requirements of impact measurement, the BWL is advised to reduce the knowledge gap between academics and practitioners and encourage further collaboration. They act as a bridge between policymakers, industry experts, and social entrepreneurs, translating academic knowledge into practical and actionable guidance. This is also supported in existing literature that argues that policymakers' limited understanding of entrepreneurship poses a significant obstacle to effective support. Additionally, it emphasizes the need for a different state-entrepreneur relationship, where the state assumes a facilitative role to encourage entrepreneurship (Spigel & Harrison, 2017). Globally organizations are increasingly adopting the concept of ecosystems as a valuable policy-making tool in entrepreneurship. Previous research has shown that these tools can have a powerful impact on influencing policies (Brown & Mason, 2017). At the same time, the BWL can raise awareness of the importance of impact measurement and lead the discussion to reduce measurement limitations and uncertainties for social entrepreneurs. The participation of the impact consortium can provide expert knowledge on the new developments of impact measurement and enables the BWL to share learnings with the social entrepreneurs of the BWL. They can actively implement the knowledge for the 4-return on

investment framework to further improve the impact measurement. Joining this consortium also provides the members of the BWL with additional knowledge that can be incorporated when educating social entrepreneurs on impact measurement practices.

To sum up, the BWL is advised to assume three roles according to each pathway as seen in Figure 11. First, the BWL takes on the role of the *educator* to educate social entrepreneurs and financial institutions about the importance of impact measurement. Secondly, is it recommended that the BWL functions as a *connector* to increase the finance opportunities for social entrepreneurs. Lastly, the BWL expands the role of the *lobbyist* to reduce the knowledge gap between policymakers, academics, and practitioners.

Figure 11

Three roles as recommendation for the BWL



5.4.2 Future research

The findings and limitations of this research present attractive opportunities for future research. First, the diverse range of financial institutions examined in this study yielded varied outcomes regarding the role of impact measurement in obtaining financial capital. Future research should concentrate on a more homogeneous population that focuses on a specific type of financial institution. In recent years, impact investing and its potential to drive social and environmental change received a growing interest in literature (Brandstetter & Lehner, 2015; Castellas et al., 2018; Islam, 2021; Thompson, 2022; Viviani & Maurel, 2019). However, limited studies

specifically explore philanthropic grant providers and their impact measurement demands (Lall, 2019; Maas & Liket, 2011; Roundy et al, 2017). Existing research in this area primarily focuses on assessing the performance of the foundations themselves rather than the impact measurement demands placed on social entrepreneurs' ventures (Ridzi, 2012; Williamson et al., 2017; Williamson & Kingston, 2021). Moreover, conflicting findings emerge regarding the impact requirements imposed by philanthropic grant providers. This study revealed minimal impact measurement requirements whereas others proposed more stringent demands (Lall, 2019). Therefore, it would be interesting to closely investigate the relationship between social entrepreneurs and foundations or private philanthropists in order to gain a more comprehensive understanding of the institutional logics that influence their impact measurement practices.

Secondly, the research findings highlighted the significance of social capital in the acquisition of financial capital by social entrepreneurs. Although the concept of social capital has gained more attention in entrepreneurship literature (Gedailovic et al., 2013), the understanding of its influence on different types of financial institutions remains incomplete. It would be valuable to explore diverse approaches that social entrepreneurs can employ to strengthen their social capital, particularly in their interactions with public funding bodies (Baron & Tang, 2009). This is particularly crucial as social capital was found to be non-existent, but necessary for improving impact measurement. Additionally, it is essential to examine the social skills that social entrepreneurs require to secure financial capital, as social capital theory often fails to identify the specific factors that contribute to the development of personal relationships (Baron & Tang, 2009; Gedailovic et al., 2013; Lan & Luc, 2020).

Furthermore, it is important to acknowledge that this study was conducted within a specific ecosystem in Europe. This limitation opens up intriguing avenues for future research.

One potential direction for future investigation is to explore whether similar catalysts and obstacles emerge in environments that lack a pre-existing ecosystem such as the BWL. Specifically, in relation to social capital and collaboration, it would be valuable to determine whether social entrepreneurs independently acquire social capital or if this phenomenon is primarily observed within established ecosystems. By comparing the experiences of social

entrepreneurs within and outside existing ecosystems, insights can be gained regarding the role of social capital formation in various environments.

Moreover, the present research focused on the role of impact measurement within the European context. This particular scope creates a chance for future research to explore the role of impact measurement in different regions outside of Europe. Existing literature emphasizes the significance of exploring cultural activities and their impact on entrepreneurship (Audretsch et al., 2017). Ecosystem theory acknowledges culture as a key element within an entrepreneurial ecosystem, making culture a relevant aspect for understanding geographic differences in entrepreneurial activity (Bischoff, 2019). Conducting such studies in diverse cultural contexts can shed light on the influence of cultural factors on the institutional logic of social entrepreneurs and capital providers. By expanding the geographic scope of the study (Acs et al., 2017) and including diverse cultural aspects, the research would contribute to a more comprehensive understanding of the dynamics of impact measurement and its relationship with institutional complexity.

The practical implementation roles recommended for the BWL offer valuable insights; however, the existing literature lacks a profound understanding of these roles. While entrepreneurship literature explores concepts such as entrepreneurial ecosystem (Gonzalez & Dentchev, 2021), knowledge ecosystems (Clarysse et al., 2014) and learning ecosystems, it fails to address the roles of intermediators or network facilitators. Acs and colleagues (2017) highlight the need for improved governance models within the entrepreneurial ecosystem. Therefore, future studies should examine the function of intermediator roles that empower and support social entrepreneur ecosystems. This research direction can provide meaningful findings to design governance systems that promote the overall performance and success of an entrepreneurial ecosystem.

6 Conclusion

This research investigated *how social entrepreneurs can utilize impact measurement to reduce institutional complexity for accessing financial capital.* While the existing literature provides an advanced understanding of impact measurement, as well as financing mechanisms for social entrepreneurs in isolation, this study focused on understanding the influence of institutional logics of social entrepreneurs and various types of capital providers on impact measurement. Although social network theory highlights the significance of social capital and interpersonal relations within entrepreneurial ecosystems, it fails to address their effects on impact measurement practices. By analyzing multiple cases from the BWL, this research aimed to bridge these gaps in the literature by interpreting patterns in impact measurement practices and understanding the diverse institutional logic of social entrepreneurs and financial institutions.

The study reveals diverse pathways pursued by social entrepreneurs in obtaining financial capital, where the significance of impact measurement varies across contexts. Institutional complexity can be reduced through collaborative efforts between social entrepreneurs and financial institutions in developing impact measurement practices. Establishing a high level of social capital becomes essential for building personal relationships and trust among the different actors. However, it is important to acknowledge that the study's methodology relied on a small and diverse sample, limiting the generalizability and validity of the findings. Nevertheless, the reliability of the findings is strengthened by the fact that other students within the same research group have observed similar phenomenon.

Finally, the BWL can leverage the influence of its position to reduce institutional complexity by strengthening social capital and facilitating collaboration between social entrepreneurs and financial institutions. This strategic approach aims to effectively utilize impact measurement as a resource to secure financial capital.

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Appendix

Appendix A: 4-Returns on investment framework

Figure 12

4-Return on Investment Framework

Note: Source Commonland, 2020

Appendix B: Overview of research group

Table 3

Overview of research group

Researcher	Research question	Summary
Johannes Graf zu Ortenburg	How can multi-stakeholder partnerships for landscape restoration leverage the business model elements of their projects to scale the environmental, social, and financial impacts?	The research is carried out by studying multiple cases of landscape restoration projects within the BWL collective. The aim is to investigate those elements in the underlying business models of landscape restoration projects that are conducive to scaling and how these can be leveraged to increase the impacts of the projects. Johannes Ortenburg's research aims to analyse which business model elements of multi-stakeholder landscape restoration projects are conducive to scaling and how these can be leveraged to increase the impacts of the projects. This will be investigated by conducting a multiple case study that allows to compare different business models of a a range of various projects across different landscapes and contexts. The aim is to conclude on crucial business model elements that are conducive to scaling environmental, social, and financial impacts, and specific processes and strategies that the social entrepreneurs in the BWL pursue to scale the impacts of their projects.
Seppe Maas	How can businesses restore the disrupted levels of comprehensibility and comprehensiveness in BM meta-models stemming from the growing importance of BM's impact on socio-ecological systems?	Shifting back from the financial profit-oriented paradigm in which we live to a sustainability-oriented society requires businesses to display how their business models (BMs) affect socio-ecological systems in formal conceptual business model (BM) frameworks or BM meta-models. This trend, however, has initiated the need to rethink how BM meta-models can display the BMs they aim to describe comprehensively and comprehensibly. This research developed a three-step framework that sets the scene for businesses to develop BM meta-models with a level of simplicity processable by our cognitive minds, while at the same time incorporating all relevant information. The framework relies on four processes that help businesses enhance comprehensiveness and comprehensibility, (1) determine your aim, (2) asses the meta-model's recipient, (3) use multiple BM meta-models, and (4) limit the content.
Thom Sabel	How can Dutch Social Enterprises manage their financing strategies through various stages of their lifecycle to enhance access to financial resources?	Thom Sabel's research is analysing how Dutch social enterprises working on landscape restoration, protection and regeneration manage their financing strategies through the various stages of their lifecycle, this includes both internal financing sources through business model design as well as external financing sources. The aim is to discover how their businessmodels and external financing are linked,

		to enhance SE's understanding of different types of social financing and increase their access to financial resources.
Rowdy Klein	How is Collective Social Entrepreneurship perceived to influence the scaling of NBS?	Rowdy Klein's research is investigating how Collective Social Entrepreneurship is perceived to influence the scaling of Nature-based enterprises. Collective social entrepreneurship is essentially concerned with shifting impact from the organization level to the systems level by leveraging the expertise and resources of multiple stakeholders, including end users. It can take many forms such as co-owned, community-based, involving a range of local actors, or networks of social entrepreneurs addressing a social cause. The research logic behind it suggests that purposefully pursuing collective forms enhances the achievement of organisational aims, improves access to resources and funding, strengthens legitimacy, builds identity capital and, provides a mechanism for knowledge exchange. Taking into account such a structure can result in greater impact by a social enterprise, yet conflicts with the traditional supply and demand logic. Within the NBS industry suppliers are scattered across individually while constrained by similar barriers.
Daniel Günther	How can institutional logics explain the lack of funding of and investment in nature-based solutions?	Daniel Gunther's research aims to compare the institutional logics of financial institutions and Nature-based Enterprises (NbE; enterprises which's core activities are NbS) in the NbS-sector to better understand the sector's investment gap. Institutional logics' basic premise is that individuals and organizations are embedded in one or multiple institutional logics which govern "both what is valued and how things are valued" and the subsequent behaviour. For example, how 'nature', 'social innovation' and 'systems change' is valued. Different institutional logics can interact with each other in multiple ways: they can co-exist, or rival or complement each other. Understanding institutional logics at play and how they relate to each other can help to deploy better-targeted strategies for effective collaboration among practitioners – be it Nature-based Enterprises, investors, or policy makers.

Appendix C: Interview manual – Social entrepreneur

Introduction
Welcoming interviewee, researcher introduces herself, topic and scope of interview is explained, permission for recording the interview is obtained, confidentiality of the interviewee is ensured

General Questions

1. Can you tell me about the relationship to the BWL?
    a. What is your role?
    b. What is the systematic change that you want to achieve?

2. I use the impact definition by Clark: "*The portion of the total outcome that happened as a result of the activity of the organization, above and beyond what would have happened anyway."* (Clark et al., 2004)
    a. How do you define impact? To what extent do you agree with this definition?
    b. How do the activities of your innovation generate impact?

3. What is your motivation for reporting impact?
    a. Why do you think is impact measurement important?

Specific Questions

1. What are the key impact indicators to measure impact you are using in your work?
    a. Regarding social, environmental, and financial
    b. Why and how did you choose these indicators?
    c. How do you collect and manage data among your stakeholders?
    d. Can you describe how this model measures impact instead of outputs or outcomes?

2. I saw that you reported on the 4-Return on investment model from the BWL?
    a. How do you use this framework in your work?
    b. How far do you believe do the indicators of the 4R capture systematic shifts and impacts as opposed to only single point metrics?
    c. How is this framework perceived by financial institutions?
    d. What indicators are in your opinion essential to report on for receiving financial capital?
    e. How important are financial returns compared to environmental or social returns?

3. What do believe are the biggest challenges for social entrepreneurs to measure their impact?

4. What are reasons for the investment gap in NbS?

Conclusion
Thanking the interviewee, clarify any remaining questions

Appendix D: Interview manual – Financial institution

Introduction
Welcoming interviewee, researcher introduces herself, topic and scope of interview is explained, permission for recording the interview is obtained, confidentiality of the interviewee is ensured

General Questions

1. Can you tell me about your relation to the BWL?
    a. What is your role?

2. How do you identify companies to invest in?
    a. What type of financing do you offer social entrepreneurs?
    b. What role does impact measurement play within your decision-making?

3. I use the impact definition by Clark: "*The portion of the total outcome that happened as a result of the activity of the organization, above and beyond what would have happened anyway."* (Clark et al., 2004)
    a. How do you define impact? To what extent do you agree with this definition?

Specific Questions

1. What type of data do you request from companies?
    a. What indicators are in your opinion essential to report on for receiving financial capital?
        i. How and why did you chose these?
    b. How important are financial returns compared to environmental or social returns and why?
    c. Would you accept a lower financial return if other returns (social, ecological and inspiration/changemaking) would have clear(er) impact metrics (minimal financial return for an impact investor is 5% but more likely 7%).

2. In your opinion to what extent can impact measurement influence the investment decision for a business?

3. What frameworks do you use for impact measurement?
    a. Why and how did you choose this one?
    b. Can you describe how this model measures impact instead of outputs or outcomes?
    c. Have you heard about the 4-return on investment model?
        i. How viable is the usage of this framework in the decision making for financial investments?

4. What do believe are the biggest challenges to measure impact?

5. What are reasons for the investment gap in NbS?

Conclusion
Thanking the interviewee, clarify any remaining questions

Appendix E: Additional quotes

Table 4

Additional quotes

2nd order theme	*Additional quote*
Aggregate dimension: Strengthen social capital	
Emotional connection	*"It's about people. And it's about people's capacity for self-belief or understanding for trust. So I'm really interested in behavior. And you can add up square miles and you can add up tons of soil and you can add up 1001 things. But if you want the world to change the impact you need is that more people engage and feel responsible for doing that." [A4]*
	"I believe people and I trust people and I know that sometimes it will be wrong and then it will go wrong. […] For me, it is more important that people have good intention and are open to learn. […] I'm more from the gut feeling and from out of the belly and just saying." [B3]
	"You have to you need do it a little bit also on on intuition, but if you really step in the impact measurement, what I want to achieve needs to be very clear because otherwise you get very blurred and lost and that's not my style. So I find it very important that the impact measurement is there and clear sequence of reporting." [B4]
	"I think [impact measurement is important], because people are more and more interested in numbers these days. They're not just happy with talk or you know, they wanna see numbers and measuring the impact is like it gives us something solid. I can tell them that I have reached this many people, I don't know, spent this much money, I have generated this much land. I think, it makes a difference. Like the more I realize that I can give more numbers, the more open people are to talk about funding. So yes, I hope I can prioritize it, let's say." [A1]
	"Of course it needs to be framed in kind of an impact goal, but I think we also should be open and honest and realistic about what are all individual contributions […] We try to be transparent about expectations, we have this conversation a lot, what do we expect et cetera." [B7]
	"Most of it is good story storytelling but people do like it. If you can tell them something concrete that like has actually moved the needle. You don't get funding by telling the impact that you've had. You get funding by being connected to the right people, having the right connections, telling the right story. Much more effective than actually showing that you have an impact, unfortunately. And I said if you also show that you have an impact, but it's not actually he defining element." [A6]
Aggregate dimension: Fostering a collaborative mindset	
Enhance collaboration	*"It's not a one-off exercise for sure because this change, at society level takes a lot of time. It takes a lot of actors. So I think this type of measurement involves kind of collaborations and collective approaches and collective measurements to be*

	relevant. I don't think any single organization can really claim to be achieving that impact" [A2]
	"But if you want the world to change the impact you need is that more people engage and feel responsible for doing that […] never lose sight of the fact that if you change the mindset of a society. In a positive way. The impact on those people will mean that their thought processes and their priorities and how they want to become engaged and how they want to spend their money will change. […] Things happen as a result of the mindsets of the individuals." [A4]
	"When we do an investment, we will agree with the founder or the manager of this company. Agree on social KPI that we say, OK, this is really what we want to go for and to make it not an extra layer on extra hurdle on reporting." [B3]
	"It is in the mind of the social entrepreneur, and that they create enough time to define what they want to measure and how to organize it. That the information comes more or less pretty fluently. I will get a little bit nervous if they have to do a lot of efforts to find the information then there is something not OK. […] You don't want to have reporting for the reporting, but you need it to know that they are on track and know what they're doing." [B4]
	"The Bio-Regional Weaving Labs applied for an EU call before and it was not successful. So we decided to go together for an EU call and create a more complete offering, a more 360 proposals on how to make landscapes investable, basically." [B8]
Revising indicators	*"I believe they are both [social, environmental, and financial indicators] very important because I mean, we live in this world and financial security is a big issue and just because we want to do something good and we are idealists, it doesn't mean that we can't make money like it doesn't mean that we just barely get by. […] we need to sustain a certain quality of life for ourselves […] I think money is the reality in this world and we need to make money […] if I can't sustain this company, then we won't be able to do any impact either." [A1]*
	"So it is very important, and we I think people need to kind of get out of their like profit framework set of minds like they need to balance it and I mean it's not about profit all the time. Or high profit, let's say." [B7]
	"Such entrepreneur is an entrepreneur that don't want to make profit but want to make some stable financially that make a lot of impact. And so for make more impact, he can resolve some of profits to another such entrepreneur, because our real social entrepreneurship doesn't make profit. And so with the profit, what do you give to someone else that can make other profit." [B8]
	"Environmental impact should always include the communities and the societies that live in this environment or influence the environment, because without their livelihoods, you cannot really make sustainable, lasting change" [B8]
	"It is the social order, financial order and fundamental for me is environment, a real environment where people take care for the earth, I'm sure they will take also

	care for each other and let no one behind is for me one of the important things there is." [B5]
	"For me the fundamental is all the environmental one because the others are derivative from that and the social and economic. […] Having a sustainable environmental outcome because I think that can support a community which can in turn derives a sustainable income from the interaction. […] this is how we should be measuring things, no matter who the customer is. We should be looking at the natural, but also the social and economic. We tend to do one or the other, but not altogether the three." [A3]
	"Of course, financial return is important, but it's not the only thing. We're trying to advocate towards financial institutions that without solid social structures, without a solid economic or natural structure and without enough inspiration in landscape, the financial return is not sustainable. So for example, having solid social structures and natural healthy ecosystem reduces a lot of the risks for creating financial return." [A2]
Inclusive financial system	*"We have two financial incentives, one the market food and the other the market for the other ecosystem services. […] We can pay you the more you do, the more we gonna pay you and farmers respect that because it's very fair […] So it's a good incentive for the farmers to manage the land and the way that we want." [A3]*
	"So biodiversity net gain, for instance in the UK, is a regulation that's starting in November whereby all new property developments or land developments must be able to show that they will uplift or improve biodiversity by at least 10%. […] The discussion around mandatory markets and voluntary markets as we've seen in CO2. […] There is an option to offset or to buy credits. But so that's kind of being set up in a more mandatory framework." [A2]
	"Because I really believe that getting to a society that pays farmers are positive externalities is important, and so there's a ton of values that farmers bring to society, and we don't pay them for it. […] Let's incentivize that." [A6]
	"Finances should be educated that if they want to have a evidence or and if that doesn't exist yet, they should just be a bit patient. So wait a few years and in the meantime, of course you can show what's what are the small steps that are taking place and what kind of small early results they have and communicate those very well. […] That's takes time. I think in that sense, sometimes financers also ask for something that's just not possible to give." [X1]
	"They [financial returns] are completely out of proportion. […] So the environmental and social impact should have equal weight […] What we need to understand is money is a tool that helps us to make life better. Theoretically it has become something we wish to accumulate. […] We are driven by society that just wants to make more money." [A4]
Aggregate dimensions: Addressing institutional barriers	

Limitations of impact measurement	*"But we're not being asked to measure I mean to report on our impact that systems level or so by our stakeholders and therefore it's also just not doable and not a priority." [A2]*
	"The logic in which we have to work all the time, like rather short-term logic than a long term one. […] But we discussed impact like this is something that we really can see in a longer time frame and then something that we're practicing to really stay on the issue." [B7]
Uncertainties of impact measurement	*"But in reality this is very hard to measure, so we say whatever something that we can measure and that that is relevant for people is carbon. So let's measure this. And then the next thing you know is this whole thing becomes called carbon farming. Because that's what people understood, because that's what you measure. And so then it come farming and then they look at carbon, you're like, no, no, no, it's it's it's about rebuilding ecosystems. They're like ohh no, but I understood that metric and that metric is relevant for me." [A6]*
	"Impact measurement of course, is used to show the benefits to provide evidence for the things that you are investing in. So I would say it's important to show this evidence, but then how hard this evidence should be and how much of evidence you need that really depends again on who you talk to." [A2]
	"It's it's a very complex and difficult subject, as you're finding out […] there's many actors, many different people inputting in different ways. And we were talking about the agricultural system. It's fast, it's huge. It's global, it's incredibly complex. So trying to tease out what our impact is over and above what others have contributors is next to impossible." [A3]
	"You can make assumptions, but you cannot really measure the contribution that you have actually made. And I think that's fine. It's not necessary that we actually know this, but you can measure quality setting. You can measure dynamics; you can measure some preconditions that might have helped achieve this. But of course, at all point, it will be a mixture of different social, technological, political factors that are beyond our control." [B7]
	"So I think that it's more like a feeling. I mean there's so many uncertainties because we like the impact, we like… but how much impact they're gonna make […] we don't do [measure] that because this is just the two of us. So we don't have the resources to do that." [AB1]
	"There's more and more money out there, but there's a lack of metrics for this money to be channeled to the right locations, projects, initiatives […] And then the challenges of navigating the complexity of all these biodiversity framework standards measurement techniques, methodologies that are developing at international level at national level, at regional level." [A2]

Disconnection between theory and practice	*"If you look at the common agricultural policy and you look at their impact indicators, they tend to be: the number of farms who are involved in agreement or schemes or the area of land. But they're meaningless indicators. They're completely and utterly meaningless as indicators. […]* When *you talk about impact indicators at CAP and Commission level. I think they're stupid. I think they are counterproductive. No, not always. The Member States can interpret them as they wish, but I think it does give Member States the option of having really poor impact measurement schemes." [A3]*
	"Push support the development of certain policies that are going to get us to system where we measure the outcomes, we value the outcomes, and we value farmers in their role as ecosystem stewards." [A6]
	"EU fundings […] I find the conditions like some of them unrealistic. Some of them just I don't necessarily like the the way they're thinking sometimes. I mean, it looks really good on paper, but in practice some of them are very challenging." [A1]