

Master Thesis

as part of the MSc Global Business & Sustainability

at Rotterdam School of Management, Erasmus University, Rotterdam, NL.

29 June, 2023

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Explaining the Absence of Large-Scale Investment in Nature-based Solutions Through Institutional Logics

Preface

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This master thesis has not been previously presented to another examination board and has not been published.

Acknowledgments

I want to thank the Bioregional Weaving Lab for the opportunity to write this research in cooperation with them and their support throughout the process.

I want to thank the research group, particularly Daan Peters, but also Johanna Gartner, Johannes Graf zu Ortenburg, Rowdy Klein, Seppe Maes, Thom Sabel for their valuable and much appreciated feedback.

I want to thank all interview participants for taking the time to talk to me, for being so nice to me, and for all the incredibly interesting conversation. Talking to you was my favourite part of this research. I want to specially thank Corien Botman, who, following our interview, connected me to so many people from her professional network, which I went on to interview.

I want to thank my supervisor Martin Fuchs, and my co-reader Corinna Frey-Heger. I am very thankful I had the opportunity to work with you, and much appreciated your availability throughout the process, your guidance, and valuable feedback.

I want to thank my friends at Erasmus University, my girlfriend, and my family simply for being there. In the words of Spider Robinson - *shared pain is half the pain, shared joy is double the joy.*

To all of you who helped and supported me, I wish you all the best.

Rotterdam School of Management, Erasmus University,

Rotterdam, 29 June 2023

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Abstract

Over the last years, nature-based solutions – solutions to societal challenges that are inspired and supported by nature – have gained much traction. However, at this point in time, funding of and investment in nature-based solutions is not sufficient to unlock their full potential. Whilst most researchers have focused on the technical aspects of this the lack of funding and investment, the underlying reasons remain underexplored. This research fills this gap by investigating the institutional logics of the parties involved, i.e., organizations that engage in nature-based solutions and public and private financial institutions, through a qualitative approach involving 20 semi-structured interviews and the use of grounded theory. I find that there are three, partially intersecting institutional logics in the field of nature-based solutions: the financial logic, the impact logic, and the ecologic logic. The ecologic logic, prevalent in organizations engaged in nature-based solutions, and the financial logic, prevalent in financial institutions, are mostly incompatible, which stifles funding and investment early on. Further, building on research by Besharov & Smith (2014), I propose a framework to analyse institutional logic multiplicity by incorporating different dimensions of institutional logics. Additionally, I propose a framework that explains how institutional logics shape the interaction between organizations, and, consequently, the success (or failure) of the interaction in achieving a shared objective. These findings contribute to the literature on the socio-cultural context of nature-based solutions, institutional complexity in organizations, and the role of institutional logics in interactions between organizations.

Keynotes: nature-based solutions, sustainable finance, institutional logics, institutional logic multiplicity, institutional complexity

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1. Introduction

Nature-based solutions – “solutions to societal challenges that are inspired and supported by nature” (Raymond et al., 2017, p. 15) – are universally acknowledged as viable strategies to avoid overstepping Earth's planetary bounds (Steffen et al., 2015), and “widely endorsed by international policy makers” (McQuaid et al., 2021, p. 1). In spite of this, there is a significant gap in both public and private funding and investment in nature-based solutions (Müller et al., 2022; Nesshöver et al., 2017; Seddon et al., 2020a). This research draws on the field of institutional logics (Thornton et al., 2012) to investigate and understand this lack of funding and investment in nature-based solutions.

The potential benefits of nature-based solutions are multifold: they combat both greenhouse gasses in the atmosphere and the degradation of biodiversity (e.g., Müller et al., 2022; Seddon et al., 2020a; Seddon et al., 2020b), and support a number of the United Nations’ (UN) Sustainable Development Goals (Gómez Martín et al., 2020; UN, 2015). However, the current lack in funding and investment is preventing us from reaping all the benefits nature-based solutions have to offer: the United Nations Environment Programme (UNEP) estimates the annually required investments in nature-based solutions at US\$384 billion by 2025, and US\$484 billion by 2030 (UNEP, 2022). In contrast, only US\$154 billion are currently being invested, with private investment accounting for merely 17% of the investments (UNEP, 2022). Researchers identified a variety of reasons to explain this gap in funding and investment: Müller et al. (2022) decry a general lack of “adequate infrastructure for large-scale investments” (p. 52), echoed by McQuaid et al. (2021) and Sarabi et al. (2019), and existing funding mechanisms are considered too complex (Kabisch et al., 2016). Further, Magomedova & Bastida-Vialcanet (2022) indicate that there is a “mismatch between the financial needs of [social entities] and the instruments offered by [financial institutions]” (p. 550) – a statement supported by Droste et al. (2017). Inadequate or complete lack of impact measurement was identified as another persisting barrier by multiple researchers (e.g., Agrawal & Hockerts, 2019b; Magomedova & Bastida-Vialcanet, 2022; Seddon et al., 2020a). Further, researchers found that the short-term orientation of many investors does not align with the innate long-term orientation of nature-based solutions (Gast et al., 2017; Lambooy & Levashova, 2011; McQuaid et al., 2021); generally, organizations that engage in nature-based solutions express “wariness of financial institutions” (McQuaid et al., 2021, p. 10).

This “wariness” of organizations that engage in nature-based solutions is brought up repeatedly by researchers on nature-based solutions (e.g. McQuaid et al., 2021; Sarabi et al., 2019), and is indicative of distinct institutional logics – the “different values, beliefs and rules that shape institutional action” (Castellas et al., 2018, p. 133), i.e. an organization’s structures and processes (Thornton et al., 2012). Consequently, institutional logics is a frequently employed theoretical lens used by researchers to explore and understand less tangible aspects of organizational behaviour beyond the observed (and more tangible) structures and processes.

Although the institutional logics of both public and private financial institutions have been researched extensively (e.g., Agrawal & Hockers, 2019b; Nicholls, 2010; Yan et al., 2021), the institutional logics of nature-based solutions have not been researched yet. Scholars have examined the institutional logics of socially and environmentally responsible organizations (e.g., Laasch, 2018; Olesson et al., 2023; Yan et al., 2021), however, research on nature-based solutions have so far focused on the “technical issue[s]” at the expense of the “economic, social, political, moral, and cultural dimensions of designing and implementing [nature-based solutions]” (Müller et al., 2022, p. 47). Further, and albeit staying vague in their claims, researchers mention the distinctiveness of organizations engaged in nature-based solutions to other types of socially and environmentally responsible organizations (e.g., McQuaid et al., 2021; Müller et al., 2022). Thus, the institutional logics in the context of nature-based solutions constitute special enough a case to investigate separately.

The notion of organizational institutional logic multiplicity, i.e., the existence of more than one institutional logic within an organization, is well established in the field of institutional logics (e.g. Besharov & Smith, 2014; Greenwood et al., 2011; Reay & Hinings, 2009). Multiple institutional logics within an organization can result in complementarity of or conflict between the institutional logics (Greenwood et al., 2011). Besharov & Smith (2014) established a much-used framework (e.g., Agrawal & Hockers, 2019b; Olesson et al., 2023) to explain intra-organizational conflict due to different institutional logics based on the institutional logics’ centrality to the company and their respective complementarity. However, this approach treats any institutional logic as one single entity, and does not consider the variety of elements that comprise any institutional logic (Thornton et al., 2012), such as the principal objective of the institutional logic, its processes and means, its ways to measure success, etc. Therefore, a more nuanced approach that goes beyond Besharov & Smith’s (2014) framework and integrates an institutional logic’s particularities along the lines of its elements is needed. Such a framework would not only allow to understand conflict and potential complementarities between

institutional logics much better, but also allow to deploy more targeted strategies to overcome conflict between institutional logics.

While understanding the institutional logics of different organizations that seek to engage with each other is an essential initial step in comprehending the factors contributing to the success or failure of such engagement, merely knowing the institutional logics of interacting organizations does not suffice to explain why they succeed or fail. Despite the strength of the institutional logics perspective to explain organizational behaviour, it – surprisingly – has barely been used to explain organizational behaviour in the context of interactions between organizations. Agrawal & Hockers (2019b) contrast impact investors’ and their investees’ institutional logics, respectively, Castellás et al. (2018) observe that originally socially and environmentally responsible organizations tend to gradually adopt their investors’ financial logic, and Moran & Ward-Christie (2022) describe how a lack of strategies to handle inter-organizational conflict leads to a breakdown in relationships between impact investors and their respective investees. However, none of them proposes a general, comprehensive framework on the role of institutional logics in the success or failure of organizations seeking to engage with each other. Such a framework would promote understanding under which conditions organizations with different institutional logics engage successfully and allow practitioners – be it organizations that engage in nature-based solutions, public and private financial institutions, or politicians – to come up with better strategies for effective collaboration (Lounsbury et al., 2021).

These research gaps inform this thesis’ research question:

How can institutional logics explain the lack of funding of and investment in nature-based solutions?

In summary, I identify and tackle three distinct research gaps. First, I aim to identify and conceptualise the institutional logics in the context of nature-based solutions. In doing so, I contribute to the literature on nature-based solutions, and particularly on their institutional context. Second, building upon research that suggests that most organizations are embedded in multiple institutional logics, I aim to examine the nuances of how these institutional logics relate to each other, thereby contributing to the field of institutional complexity in organizations. Finally, I aim to look at the role of institutional logics when organizations seek to engage with each other. In doing so, I contributing to the sparsely researched field of the role of institutional logics in interactions between organizations.

2. Literature Review

The following section reviews this research’s key concepts and theoretical background. Its aim is to prevent misconceptions and to enable a deeper understanding about the central themes of this research.

2.1 Putting nature-based solutions into context

As a global society, we are rapidly approaching our planetary boundaries (Steffen et al., 2015). Breaching them may result in a departure from the Holocene – the geological epoch that allowed the development of “contemporary human societies” (Steffen et al., 2015, p. 736) – leading to a hostile environment for human life, specifically, and life on earth, generally (Field et al., 2012). Two planetary boundaries – climate change (i.e. the concentration of GHG in the atmosphere) and biosphere integrity (i.e. biodiversity¹) – stand out because they are “deeply interwoven” (Seddon et al., 2020a, p. 1) and of “fundamental importance” to the integrity of our planet (Steffen et al., 2015, p. 736). The push on Earth’s planetary boundaries increases the likelihood, frequency, and intensity of extreme weather events with the potential to significantly harm and disrupt societies around the world (Field et al., 2012). The heatwaves throughout Europe, as well as the floods in Pakistan are just some examples of such extreme weather events that took place in 2022 (UN, 2022). Thus, it is not sufficient to address the causes (i.e. reducing the pressure put on Earth’s planetary boundaries); societies need to adapt to these novel conditions, too.

These challenges are interdependent and need to be addressed together to avoid “negative consequences and unintended feedbacks” (Seddon et al., 2020, p. 1). With the underlying idea being that humans are “fundamentally part of nature” (Müller et al., 2022, p. 40), nature-based solutions have been proposed as vehicles to “deliver both climate change mitigation and adaptation while also supporting other ecosystem services” (Seddon et al., 2020, p. 2). Due to the relative novelty of the concept (Sarabi et al., 2019), a number of different definitions of nature-based solutions exist (Eggermont et al., 2015). The following definition by the International Union for Conservation of Nature (IUCN) captures the essence of these different conceptualizations. The IUCN (2016) fines nature-based solutions as “actions to protect, sustainably manage and restore natural or modified ecosystems, which address societal

¹ Biodiversity is defined as the “ecologically appropriate levels of diversity needed to support healthy, well-functioning ecosystems that support local habitats and species” (Seddon et al., 2020b, p. 1524).

challenges (e.g. climate change, food and water security or natural disasters) effectively and adaptively, while simultaneously providing human well-being and biodiversity benefits” (p. xii).

Because of the broad scope of nature-based solutions, researchers (e.g., Cohen-Shacham et al., 2019; van Ham, 2014) have defined principles and guidelines for nature-based solutions to avoid the concept being “misappropriated, co-opted or corrupted” (Seddon et al., 2020b, p. 1519). These principles, in essence, state that

- 1) first, nature-based solutions must serve and enhance biosphere integrity while simultaneously – and in synergy – addressing other environmental, societal, or economic problems (Elkington, 1994).
- 2) Second, nature-based solutions not only take into consideration, but actively involve and engage with local communities.
- 3) Finally, nature-based solutions are no substitute for and shall not distract from the urgent need of decarbonizing the global economy (Cohen-Shacham et al., 2019; IUCN, 2020; Seddon et al., 2020b; van Ham, 2014).

These principles can be interpreted as a manifestation of a common institutional logic to organizations engaged in nature-based solutions. These principles are crucial; most criticism around nature-based solutions revolves around instances in which these principles were not upheld. Indeed, Kooijman et al. (2021) found that roughly 68% of the organizations that claim to deliver nature-based solutions do not qualify under the aforementioned principles. Müller et al. (2022) decry that the “inclusion of communities is often neglected by the big players on the carbon market” (p. 57), echoed by other researchers (e.g., Ramprasad et al., 2020; Scheidel & Work, 2018). Others criticise that nature-based solutions are misused by corporations for greenwashing purposes (e.g., Kooijman et al., 2021; Seddon et al., 2020b). They claim that nature-based solutions are used to distract from and delay the decarbonization of these corporations’ business models (e.g., Anderson et al., 2020; Seymour, 2020). Perhaps most troubling, poorly designed nature-based solutions run the risk of harming biosphere integrity (e.g., Heilmayr et al., 2020) by employing “too narrow a focus on a single environmental value” and “failing to adequately quantify ecological uncertainty” (Lindenmayer et al., 2011, p. 28).

When the principles are upheld, nature-based solutions, still, can differ across a number of domains. Different researchers, practitioners and policy makers emphasize different aspects of nature-based solutions – an indication that these organizations make sense of nature-based

solutions through the lenses of different institutional logics (Friedland & Alford, 1991). Eggermont et al. (2015) distinguish between nature-based solutions that need “no or minimal intervention in ecosystems”, and those that require “managing ecosystems in very intrusive way[s] or even creating new ecosystems” (p. 244). Krauze & Wagner (2019) differentiate between nature-based solutions that strive to preserve nature and are generally (but not exclusively) found outside of urban areas, and those that aim to enable nature and are generally (but, again, not exclusively) found inside of urban areas. Accordingly, and albeit nature-based solutions by definition “must contribute positively to biodiversity” (Kooijman et al., 2021, p. 2), some nature-based solutions are more anthropocentric, while others are more ecocentric vis-à-vis their primary purpose and beneficiary (Sarabi et al., 2019). Anthropocentric nature-based solutions emphasize how they can “decrease the vulnerability and enhance the resilience” of urban areas (Kabisch et al., 2016, p. 1), and provide ecosystem services (Seddon et al., 2020a). They may also stress the capacity of nature-based solutions to “create economic opportunities and green jobs” (McQuaid et al., 2021, p. 1). Ecocentric approaches emphasize nature based solutions’ positive “effects on plant or animal species populations, diversity of species or habitats, community composition, or habitat quality” (Chausson et al., 2020, p. 6146).

Finally, nature-based solutions serves as an umbrella term for similar concepts, such as ecosystem-based adaptation, (urban) green infrastructure, and ecosystem services (Pauleit et al., 2017).

Organizations that engage in nature-based solutions are called nature-based organizations (McQuaid et al., 2021). “Enterprise[s], engaged in economic activity, that [use] nature sustainably as a core element of their product/service offering” are called nature-based enterprises (Kooijman et al., 2021, p. 2). Business, thus, is an essential part of nature-based solutions (McQuaid et al., 2021), and their capability of “mainstreaming of environmental targets into [...] business” is even considered one of the concept’s “biggest strength[s]” (Nesshöver et al., 2017, p. 1225). The vast majority of nature-based enterprises are either micro (76%) or medium (22%) enterprises (McQuaid et al., 2021), and the economic activities in which nature-based enterprises engage are diverse. The most common are nature-based solutions for green buildings, public and urban spaces, sustainable agriculture and forestry, water management and treatment, and ecosystem creation, restoration and management (Kooijman et al., 2021). To make the concept of nature-based solutions more tangible, Appendix I provides two examples of nature-based solutions.

There are a number of interconnected and interdependent (Sarabi et al., 2020) political, legal, economic, technological, and social barriers that prevent a more widespread adoption of nature-based solutions (McQuaid et al., 2021). Generally speaking, limited awareness and understanding of the concept of nature-based solutions – in part due to inconsistent policies, lack of industry standards, and shortage of reliable case studies – are preventing more support in the political, legal, and social domains (Kooijman et al., 2021; Sarabi et al., 2019), indicating institutional complexity (Greenwood et al., 2011). However, with 73% of NbEs citing it as a “significant barrier” (McQuaid et al., 2021, p. 9) and a large number of researchers backing the claim (e.g., Droste et al., 2017; Sarabi et al., 2020a; Toxopeus & Polzin, 2021), financing remains one of the principal and most common worries of organizations engaged in nature based solutions.

2.2 Barriers to investment in and funding of nature-based solutions and the role of institutional logics

The institutional logics perspective, first conceptualized by Friedland & Alford (1991) and popularized by Thornton & Ocasio (1999), has become a frequently used approach for researchers to explain and understand organizational behaviour (Thornton et al., 2012). Consequently, it can support in understanding the behaviour of those organizations that contribute to the investment gap in nature-based solutions. Thornton & Ocasio (1999) define institutional logics as “the socially constructed, historical patterns of 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” (p. 804). 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 (Haveman & Gualtieri, 2017, p. 10). Institutional logics, thus, oppose rational theories of management: according to the institutional logics perspective, individuals and organizations will only behave rationally within the limitations of the institutional logics they are embedded in (Friedland & Alford, 1991). Consequently, information will only be interpreted within the spheres of the institutional logic an individual or organization is embedded in, and behaviours may only make sense within the context of the particular institutional logic. Organizational behaviour can thus be conceptualized as “expressions of institutional logics” (Yan et al., 2021, p. 904). In the context of the investment gap in nature-based solutions, differences in institutional logic manifest in the different sources

of investment in and funding of nature-based solutions, which in most cases comes from either public institutions or private financial institutions (Seddon et al., 2020a). Yan et al. (2021) find that public institutions (e.g., governments agencies, development finance institutions, and environmental funds; UNEP, 2021) are immersed in a distinctly different institutional logic than private financial institutions (e.g., commercial and investment banks, investors, insurance companies, asset management firms, pensions funds, corporations, and philanthropies; UNEP, 2021), namely the state logic and financial logic, respectively. Whereas the state logic primarily aims to enhance society's overall welfare, the financial logic's primary goal is to maximise profit. The different focus of financial practices and public policies can be understood as the expressions of the two different institutional logics (Yan et al., 2021), and may underlie the explanation of why public institutions contribute so much more to the funding of nature-based solutions than financial institutions (83% of total funding, compared to 17%; UNEP, 2022).

Generally, public investment seems to be more accessible than private investment. McQuaid et al. (2021) argue that this might be because of the “high level of awareness [...] around [nature-based solutions] at the public policy level” (p. 14), and the environmental and social benefits of nature-based solutions (Seddon et al., 2020b; Toxopeus & Polzin, 2021). The state logic of public institutions prioritizes environmental and social returns over financial returns (Yan et al., 2021). Consequently, public institutions are more likely to provide more favourable financing conditions than private financial institutions. However, the bureaucratic processes involved in securing public investment are tedious, complex, and complicated (Kabisch et al., 2016). Additionally, public institutions often have “limited resources, and autonomy in deciding how to allocate [...] expenditures” (Sarabi et al., 2019, p. 8) and are vulnerable to budget cuts that might prevent the long-term benefits of nature-based solutions from ever materializing (Kabisch et al., 2016; Schmalzbauer, 2018; Toxopeus & Polzin, 2021).

Despite these drawbacks, Sarabi et al. (2019) find that there is a general over-reliance on public financial institutions among organizations in nature-based solutions. This is surprising for two reasons: first, private financial institutions declare much interest in nature based solutions (Cohen-Shacham et al., 2019; Nesshöver et al., 2017), and “many financial institutions, development agencies, and companies are looking for ways to catalyze private investment in nature” (World Wide Fund For Nature [WWF], 2020, p. 8); second, nature-based enterprises that do approach private financial institutions seem to be “generally successful in securing loans or lines of credit” (McQuaid et al., 2021, p. 10). Still, the majority of these funds “remain unused” (Magomedova & Bastida-Vialcanet, 2022, p. 550).

The reasons for the lack of private investment in nature-based solutions are multifold and interconnected. The issue of inadequate and misaligned financial instruments was mentioned earlier. This relates to the following observations: the awareness of nature-based solutions among private financial institutions “seems [to be] quite superficial” (McQuaid et al., 2021, p. 9). Investors “tend to lack understanding” (Seddon et al., 2020a, p. 8) in regards to the benefits of nature-based solutions and the business models of nature-based enterprises (Kooijman et al., 2021). Consequently, financial instruments² are misaligned to the needs of organizations that engage in nature-based solutions (Magomedova & Bastida-Vialcanet, 2022), despite increased calls for developing more innovative financial instruments for nature-based solutions in the recent years (e.g., McQuaid et al., 2021; Müller et al., 2022; Seddon et al., 2020a).

This “lack of knowledge about the field [...] poses an increasing risk of failure for both the investors and the investees” (Agrawal & Hockerts, 2019a, p. 153). Most private financial institutions expect short-term financial returns and demonstrate an “[i]nability to think long term” (Lambooy & Levashova, 2011, p. 313), even though “many of the co-benefits associated with nature-based solutions can be realized only in the long-term” (Sarabi et al., 2019, p. 8). The focus on short-term financial returns is a clear manifestation of the financial logic (Yan et al., 2021) which is in conflict with the “long production times associated with nature-based solutions” (McQuaid et al., 2021, p. 9). Many, if not most, private financial investors focus on financial returns only and show little interest for environmental or social returns (McQuaid et al., 2021) – a manifestation of what Olesson et al. (2023) describe as a conflict between the commercial logic³ and the sustainability logic. Similarly, organizations’ that engage in nature-based solutions reported “wariness of financial institutions” for lack of mission alignment seems to be another case of estranged logics (Agrawal & Hockerts, 2019; Besharov & Smith, 2014). Competing institutional logics seem to be underlying Toxopeus & Polzin’s (2021) worry that if financial interests were to dominate the decision making of organizations that engage in nature-based solutions, implementation of nature-based solutions in places with the most

² Common financial instruments include “capital supply instruments (equity, loans, bonds and grants); risk mitigation instruments that transfer risk (insurance, guarantees and off-take agreements); and fiscal, revenue instruments (subsidies)” (UNEP, 2021, p. 15).

³ Throughout the reviewed literature, different researchers refer to either the market logic, the commercial logic, or the financial logic. After comparing the attributes of these seemingly distinct institutional logics, I arrived at the conclusion that these overlap significantly, and to such a degree, that they can be referred to interchangeably.

willing-to-pay customers would be prioritized over places in which nature-based solutions are most needed.

There are more barriers preventing more private investment in nature-based solutions: first, as previously mentioned, most organizations that engage in nature-based solutions are rather small; often too small to be attractive for private investors (Lambooy & Levashoova, 2011; McQuaid et al., 2021). Concepts for large-scale nature-based solutions are so far underdeveloped (Wu et al., 2021). Second, there is a “lack of successful case studies [preventing] large investors from considering biodiversity business as an opportunity” (Lambooy & Levashoova, 2011; echoed by e.g., McQuaid et al., 2021). Finally, both public and private investors decry the difficulty of and the “high transaction costs” (Lambooy & Levashova, 2011, p. 313) related to “identifying appropriate indicators and metrics for the social–ecological effectiveness of nature-based solutions” (Seddon et al., 2020a, p. 7). The difficulty of measuring the impact of nature-based solutions resembles a recurring, more general problem of measuring the impact on and accounting for the environment and society (e.g., Barter, 2015; Flower, 2015; Kennedy et al., 2022): different stakeholders are likely to attribute different values to natural resources (Kooijman et al., 2021), this being indicative of different institutional logics (Thornton & Ocasio, 1999). Although there are a variety of efforts being made to standardize environmental and social accounting as to make impact reporting comparable (e.g. Coulson, 2016; Flower, 2015), “simple standardized metrics of [nature-based solutions’] effectiveness that work across different scales, or that comprehensively capture the social–ecological dimensions of effectiveness, are unlikely to be found” (Seddon et al., 2020a, p. 7). Nevertheless, McQuaid et al. (2012) express hope that the European Union’s (EU) new taxonomy for sustainable activities might help alleviate this problem (EU, 2020).

Organizations that engage in nature-based solutions, however, are at fault, too. While, as previously mentioned, there may be a shortage of encouraging case studies, Agrawal & Hockerts (2019a) criticise that there is also a “lack of knowledge production on the field” (p. 153). More generally speaking, researchers find that “managers [of nature-based solutions] often lack expertise and experience” (Lambooy & Levashova, 2011, p. 313) and “market awareness” (McQuaid et al., 2021, p. 9) which lead to “poor financial models and flawed approaches” (Seddon et al., 2020a, p. 9) that ultimately repel potential investors. Whether this may be due to institutional logics that attribute little value to these aspects has not been explored.

2.3 Institutional logic multiplicity

Impact investors are often suggested as a possible solution (e.g. Schoemaker & Schramade, 2019) to overcome barriers that the financial logic imposes on investing in nature-based solutions. Impact investors blend the financial logic with other institutional logics (e.g., Agrawal & Hockerts, 2019b; Yan et al., 2019), such as the sustainability logic (Yan et al., 2021) and the impact logic (Castellas et al., 2018), therefore allowing them to balance financial returns with social or environmental returns. Impact investors, therefore, are prime examples of how organizations can be embedded in multiple institutional logics (Thornton et al., 1999). The different institutional logics may behave in a complementary or competing manner, or blend to form a so called hybrid of institutional logics (Haveman & Gaultieri, 2017). Heinze & Weber (2016) describe how impact investors blend the financial logic and the impact logic by creating financial products to support business models that create social returns, while generating profit, too, either to guarantee the business models' financial viability or legitimize impact investing in the eyes of the financial logic (Castellas et al., 2018). Besharov & Smith (2014) propose a framework to categorise and understand the implications of multiplicity of institutional logics within organizations (see figure 1), particularly why the existence of multiple logics can, in some cases, lead to organizational conflict and failure (e.g., Tracey et al., 2011) or success (e.g., Jay, 2012).

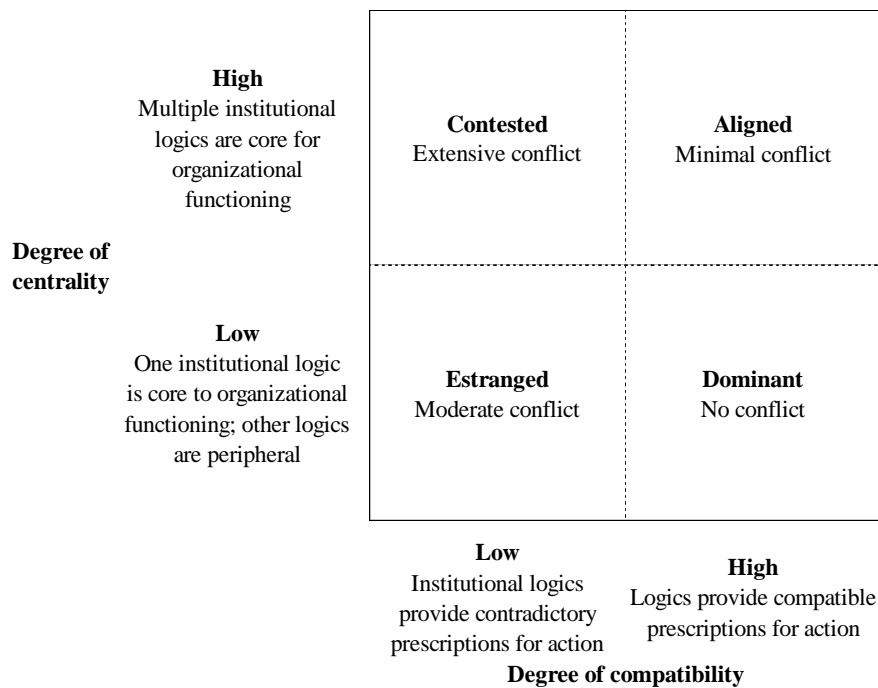


Figure 1: Blended logics in organizations. Adapted from Besharov & Smith (2014, p. 371).

Whereas Heinze & Weber (2016) go no further than to describe the blending of the financial logic and the impact logic (which in terms of Besharov & Smith's (2014) framework implies at least a moderate level of compatibility of those two institutional logics), Agrawal & Hockerts (2019b) draw on Besharov & Smith's (2014) framework in their analysis of the organizations in their study. On the one hand, they describe investors in which the centrality of the social logic (i.e., the impact logic) is very low, while the centrality of the commercial logic (i.e., the financial logic) is very high, which, considering the moderate degree of compatibility of these two logics, results in moderate to no conflict. On the other hand, they describe investors for which the opposite is the case, or to which both institutional logics are central, resulting in some conflict as the institutional logics contest each other. These examples illustrate the strength of the institutional logics perspective as it allows researchers to understand organizational behaviour beyond the observed processes only.

Although researchers agree that institutional logic multiplicity within organisations manifests in a variety of organizational responses that range from conflict to cooperation, the concept has not widely been applied to explain how different institutional logics influence how organizations engage with other organizations. Agrawal & Hockerts (2019b) are one exception to this, as they go on to contrast the blended institutional logics of impact investors to the blended institutional logics of their respective investees. Similarly, Castellás et al. (2018) arrive at the conclusion that the financial logic's dominance in impact investing is gradually overtaking the impact logic in socially and environmentally responsible organizations; because, generally, these organizations are in dire need of financial resources (Barraket et al., 2016) they are more susceptible to giving in to impact investors' demands and expectations. Moran & Ward-Christie (2022) observed the breakdown of relationships between impact investors and socially and environmentally responsible organizations, as either party had "organizational systems and processes designed to navigate [...] conflict" (p. 1025) arising from misaligned institutional logics. Rather, "there was the assumption that parties' logics were aligned when they were not, exacerbating confusion and frustration" (Moran & Ward-Christie, 2022, p. 1025). Similarly to Castellás et al. (2018), Moran & Ward-Christie (2022) observed a "shifting emphasis on a particular logic in the framing of the transaction" (p. 1025) and the "deferring" (p. 1026) of parties' to a different institutional logic than they were embedded in previously.

Resembling Moran & Ward-Christie's (2022) observations, Seddon et al. (2020b) find that in the context of nature-based solutions, sometimes, public and private investment is

blended to fund nature-based solutions. Albeit, to limited success and with on-going challenges (Toxopeus & Polzin, 2021). This can be read as an indication of conflicting institutional logics in public and financial institutions (Yan et al., 2021), as well as organizations that engage in nature-based solutions (Magomedova & Bastida-Vialcanet, 2022), and their transactions with each other (Moran & Ward-Christie, 2022).

I, thus, conclude that, although some researchers have scratched the surface of the topic (see above), the process of how organizations with blended institutional logics manage to accommodate for blended institutional logics in organizations they wish to engage with remains underexplored.

3. Methodology

3.1 Research context

This research was conducted in cooperation with the Bioregional Weaving Labs (BWL), a collective launched in 2021 by non-governmental organizations Ashoka, Commonland, the Presencing Institute, and Drawdown Europe (BWL, 2022). The organization's goal is to “[mobilise] 1 million changemakers to protect, restore, and regenerate 1 million ha of Europe's land and sea by 2030” (BWL, 2022, p. 1) through the promotion of nature-based solutions. The following excerpt from their Whitepaper (BWL, 2022, p. 3) explains the organization's approach:

“The Bioregional Weaving Labs [...] Collective is a growing assembly of 25+ international system-changing organisations, grounded in a community of practice. We are representing the system changers in the field, working directly with farmers, nature conservationists, communities and stakeholders. We are collaborating closely to ensure that high level climate and biodiversity plans become more actionable. We are weaving our expertise, knowledge, resources, and teams together to offer maximum support to change leaders, citizens' initiatives and their communities that want to restore, protect, and regenerate the landscapes and seascapes they live and work in. We consist of socio-environmental entrepreneurs that design and implement Nature-based Solutions (NBS) and of facilitators [...] who create the right enabling conditions for NBS to take hold and scale.”

The BWL approached the Rotterdam School of Management in late 2022 to form a research group to investigate business models and barriers to financing of nature-based solutions. The research group consisted of six students of the Master of Science in Global Business and Sustainability, under the guidance of PhD candidate Daan Peeters⁴.

In section 3.3 Data collection and description, some of the interview participants' organizations will be presented to provide an impression of the kind of organizations this research engaged with.

3.2 Research design

Essentially, this research aimed to analyse the institutional logics of investors and organizations that engage in nature-based solutions and their interplay to explain the previously discussed investment gap. Since this implied researching the “essential character” (van Maanen

⁴ We discussed our research progress with the other members of the research group in an informal setting. Additionally, we shared our interview transcripts with each other to allow the other participants to potentially gain additional insights that might be relevant to their research.

et al., 1982, p. 32) of the phenomenon and “[analysing] [the] problem situation” (Sreejesh et al., 2013, p. 32), I adopted a qualitative, exploratory research design (Blumberg et al., 2014).

Much of the research design was informed by Reay & Jones (2016) framework for qualitatively capturing institutional logics through pattern inducing. In the context of institutional logics research, Reay & Jones (2016) define pattern as “a set of symbols and beliefs expressed in discourse (verbal, visual, or written), norms seen in behaviors and activities, and material practices that are recognizable” (p. 442). Consequently, institutional logics are identified “by analyzing qualitative data from a bottom-up, inductive approach” (Reay & Jones, 2016, p. 449), using grounded theory (Glaser & Strauss, 1967; Strauss & Corbin, 1990).

This approach is inherently phenomenological in nature, since it puts how institutional logics are perceived and experienced at the centre of the analysis (Blumberg et al., 2014). Thus, in-depth interviews were selected as the primary data collection method (Sreejesh et al., 2013). The interviews followed a semi-structured (Sreejesh et al., 2013), theoretically informed approach (Bryman, 2012). This interview approach was chosen for two reasons:

- 1) First, this approach allowed for “discursive focus” (Lehner et al., 2019, p. 426), i.e., to steer the interviews towards aspects relevant to identification of institutional logics, while leaving sufficient freedom to explore themes that I had not considered beforehand (Britten, 1995).
- 2) Second, this approach facilitated the comparison of interviewees’ responses across settings (Blumberg et al., 2014).

3.3 Data collection and description

A total of 20 interviews were conducted between April 18, 2023, and May 24, 2023, 10 of which were conducted with investors, while 10 of them were conducted with organizations engaged in nature-based solutions. The duration of the average interview was 51 minutes, with the longest being one hour and 17 minutes, and the shortest 31 minutes. Of the 20 interviews, 13 fell within a range of up to 10 minutes from the average. Of the 20 interview participants, 11 identified as female, and nine as male. All interview participants are based in Europe, with ten of them being based in the Netherlands. In total, nine European countries were represented.

The interview participants were recruited in three separate rounds:

The first round of interview participants was recruited via the Bioregional Weaving Lab's network. To this purpose, the BWL provided our research group with a roster of approximately 40 potential interview participants, which were then distributed among us. With the aim of ensuring a diverse pool of interviewees (Gibbert et al., 2008), I selected 12 potential interview participants who differed in terms of a number of criteria (e.g., the size of the organization, the maturity of the business model). For example, interview participant #5 was the co-director of a non-for-profit organization based in Germany founded in 2019 with two employees and around 60 volunteers that facilitates reforestation. Interview participant #6 was the founder and director of a foundation based in Spain founded in 2002 with eight employees that facilitates participative governance models among traditional fisheries to establish and tend marine protection areas. Ultimately, seven of the 12 potential interview participants were interviewed. The first round of interview participants comprised four investors, and three organizations engaged in nature-based solutions. Since seven interview participants were not enough, a second round of recruitment became necessary.

The second round of interview participants was recruited via two different channels. First, one of the interview participants from the first round offered to connect me to her network of investors. Of the six potential interview participants she introduced me to during the second recruitment round, ultimately five were interviewed. One example from this round of recruitment is interview participant #10. They worked at a multi-family office based in the Netherlands that manages "large amounts of money" and invests in funds that deliver "more than just financial returns". Another example is interview participant #15. They worked at a charitable trust fund based in the United Kingdom with ca. 20 employees that operates internationally to foster care economies. Additionally, I registered on the online-platform naturebasedenterprise.com, which aims to connect people from the nature-based solutions sector. On this platform I contacted eight organizations engaged in nature-based solutions, of which I interviewed six. For example, interview participant #9 was an architect in France that merges permaculture and regenerative approaches in their designs. The second round of interview participants comprised five investors, and four organizations engaged in nature-based solutions.

It was throughout the second round of interviews that data saturation set in (Saunders et al., 2017), more precisely during interview #13 for organizations engaged in nature-based solutions, and during interview #14 for investors. At that point, one more interview was

scheduled, which would not have been sufficient to confirm data saturation. Hence, a third round of recruitment became necessary.

The third round of interview participants was recruited via the same channels as the second round (one interview participant from the private network of investors, two interview participants from naturebasedenterprise.com), as well as another online-platform, networknature.eu, from which two more interview participants were recruited. In this round, interview participant #18 stood out: their organization, which has 12 full-time employees and specialises in sustainable water management using nature-based solutions (e.g. constructed wetlands for wastewater treatment), has existed since 1998 – before the term nature-based solutions had even been coined. The third round of interview participants comprised one investor, and four organizations engaged in nature-based solutions.

Table 1 provides an overview of all interview participants.

Interview #	Type	Number of employees	Country of origin	Gender	Recruited via
#1	Investor	<5	Netherlands	male	BWL
#2	Investor	<5	Netherlands	male	BWL
#3	Investor	<5	Netherlands	female	BWL
#4	Investor	<20	Netherlands	female	BWL
#5	NbS	<5	Germany	male	BWL
#6	NbS	<10	Spain	male	BWL
#7	Investor	<5	Netherlands	male	Private network / other
#8	NbS	<10	Ireland	female	naturebasedenterprise.com
#9	NbS	<5	France	female	naturebasedenterprise.com
#10	Investor	n.d.	Netherlands	female	Private network / other
#11	NbS	> 500	Netherlands	female	Private network / other
#12	NbS	<20	United Kingdom	female	naturebasedenterprise.com
#13	NbS	<20	Netherlands	male	BWL
#14	Investor	<5	Netherlands	male	Private network / other
#15	Investor	<50	United Kingdom	female	Private network / other
#16	NbS	<10	Spain	male	naturebasedenterprise.com
#17	NbS	<50	Slovenia	female	networknature.eu
#18	NbS	<20	Italy	male	networknature.eu

#19	NbS	<5	Austria	female	naturebasedenterprise.com
#20	Investor	<50	Netherlands	female	Private network / other

Table 1: Interview participant details.

All potential interview participants received an brief introduction to the research (see figure 2 below for an exemplary recruitment message). Other than that no further information was provided neither before, nor during the interviews to prevent creating bias in the interview participants.

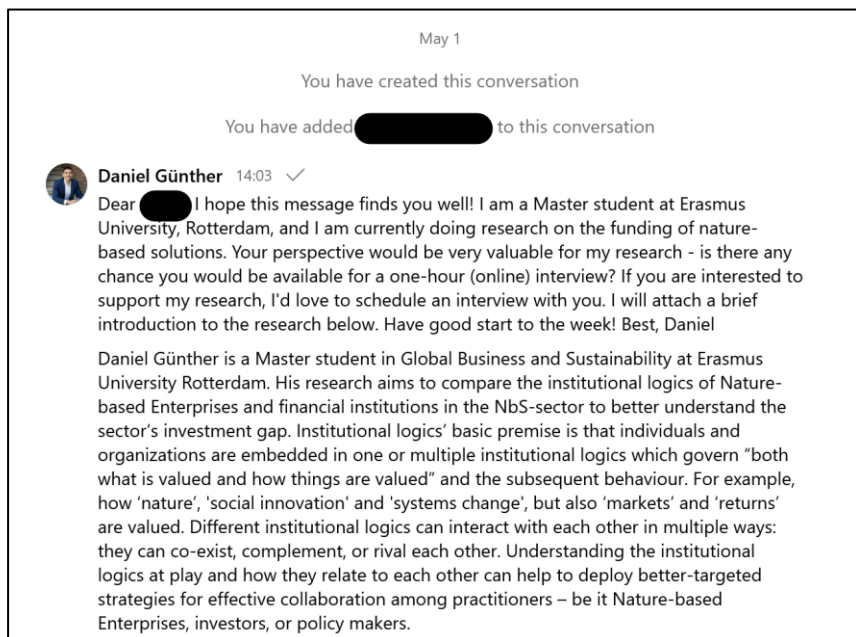


Figure 2: Exemplary recruitment message.

Two interview guidelines were created: one for organizations engaged in nature-based solutions, and one for investors, albeit the questions resembled each other and were two sides of the same coin. For example, in the interview guideline for organizations engaged in nature-based solutions, question #4 would ask “What is your relationship with your investors like (positive and/or negative)?”, whereas in the interview guideline for investors it would ask “What is your relationship with your investees (in nature-based solutions) like (positive and/or negative)?”

The interview guidelines were designed with the following objectives in mind (i.e., “discursive focus”; Lehner et al., 2019, p. 426):

- 1) identifying and understanding the institutional logics of the interview participants,

- 2) identifying and understanding situations in which different institutional logics were involved simultaneously, and finally,
- 3) understanding how different institutional logics manifested themselves in interactions between different actors.

The interview guidelines consisted of six main questions, each with a number of optional follow-up questions. In line with the phenomenological approach of this research, the follow-up questions were designed to prompt the interview participants to describe particular experiences, as well as their reactions, thoughts, and feelings in these situations. For example, follow-up question #5.1 would ask “Are there issues that regularly come up? Could you describe particular instances? What did you think / how did you react in that situation?”

Additionally, Johanna Gärtner, a fellow student and member of the BWL research group, asked for three questions on impact measurement to be included for her own research.

The first interviews were conducted with potential changes to the interview guidelines in mind. Ultimately, no changes were made. However, certain (follow-up) questions emerged as particularly interesting to the interview participants insofar as they sparked elaborate and useful responses. Thus, these questions were emphasized in the following interviews (e.g., “What advice would you give (fellow) nature-based solutions-businesses?”, “What do you believe are the biggest challenges to measure impact?”). The interview guidelines can be found in Appendix II.

Finally, while the questions were explicitly formulated in the interview guideline, they were intended as overarching topics to guide the conversation rather than rigidly fixed formulations.

3.4 Data analysis

In line with the iterative nature of a grounded theory approach, data collection and data analysis were conducted in parallel. To facilitate the understanding of the different approaches taken, I distinguish between three phases of data analysis in the following text. Note, however, that these phases were overlapping and mutually complementary. As Vollstedt & Rezat (2019) point out, “the procedures [used in grounded theory] are neither clear-cut, nor do they easily define phases that chronologically come one after the other. They embody rather different ways of working with the data that can be combined with each other and between which the research can move back in forth if needed” (p. 86).

Phase I: Analysis of notes taken during the interviews

During all interviews, and while re-listening to the interviews as part of the transcription process, notes were taken. The notes served multiple purposes: first, they supported me in conducting the interview. Whenever interview participants would touch upon a theme that I wanted to explore deeper, I would take a note and refer to that theme at a later point during the interview at a later point, so that I would not need to interrupt the interview participants. For example, during interview #7, the interview participant mentioned several companies they were investing in. The interaction with one of them seemed of particular interest to the research, so I took a note, and asked them to elaborate on their relationship with that company at a later point during the interview.

Second, I took notes whenever I would recognize pattern (as per Reay & Jones' (2016) definition of pattern in the context of institutional logics). For example, interview participant #9 repeatedly talked about systems thinking, and interview participant #18 repeatedly emphasized the importance of scientifically backed approaches. By examining these notes, I was able to already identify institutional logics and situations in which they manifested, even before coding the interview transcripts. This, in turn, allowed me, on one side, to adapt my interview strategy and deliberately explore these themes further, and on the other side, determine the point of data saturation confidently. As mentioned in 3.3 Data collection and description, data saturation for organizations engaged in nature-based solutions set in during interview #13. Several participants mentioned overcoming the disconnect between humans in today's societies and nature as a motivation. I, thus, purposefully inquired about interview participant #16's motivation. Their response – “Environmentally, we are so much disconnected from the problem.” – reinforced my interpretation of the notes regarding data saturation.

Phase II: identifying institutional logics (first iteration of transcribed data analysis)

The first iteration of data analysis was performed with the first aspect of the research question in mind – identifying and understanding the institutional logics of the interview participants. Following Reay & Jones' (2016) inductive approach for identifying institutional logics (see 3.2 Research design), the first order codes generated during the first iteration of coding stayed close to the original text. For example, to interview participant #2's statement “I'm a true believer [...] that impact and investment doesn't mean no return on investment. I mean, you can do both” I assigned the first order code “Impact investing does not imply no return on investment”; to interview participant #7's statement “[the] financial economic return

expectations are potentially still not matched by what is expected and hoped for” I assigned the first order code “Financial returns of nature-based solutions do not match expectations”.

Building upon the first order codes, second order themes were developed. The second order themes were generalized statements that could be ascribed to particular institutional logics. See figure 3 for an example.

Illustrative quote	First order code	Second order theme	Institutional logic
"Indigenous people depend on nature, on their land, but their land also depends on them. It's a codependency. And they're tending nature, they are tending forests in a very beautiful and nuanced way." (#9)	1. Co-dependency of indigenous people and nature as an ideal		
"I realized that, actually, it should not only be about the honeybee, but also about other bee species and about other pollinators, like butterflies. There's all kinds of different pollinating insects. And, actually, it should be about biodiversity [...] So my philosophy is, if the pollinators are doing well, and I mean the insects, humans are also doing well." (#13)	2. Human wellbeing and wellbeing of biosphere are interdependent	Coexistence of humans and nature A. in which humans understand themselves as part of nature	Ecologic logic
"Respectful and with the consciousness that we are part of nature and that everything is related and that we do not take more than what is there. I think it's good for every human being to be as much as possible in nature." (#19)	3. Relationship to nature should be respectful and understand that everything is interrelated		

Figure 3: Exemplary attribution of first order codes and second order themes to an institutional logic.

Institutional logics are often difficult to conceptualize. To make them more tangible, Thornton and Ocasio (1999) propose classifying institutional logics along the lines of a number of elements (e.g., basis of legitimacy, organizational attention, strategy, etc.). Although this is a common approach among researchers of institutional logics (e.g., Agrawal & Hockerts, 2019b; Reay & Jones, 2016; Yan et al., 2021), no universally accepted set of elements for the classification of institutional logics seems to exist. Moreover, the choice of elements seems to heavily depend on the context of the research (see Hadida et al. (2021) and Olesson et al. (2023) for two examples of vastly different choices of elements). In defining a set of elements to classify the institutional logics identified during the first iteration of coding, I drew inspiration from the research mentioned throughout this paragraph, and considered Vollstedt & Rezat’s (2019) framework based on Tiefel (2005) for coding paradigms.⁵ Table 2 shows the elements I chose for this research, and provides a brief description of each element in the form of the question it aims to address.

⁵ Three perspectives for coding paradigms are proposed: “[p]erspective of meaning [...] referring to the reconstruction of the self-perception”, “[p]erspective of structure [...] referring to the reconstruction of the world view”, and “[c]ourses of action” (Vollstedt & Rezat, 2019, p. 92).

Perspective ⁶	Element	Description
Perspective of meaning	Objective	What is this institutional logic's objective?
	Measures of success	How does this institutional logic measure and define its success?
	Motivation	What motivation drives the pursuit of that objective?
	Values	What does this institutional logic attribute value to?
Perspective of structure	Worldview	How does this institutional logic understand explain the world and its environment?
	People	Who are the people that subscribe to this institutional logic?
Courses of action	Processes & means	What are the processes and means this institutional logic uses to achieve that objective?
	Vocabulary	What do subscribers of that institutional logic talk about?

Table 2: Choice of elements for conceptualizing the institutional logics identified during the first iteration of coding.

By assigning the second order themes of each institutional logic to an element, I was able to identify and classify three distinct institutional logics that the interview participants subscribed to: the ecologic logic, the impact logic, and the financial logic. Whereas the ecologic logic emerged⁶ as a new institutional logic, the impact logic and the financial logic resembled previous research (e.g. Agrawal & Hockers, 2019; Castellás et al., 2018; Laasch, 2018). In Appendix III, I present these three institutional logics, whereby I arrived at the ecologic inductively (see 4. Findings), following the approach outlined above, and at the impact and financial logic deductively from the literature. Further, I discovered that these institutional logics blend, too (Besharov & Smith, 2014). For example, first order codes such as “Impact investing does not imply no return on investment” (see above), or “Impact measurement is considered collecting business intelligence” are indicative of blended institutional logics (i.e., the impact logic and the financial logic). This informed my first model, which I termed the “continuum framework for institutional logics in organizations with blended / hybrid institutional logics” (see 4. Findings).

Phase III: understanding the role of institutional logics (second iteration of transcribed data analysis)

The classification of the institutional logics and the continuum framework helped me to understand the first aspect of the research question – identifying and understanding the institutional logics of the interview participants. However, the other two aspects – identifying and understanding situations in which different institutional logics were involved

⁶ Based on Vollstedt & Rezat (2019).

simultaneously, and understanding how different institutional logics manifested themselves in interactions between different actors – remained unexplored. Therefore, a second iteration of data analysis was needed. The classification of the institutional logics and the continuum framework provided the necessary foundation to code on a more abstract level, insofar as they allowed me to accurately identify institutional logics whenever they manifested themselves in interactions between different actors. The second iteration of data analysis was performed with the goal of arriving at a model that could answer the research question – *how can institutional logics explain the lack of funding of and investment in nature-based solutions?* – in mind.

Whereas in the first iteration of data analysis I arrived at ca. 45 to 60 first order codes per interview, the second iteration of data analysis yielded merely 92 unique first order codes. Compared to the first iteration, the text segments I coded were considerably longer and the first order codes stayed less close to the original data point. For example, to interview participant #17's statement below, I assigned the first order code "Lack of effective communication results in disappointment":

"I think if they would understand the circularity and multipurpose, and that it's not something to be done overnight ... of course we have to start to combine, but we have to meet more, we have to find a place to talk, an open place for investors and experts to meet. [...] So it could be a win-win [...], but we should not forget about this step. Otherwise the expert community will be disappointed about the kind of investments that are done without a dialogue with them. Investors are going to be disappointed, because nature-based solutions are going to turn brownish, yellowish, smelly [...]. And the community is going to be disappointed, because the beautiful places are going to turn ugly. Who wants to live in ugly places? Nobody."

The development of the second order themes followed an iterative process. Approximately every 10 – 15 first order codes I would interrupt the coding process to analyse the first order codes in search of emerging concepts (i.e., second order themes). The reasoning for this is twofold: on one side, I would devise second order themes and assign relevant first order codes to them; on the other side, I would review previously assigned first order codes to verify their fit with the second order theme, or reassign them when necessary. By doing so, I would be able to explore identified themes further during iterations that followed. For example, early on, I identified the two first order codes "17. Financial logic perceived as polar opposite to ecologic logic" and "38. Conflict because of different understandings of impact".⁷ Based on

⁷ The item numbers, letters, and roman numbers attributed to the first order codes, second order themes, and aggregate dimensions respectively do not reflect the order in which the first order codes, second order themes, and aggregate dimensions were created, but how they were organized in the final data structure.

those first order codes, I devised the second order theme “J. Conflict with alternative institutional logic”. In a consequent iteration, I identified the two first order codes “44. Reality of ecosystems does not match expectations of traditional finance” and “12. Blames fear and greed for investment gap”. While the first order code “44. Reality of ecosystems does not match expectations of traditional finance” could readily be assigned to the second order theme “J. Conflict with alternative institutional logic”, “12. Blames fear and greed for investment gap” did not align as well. Hence, I created a new second order theme “F. Condemnation of alternative institutional logic” to accommodate it. Upon review, I determined that the previously introduced first order code “17. Financial logic perceived as polar opposite to ecologic logic” fit better with “F. Condemnation of alternative institutional logic”, too, and assigned it there. Figure 4 illustrates the process.

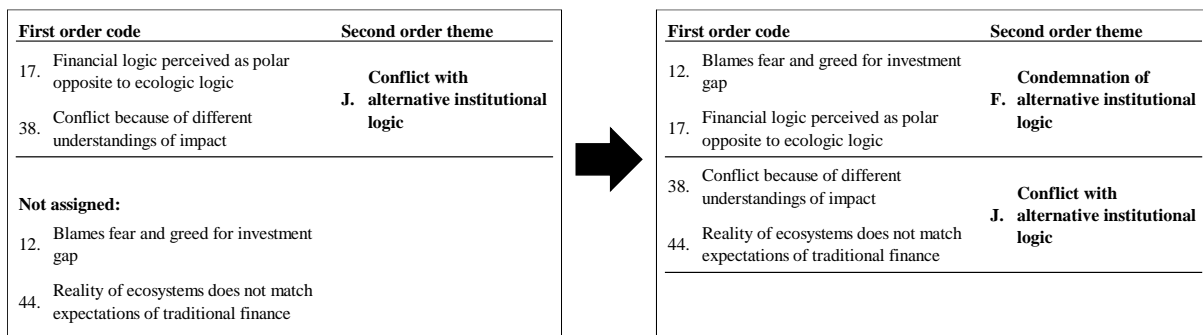


Figure 4: Exemplary attribution of first order codes and second order themes to an institutional logic.

Eventually, I arrived at 22 second order themes.

I approached the creation of aggregate dimensions with the goal of addressing the third aspect of the research question – understanding how different institutional logics manifested themselves in interactions between different actors – in mind. Generally speaking, the purpose of constructing aggregate dimensions is to “integrate the different [second order themes] that have been developed, elaborated, and mutually related [...] into one cohesive theory” (Vollsted & Rezat, 2019, p. 89), which requires to move back and forth between first order codes, second order themes, and aggregate dimensions (Mey & Mruck, 2011).

Analogously to the process of devising second order themes and assigning them first order codes laid out above, I reviewed both the second order themes and their first order codes to verify their fit with the aggregate dimensions, and reassigned them when necessary. For example, Figure 5 illustrates one instance in which the creation of the aggregate dimension led me to re-evaluate the second order themes and the first order codes I had originally assigned to them (i.e., to the second order themes). In this instance, I changed the second order theme “P.

Regulatory pressure to adapt alternative institutional logic” to “P. Pressure to adapt alternative institutional logic”, and removed the second order theme “n.d. Societal expectations to adapt alternative institutional logic” from the data structure after reassigning its first order codes to fit both the second order themes and aggregate dimensions better.

First order code	Second order theme	Aggregate dimension
63. Businesses and investors will only take action if policy requires them to	P. Regulatory pressure to adapt alternative institutional logic	VI. INCENTIVE TO ENGAGE with alternative institutional logic
65. Policy puts pressure on investors to reconsider their investment criteria		
66. Public pressure led to a paradigm shift		
68. Exchange with peers creates openness	n.d. Societal expectations to adapt alternative institutional logic	
89. Learned to adapt better through repeated interactions	T Exchange with alternative institutional logic creates familiarity/openness	VIII. EXPERIENCE with (blending with) alternative institutional logic



First order code	Second order theme	Aggregate dimension
63. Businesses and investors will only take action if policy requires them to	P. Pressure to adapt alternative institutional logic	VI. INCENTIVE TO ENGAGE with alternative institutional logic
65. Policy puts pressure on investors to reconsider their investment criteria		
66. Public pressure led to a paradigm shift		
68. Exchange with peers creates openness	T Exchange with alternative institutional logic creates familiarity/openness	VIII. EXPERIENCE with (blending with) alternative institutional logic
89. Learned to adapt better through repeated interactions		

Figure 5: Exemplary attribution of first order codes and second order themes to an institutional logic.

Arriving at the eventual aggregate dimensions and the respective model required multiple iterations. The iterations leading up to the eventual outcome, however, were crucial for their development, for, even though they were not directly incorporated into the final aggregate dimensions and the respective model, they spurred the necessary thought processes that allowed me to arrive at the final outcome eventually. Figure 6 shows the final data structure.

1st order codes	2nd order themes	Aggregate dimensions
1 Embodiment of ecologic logic 2 Everything should be run like a business 3 Shallow understanding and motivation behind financial institutions' concern for sustainability 4 Surround themselves with similarly thinking people 5 Want collaborators to share their mindset	A Deep immersion in principal institutional logic	I IMMERSION Degree of immersion in principal institutional logic
6 (Partial) adoption of alternative institutional logic as a process 7 (Minimum degree of) openness needed to adapt regenerative thinking further 8 Creating positive impact does not contradict making profits 9 Intent to leverage market forces to scale impact 10 Merges concepts from different domains into business plan 11 Successfully merge ecology and economy	B Embracing of (blending with) alternative institutional logic	
12 Investors need to align with vision of nature-based solutions 13 Philosophical alignment is a condition for a successful investment 14 Interprets "impact measurement" as "business intelligence" 15 Sometimes there is no market for sustainable innovations	C Familiarity with alternative institutional logic as a facilitator D Alternative institutional logic is interpreted through the lens of principal institutional logic	
16 Investors are utterly unfamiliar with processes related to forestry 17 Lack of familiarity with financial logic	E Limited familiarity with alternative institutional logic	
18 Blames fear and greed for investment gap 19 Criticises ESG scores to distract attention from real transition 20 Disappointment towards a lack of entrepreneurial thinking 21 Distrusts "full fledged entrepreneurs" 22 Financial advisors are looking to accumulate more wealth (higher returns) without regard for social-environmental impact 23 Financial logic perceived as polar opposite to ecologic logic 24 Investors can only talk about other concepts in terms of monetary value 25 Rejection of business because it is perceived as contaminated	F Condemnation of alternative institutional logic	
26 Assumes large-scale investors do not care about restoration efforts 27 Distrust of companies' intentions 28 Fears for-profit orientation would lead to mission drift 29 Improvements in biodiversity can not fully be captured through metrics 30 Incomprehension of "seeing the world through numbers"	G Defensive attitude toward alternative institutional logic	III ATTITUDE towards alternative institutional logic
31 Divergence of thought should be seen as an opportunity 32 Goodwill towards businesses 33 Non-threatening attitude 34 Rejects demonizing business / cooperation with business is essential for change 35 Acknowledges need to be open to other logics 36 Importance of bringing 'everyone on board' 37 Need to bring together different actors 38 Very open to input from outsiders 39 Accepting of other (for-profit) business models 40 Believes nature and economy are compatible 41 Sees many ways in which business can play a role in a nature positive transition	H Openness to / goodwill towards alternative institutional logic I Compatibility with alternative institutional logic	IV COMPLEMENTARITY Degree of complementarity of alternative institutional logic
42 Conflict because of different understandings of impact 43 Conflicting time horizons 44 Fundamentally different methods to measure impact 45 Investors fail to understand how ecosystems work 46 Lack of understanding in nature leads to disappointment in nature-based solutions 47 No interest of financial logic in anything else perceived 48 Reality of ecosystems does not match expectations of traditional finance	J Conflict with alternative institutional logic	
49 Cooperation with other investors to share risks 50 Speaking "the right language" important 51 Willingness to compromise financial returns for impact 52 Elaborate system of different income streams 53 Finds ways to secure investment for nature-based enterprises 54 Flexibility to adapt financial instruments because of conditions changed	K Design of processes and means to accommodate alternative institutional logic	
55 Being dogmatic comes with consequences 56 Funds are too large for nature-based solutions 57 Higher management is too concerned with "doing business" 58 Impact cannot be incorporated in investors' company evaluations	L Cooperation prevented by principal institutional logic	
59 Individuals can serve as bridges between logics divides 60 Investor had great trust in founders 61 Some individuals at investor company understand the vision and help out 62 A for-profit approach was needed to make organization thrive 63 Acknowledges need for investor to further grow business 64 Acknowledges that financial aspect is important to scale 65 Different professional profiles needed to thrive in market economy 66 Financial system is needed to create "good" 67 Need for economic return to enable ecological impact	M Individuals can facilitate effective communication N Acknowledges need for alternative institutional logic	
68 Effective communication to transition to new system from within 69 Importance of creating a 'shift in the minds' 70 Businesses and investors will only take action if policy requires them to 71 Court enforced sustainable behaviour on company 72 Policy puts pressure on investors to reconsider their investment criteria 73 Public pressure led to a paradigm shift 74 Urge to act on climate change drives paradigm change	O Need for alternative institutional logic to (partly) adapt principal institutional logic P Pressure to adapt alternative institutional logic	VI INCENTIVE TO ENGAGE with alternative institutional logic
75 Secured funding but had to compromise on marketing 76 Blending logics leads to sustained success 77 KPIs ought to be discussed between investor and investee 78 Investor was won over by immersing them in "their world" (the NBS) 79 Rejected cooperation for (perceived) lack of alignment in values 80 Reluctance towards changing modi operandi 81 Investor rejected for lack of philosophical alignment 82 Investment pitch rejected for lack of answers to questions relevant to investor 83 Lack of effective communication results in disappointment	Q Partial success achieved R Success in achieving common objective S Failure to cooperate successfully	VII QUALITY OF ENGAGEMENT / LEVEL OF SUCCESS with alternative institutional logic
84 Exchange with peers creates openness 85 Experts can help to explain nature-based solutions to investors 86 Participative governance of stakeholders with regular interaction 87 Importance of rooms for open and judgmental-free exchange 88 Learned to adapt better through repeated interactions 89 Avoidance of polemic topics 90 Interaction confirmed prejudices 91 Talking to people not aligned with their worldview is a "waste of time" 92 Witnessed mission drift in for-profit organization	T Exchange with alternative institutional logic creates familiarity/openness U Exchange with alternative institutional logic reinforces principal institutional logic V Negative experience with alternative institutional logic	VIII EXPERIENCE with (blending with) alternative institutional logic

Figure 6: Final data structure.

4. Findings

This research asks *how institutional logics can explain the lack of funding of and investment in nature-based solutions*, and approaches the research question from three distinct, but interrelated angles by, first, identifying and conceptualising the institutional logics in the context of nature-based solutions, second, exploring the nuances of how these institutional logics relate to each other, and finally, examining the role institutional logics play when organizations seek to engage with each other. Accordingly, this segment is organized into three distinct segments.

In the first segment, I present the ecologic logic. As mentioned earlier on, I identified three institutional logics: the ecologic logic, the impact logic, and the financial logic. The impact logic and the financial logic are well researched. Thus, the first segment focuses on the ecologic logic only, and follows the approach for classification of institutional logics outlined in 3.4 Data analysis. For a classification of all three institutional logics, see Appendix III.

The second segment illustrates the intersection of the ecologic logic, the impact logic and the financial logic in organizations, and draws on examples from the interviews. It builds the foundation for the institutional logics continuum that I introduce in section 5.1 Conceptualisation.

Finally, in the third segment, I present the aggregate dimensions and their relationship to each other, establishing the foundation for the model on the role of institutional logics in determining the success or failure of organizations when engaging with organizations with different institutional logics.

In brief, the lack of funding of and investment in nature-based solutions can be traced back to fundamentally different institutional logics of organizations that engage in nature-based solutions and financial organizations. While organizations that engage in nature-based solutions are primarily immersed in the ecologic logic, which they tend to blend with the impact logic, financial organizations are primarily immersed in the financial logic, with some of them blending it with the impact logic, albeit to very different extents and on different domains. Not only are the parties' respective institutional logics seemingly incompatible, but either party is immersed rather deeply in their respective principal institutional logic, which ultimately diminishes their ability to successfully engage with each other, i.e., to successfully fund or invest in nature-based solutions.

4.1 Ecologic logic

In this segment, I address the first aspect of the research question, namely the institutional logics in the context of nature-based solutions that I identified through the interviews and the consequent analysis. As previously mentioned, the impact logic and the financial logic are well researched and, whilst I was able to depict them in the interview participants, they have previously been conceptualised by a number of researchers (e.g., Agrawal & Hockers, 2019b; Castellás et al., 2018; Laasch, 2018). Thus, this segment discusses the ecologic logic. For an overview of all three institutional logics, see Appendix III.

The fundamental **objective** of the ecologic logic is the preservation and integrity of the Earth's ecosystem. Thus, the ecologic logic rejects a dualistic and anthropocentric relationship with nature. Instead, it encourages humans to understand themselves as part of nature and aims for a harmonious coexistence of humans with nature. In the words of interview participant #17, humans and nature should have “a deep understanding of each other. The more you treat nature in a respectful way, the more you will get back. [...] And the more we respect nature, the more beautiful the relationship will be. [...] People just need to relate to nature in a respectful way.”

Naturally, the ecologic logic aims to spread its message to as many people as possible. Interview participant #5 wants to create a “change in the thinking, in the mindset of the people.” From their perspective, it is “more important to have a change in mindset, [...] than to compensate with tree planting down the line.” Similarly, interview participant #12 tries to “reconnect people with forestry and natural spaces [...] in such a way that [...] people feel connected to it,” and interview participant #8 advocates for a “ecosystem approach.”

This is reflected in the ecologic logic's **worldview**, too. Interview participants #16 says “nature is unpredictable” and interview participant #9's statement “nature is infinite complexity” follows their rejection of “a linear world view, a dualistic separation from nature [...] and a very mechanic, sometimes even simplistic approach to understanding the world. We're convinced that we can understand and control.” Interview participant #18 echoes that sentiment and does not “[advise] [...] to try to make things simpler. Just keep them complex and try to understand the complexity.” From the ecologic logic's point of view, humans are tragically disconnected from nature. “Environmentally,” says interview participant #16, “we are so much disconnected from the problem,” and interview participant #19 calls for “consciousness that we are part of nature and that everything is related.” According to interview

participant #9, humans' "role of shepherd and of lording over nature [...] for man's use" is the reason why humanity is disconnected from and exploiting nature. The ecologic logic believes that the disconnection from and the exploitation of nature condition each other.

It should then come as no surprise that the ecologic logic **values** nature and the integrity of the Earth's ecologic system and biosphere above all else. Interview participant #17 statement "I'm truly fascinated with nature" stresses this aspect of the ecologic logic, and interview partner #9 says "there's [...] this sort of humbleness" in relating to nature. Further, individuals embedded in the ecologic logic value the natural sciences highly. For example, interview participant #18 advises to "make all time use of solid science."

Consequently, the ecologic logic's underlying **motivation** is deep and intrinsic appreciation of nature. This becomes apparent in the way the interview participants embedded in the ecologic logic talked about nature during the interviews. Interview participant #6 considers the ocean "the mother of all ecosystems", and interview participant #19 "love[s] to live connected and aligned with nature" and goes so far as to say that "the drivers [...] of everyone working in our organization are people and nature." A serious concern for the Earth's biosphere underlies this motivation. Interview participant #5 says that in "20 to 30 years, it will be 'game over'", and interview participant #13 is driven by his concern "about [the] bee decline, but also the decline of biodiversity."

The ecologic logic embraces the natural **processes** of nature. It rejects the idea that humans were "given nature to rule over" (interview participant #9) and advocates an "ecosystem approach" (interview participant #8) in which much trust is put in the "intelligence of nature" (interview participant #16). Consequently, it advocates for non-interference in ecosystems. Says interview participant #12: "You might get capercaillie coming back into the area, but you might not. You can't put that in your plan, because what are you gonna do? Kidnap a capercaillie to make sure it's actually in the right place at the right time?" Which is not to say that individuals embedded in the ecologic logic are inactive. However, they see their role in enabling ecosystems to regenerate and to flourish naturally. For example, interview partner #6 encourages its affiliates to be "environmental guardians" and has established a number of marine protection areas. Since one of the ecological logic's objectives is to reconnect people with the natural environment, much emphasis is placed on educating people and empowering communities, as highlighted by interview participant #6's application of "collaborative governance" structures, interview participant #5's emphasis on "enabling

communities”, and interview participant #16’s “academy” where they “teach both professionals and amateurs about [these] concepts,” with “education promoting participation.”

Naturally, the ecologic logic’s **measure of success** is the integrity and the wellbeing of the Earth’s biosphere and its ecosystems. However, it rejects the notion of that being a quantifiable measure that could be captured through metrics. Interview participant #20 says “if you put one beehive on one acre, then suddenly it’s like ‘oh, yeah, now we can check.’ That’s really not how it works, right?” Rather, in line with its worldview and the notion that “nature is infinite complexity” (interview participant #9), the ecologic logic advocates for an ecosystem approach based on systems and resilience thinking (Grewatsch et al., 2021; Meadows, 2008).

Finally, following the notion that institutional logics both shape and are shaped by individuals and are usually anchored in a specific field, it is interesting to point out that **people** embedded in the ecologic logic often have backgrounds in natural sciences, particularly related to biology. Interview participant #9 has a “background in permaculture and bioclimatic design”, interview participant #12 is a “forester by background,” and interview participant #16, who has a background in sustainable development, “collaborate[s] with experts that are botanists [and] biologists.” Common in their **vocabulary** are terms such as “nature”, “ecosystem”, “system”, “transition”, “wellbeing”, and “connection.”

Table 3 summarizes the ecologic logic.

Perspective	Element	Description
Perspective of meaning	Objective <i>What is this institutional logic's objective?</i>	- preservation and integrity of the Earth's biosphere and its ecosystem - harmonious coexistence of humans with nature - reconnect humans with nature
	Motivation <i>What motivation drives the pursuit of that objective?</i>	- deep and intrinsic appreciation of nature - serious concern for the Earth's biosphere
	Values <i>What does this institutional logic attribute value to?</i>	- nature - (natural) sciences - humbleness in relating to nature
	Measures of success <i>How does this institutional logic measure and define its success?</i>	- integrity and wellbeing of the Earth's biosphere and its ecosystems - systems and resilience thinking approach - rejects quantifiable metrics
Perspective of structure	Worldview <i>How does this institutional logic understand explain the world and its environment?</i>	- nature is complex and unpredictable - humans are part of nature - decries human disconnection from nature - rejects linear thinking and dualistic separation from nature - rejects anthropocentric understanding (i.e., control over, exploitation) of nature

	People <i>Who are the people embedded in this institutional logic?</i>	- biologists, forest rangers, professors (sometimes), architects (sometimes), (environmental) engineers (sometimes)
Courses of action	Processes & means <i>What are the processes and means this institutional logic uses to achieve that objective?</i>	- reliance on intelligence of nature - enabling role for nature to flourish, e.g., protection areas, regenerative practices
	Vocabulary <i>What do subscribers of that institutional logic talk about?</i>	- "nature", "ecosystem", "system", "transition", "wellbeing", "connection"

Table 3: Intersection of the ecologic logic, the impact logic, and the financial logic.

4.2 Blended / hybrid institutional logics

Often, more than one institutional logic exists in organizations (Greenwood et al., 2011). Indeed, all interview participants exhibited cues that suggest the existence of multiple institutional logics within their respective organizations. Thus, this segment forms the basis to address the second aspect of the research question, i.e., the nuances of how organizations blend different institutional logics.

For example, interview participant #16's organization "offer[s] solutions that merge ecology and economy" and "prove that being ecological does not need to compromise your economy," presenting an example of how the ecologic logic and the financial logic can coexist in an organization. They integrate the impact logic, too, when they express their aim to "create a systemic change in the construction industry, to transition from human-based development to nature-based development."

Unlike interview participant #16, whose organization blends all three logics discussed in this research, most interview participants demonstrated a blend of two institutional logics. For example, interview participant #5 aims to build and empower communities of environmental stewards, instead of focusing on reforestation only, because then "the impact is much, much higher than what we could do in 20, 30, or 50 years," blending the ecologic logic with the impact logic. Interview participant #4 demonstrates a seamless blend of the impact logic and the financial logic by investing only in companies in which "impact [is] part of the business model, so the impact cannot be taken out of the business model", assuring that "if the business grows, the impact grows." Similar to interview participant #4, interview participant #1, too, adheres to both the impact logic, and the financial logic. The financial logic, however, is much more prevalent than the impact logic. This shows, for example, in their approach on selecting investments: "the first thing that you do is you compare something to the normal

financial return, where you know the risk-return, [...] what kind of income or yields you would want to make. And then, because it's impact, you are willing to take more risk, or take a lower return.”

This example demonstrates that the degree to which an organization blends multiple institutional logics can vary from organization to organization. Whereas there seemed not to be dominant institutional logic in interview participant #4, the financial logic clearly was the dominant logic in interview participant #1.

Figure 7 illustrates the intersection of the ecologic logic, the impact logic, and the financial logic. It also shows how the interview participants from the previous examples could be positioned within this framework. Note that the closer an organization's position is to the centre of a specific institutional logic, the more dominant that institutional logic is within the organization.

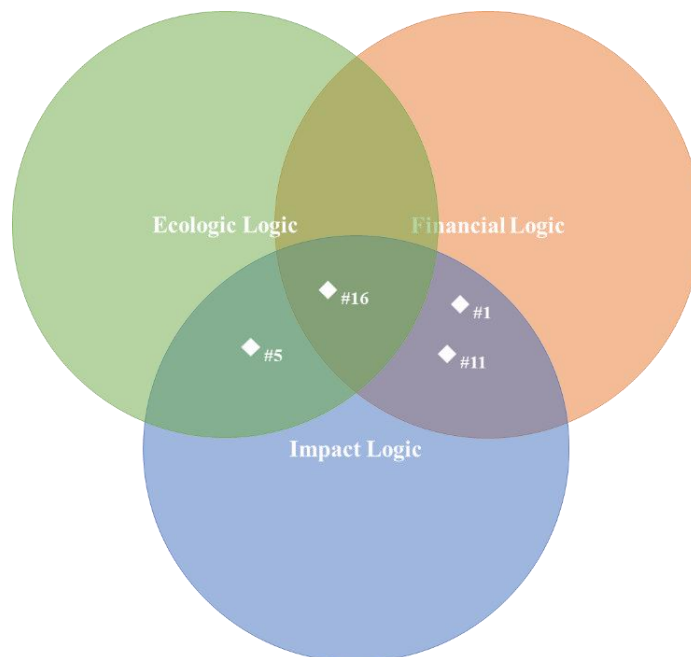


Figure 7: Intersection of the ecologic logic, the impact logic, and the financial logic.

4.3 Role of institutional logics in determining the extent of engagement among organizations with different institutional logics

Throughout the interviews, the role of institutional logics in the participants' organizations and interactions with other organizations could readily be observed. The institutional logics manifested themselves through various instances, which are captured and reflected in the aggregate dimensions of the data structure. I discuss each aggregate dimension

in the following, thereby addressing the research question's third aspect, namely examining the role institutional logics play when organizations seek to engage with each other.

Degree of immersion in principal institutional logic

Every organization is immersed in one principal institutional logic, which denominates that organization's dominant institutional logic. The degree of immersion refers to the degree of which the principal institutional logic determines that organization's objectives, processes, worldview, etc.

Returning to one of the previous segment's examples, interview participant #1 and #11's principal institutional logic was the financial logic. However, interview participant #1 was much deeper immersed in the financial logic compared to interview participant #11. Deep immersion in the principal institutional logic also manifests itself in statements like "everything should be run like a business" (interview participant #2), but also in the reluctance to engage with individuals and organizations from other institutional logics (e.g. interview participant #9), or a limited and superficial understanding of other institutional logics. Says interview participant #19 about financial institutions: "they have sustainability metrics in terms of, yeah, sustainability is important, but there's a different depth of understanding and motivation behind that," there are "some who are annoyed about [sustainability and nature]."

Embracing, or even blending with an alternative institutional logic, however, demonstrates a lower degree of immersion; if an individual is fully immersed in one institutional logic, there is no room for another one. See, for instance, the above example of interview participant #16 embracing both the ecologic logic and the financial logic. Interview participant #12 explained how the (partial) adoption of the financial logic in their organization has "been interesting to try" and "a difficult one for us to get our heads around," which highlights that embracing an alternative institutional logic can be a process, too.

Unsurprisingly, an organization's degree of immersion in its principal institutional logic is the most dominant driver of whether or not the organization will engage (successfully) with another organization with a different principal institutional logic.

Degree of complementarity of alternative institutional logic

A second important driver is the degree of complementarity of the alternative institutional logic to the principal institutional logic. Interview participant #8 shows how the ecologic logic can be compatible with the financial logic when she identifies many ways in which businesses and financial institutions can contribute to "transition to nature-based

solutions and to the nature positive economy,” and interview participant #16 echoes that sentiment when they reject the idea that the “[environment]’s always perceived as opposite to economy.”

Conflict with the alternative institutional logic is indicative of a low degree of complementarity. Interview participant #13 observes that the different time horizons of the ecologic logic and the financial logic contradict each other when he says that “natural solutions [...] are usually longer term focused. So you need to look at a period of 20 to 25 years. And that is not very interesting for people who want their money back in, let’s say three to five years,” while interview participant #20 states that the “linear system expecting the returns of the capitalistic system” is incompatible with “the real nature-based solutions and [their] potential impact.”

Note that, while this aggregate dimension refers to the complementarity of different institutional logics as wholesome entities, each institutional logic comprises a number of distinct elements each of which can be more or less compatible with their respective counterpart, as shown throughout the examples.

Perception of alternative institutional logic

The degree of immersion and the degree of complementarity shape the perception of the alternative institutional logic. For example, interview participant #4 interprets the impact logic through the lens of the financial logic: “What we need to understand is that measuring impact is nothing different from getting business intelligence. [...] the most successful companies have really deep customer insights. [...] if we call it impact measurement, it seems like something that’s sort of outside of the business, that you also have to do. But actually, you don’t.”

Familiarity with the alternative institutional logic plays an important role: interview participants who were more familiar with the alternative institutional logic tended to have a more positive perception of it, too. Interview participant #8 stresses how the “lack [of] knowledge in financing, financing instruments, how to scale” makes organizations embedded in the ecologic “extremely wary of the motivations of investors.”

Attitude towards alternative institutional logic

In turn, the perception of the alternative institutional logic shapes the attitude towards it. Whereas some interview participants displayed a high degree of openness and even goodwill towards the alternative institutional logic, others displayed a more defensive attitude or outright

condemned the alternative institutional logic. Interview participant #11 provides a good example for a very open attitude when they acknowledges that “we need each other to change the world” and that “we have to jointly develop [a] program to really see the benefit, the strengths of the other party.” Interview participant #5’s distrust of businesses, because “it’s some kind of greenwashing [...] it’s always a deal” is the opposite example, and interview participant #14 condemns financial advisors who “want to have more wealth. [...] All the advisors from the banks are not looking at the social-environmental impact.”

Although the perception of and the attitude towards the alternative institutional logic could be interpreted as two sides of the same coin, there is distinction to be made. While it is true that a negative perception will most likely precede a negative attitude, that needs not always be the case. Interview participant #13, for example, maintains a positive, non-threatening attitude towards organizations embedded in the financial logic – despite having a negative perception of them: “we are not threatening. [...] we focus on the positive. What can you do to become part of the solution?”

Ability to engage with alternative institutional logic

The degree of complementarity of the alternative institutional logic, and an organization’s attitude towards it determine an organization’s ability to engage with the alternative institutional logic. As highlighted by previous examples, if the degree of complementarity is very low, then there is no common ground on which the different institutional logics could engage with each other in the first place. Still, even when a certain degree of complementarity is given, there are often challenges that need to be overcome, exemplified earlier by the conflicts many organizations encounter when engaging with an alternative institutional logic. In these cases, the attitude of the interview participants seemed to determine whether or not they would find ways in which to engage with the alternative institutional logic nevertheless. As the saying goes “where there’s a will, there’s a way.” For interview participant #11, whose principal dominant logic was the ecologic logic, that meant learning how to talk to the financial logic, “because it is [a] different language. So you can talk about farmers doing better things on their lands. But the investors also want some financial overviews [...] So the challenge was more in prepping the team and getting them along in that mindset of working with investors.” Often, interview participants stressed the importance of individuals in bridging disparities in institutional logics. Interview participant #5 recalls that at their investor’s organization “we have two or three people who understand our vision, who understand what we do, and they place us where they can [...] we get money from them. It’s

important to have people on the other side who understand our vision, our goals, and see how it matches with the funds from the company.”

However, there are instances in which cooperation was prevented by the principal institutional logic, for example, when interview participant #7 laments that investors cannot “incorporate [environmental and social value] into their valuation, because, while I’m sure they are happy to support that value creation, it’s not something they can capture.”

Strength of incentive to engage with alternative institutional logic

While the ability to engage with an alternative institutional logic is important, it is not the only determinant of whether, and how successful the engagement will be. The strength of the incentive to engage with the alternative institutional logic plays an important role, too. This might be due to pressure to adapt to the alternative logic. Interview participant #6 receives funds from a large textile manufacturer that was pressured to adopt a more environmentally and socially conscious logic. “Why? [...] I believe that as a result of the criticism that the textile industry received from civil organizations, of society in general, [...] and [they] were totally dedicated to improve the standards of the production chain.” Pressure from policy makers plays an important role, too: “the EU taxonomy [...] will be a big push. [...] I do think, [in terms of] the carrot and the stick, the taxonomy is one carrot”, says interview participant #8, commenting on the adoption of the impact logic by financial institutions.

Sometimes, the organization acknowledges that it needs the alternative institutional logic to accomplish its goals. Interview participant #15’s organization “intends to be good, [...] good for yourself, for others and also for the planet. And to enable that, there needs to be a financial system,” acknowledging the need of the financial logic to accomplish the goals of the impact logic, its principal logic.

Quality of engagement with alternative institutional logic

Together, the ability and the strength of the incentive to engage with alternative institutional logic determine the quality of the engagement with it. Often, this comes down to whether the objective in reaching out to the alternative institutional logic can be achieved. Interview participant #12 was able to win over an investor (i.e., succeeding in their engagement with the financial logic, the alternative institutional logic) by immersing them in the ecologic logic:

“So in some ways, we need to go through one of our projects before they fund one of our projects, because they need to come and see what it means to be on site, see how difficult it is to drive for an hour in a buggy in a 4X4 to get to the site before you even can plant the trees. And to see why the

planters are living in a tent for like three months to actually get the planting done. [...] none of this stuff is in their head, that that's the reality of how these projects work. [...] we won because we took them out for a day to their own site and walked them around and told them all about their site. And like what we had learned about it already from just a couple of days of walking around it and that's why they gave it to us.”

Interview participant #1, who blends the financial logic, his principal institutional logic, with the impact logic, finds that determining the right KPIs to measure impact is best done in cooperation with the (social) entrepreneurs they invest in. The KPIs should be “easy to measure and in line with what the company, the founders find important themselves. I certainly don't think that it means that [...] you go to a company and say ‘well, this is the way we measure impact and we want you to confirm to this.’ [...] It should be a discussion. What works, what is feasible? What is not too expensive? What does not take too much time? What is important to you?” Sometimes, only partial success will be achieved. Interview participant #5 had to compromise with the company, allowing the company to use their name for marketing purposes, in exchange for financing their organization. “You have to give me some kind of trees that you plant exclusively for me, so that I have something to give to my marketing department for communication,” the company’s managing director told them.

Inevitably, not every time an organization engages with an alternative institutional logic ends with a success. On a different occasion, interview participant #5 rejected potential funders because they could not align. “In this case [...] we talked a lot. We talked about budget first, and we talked about how long this financing could be and what it could be for. Then we had a look at their sustainability goals [...] and that’s when we decided, we can’t work together with you.”

Experience with alternative institutional logic

Finally, the quality of the engagement with the alternative institutional logic shapes an organization’s experience with the alternative institutional logic. Interview participant #17 that after interacting with experts from the ecologic logic, investors “really start[ed] to be aware with the support of the expert [...] of these benefits, before taking the decision where and what to implement.” Interview participant #11 believes that the key to a positive experience with an alternative institutional logic is to “leave judgments or past experiences at the door and to go create a common future.”

Naturally, not all experiences are positive. Interview participant #13, who supports upstarting impact organizations, has experienced mission drift when taking on investors. “The

risk with that is that instead of working for your purpose, you start working to pay the dividends to these people, or start listening to the short term interest of the people that want their money back. And that’s what I’ve seen happening quite a lot of times.” Interview participant #5 found that “if you’re not aligned and they just want to do something like greenwashing [...] then it’s a waste of time talking to those people,” which confirmed their assumption that “in most cases, [...] it’s some kind of greenwashing.”

While positive exchanges, such as the first examples, can create and reinforce familiarity with and openness towards the alternative institutional logic, negative experiences, such as the latter examples, have the opposite effect, and reinforce the principal institutional logic, thus making it more difficult for the organization to engage with the alternative institutional logic in the future.

Combining this findings informs the following framework for understanding the role of institutional logics in determining the extent of engagement among organizations with different institutional logics (figure 8):

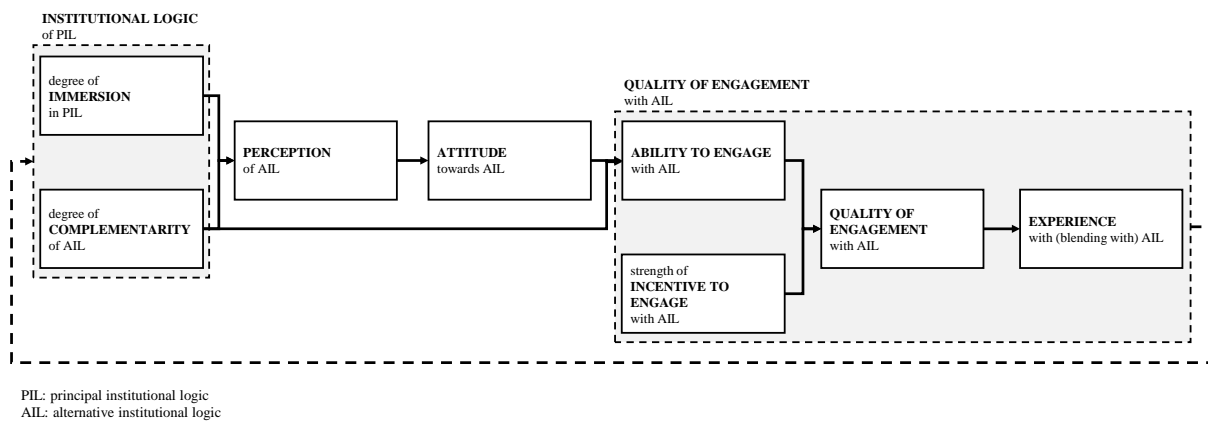


Figure 8: Role of institutional logics in determining the extent of engagement among organizations with different institutional logics.

5. Discussion

The goal of this research was to answer the research question – *how can institutional logics explain the lack of funding of and investment in nature-based solutions?* This implied not only identifying and understanding the institutional logics of both financial institutions and organizations that engage in nature-based solutions, but also situations in which these different institutional logics were involved simultaneously. The explorative and phenomenological nature of the research question informed the methodological approach; I conducted 20 interviews – 10 each with financial institutions and organizations that engage in nature-based solutions – which I analysed using a grounded theory (Strauss & Corbin, 1990).

I found that there are three distinct institutional logics that underlie the interview participants' organizations: the ecologic logic, the impact logic, and the financial logic. Further, I found that the degree to which these institutional logics coexist varies across interview participants, with some blending all three institutional logics, and others blending only two of them, with one institutional logic being dominant most of the times. This research's findings indicate that degree to which an organization is immersed in its principal institutional logic, the degree of complementarity of and the strength of the incentive to engage with the alternative institutional logic determine whether the organization will be able to engage successfully with an organization immersed in an alternative institutional logic.

Throughout the following segments I further conceptualise my findings along the lines of the three research gaps mentioned in the introduction: identifying and conceptualising the institutional logics in the context of nature-based solutions, first; expanding existing frameworks (e.g., Besharov & Smith, 2014; Greenwood et al., 2011) on how different institutional logics relate to each other, second; and examining the role of institutional logics when organizations seek to engage with each other, third. I then go on to reflect upon this research's limitations, contributions, and future research suggestions.

5.1 Conceptualisation

The ecologic logic

Through the interviews, I found that there are three distinct institutional logics that underlie the interview participants' organizations: the ecologic logic, the impact logic, and the financial logic (see Appendix III). Unlike the impact logic (e.g., Castellás et al., 2018) and the financial logic (e.g., Yan et al., 2019), as of yet and to the best of my knowledge, there exist

only two studies that discuss institutional logics that align with or resemble the ecologic logic. While it could be argued that the ecologic logic and Yan et al.'s (2021) environmental logic and Olesson et al.'s (2023) sustainability logic are two sides of the same coin, I find that there are important differences to the ecologic logic conceptualised in this research. Yan et al.'s (2021) characterization of the environmental logic is closer to that of the ecologic logic. However, it remains vague, and normatively much more anthropocentric than the ecologic logic; whereas the ecologic logic's goal of preserving the integrity of the Earth's biosphere and its ecosystem, and reconnecting humans with nature stems from an ecocentric normative imperative, Yan et al.'s (2021) "basis of norms" is not primarily "[p]lanet sustainability," but "[f]uture generations" (p. 906). Olesson et al.'s (2023) sustainability logic, too, is more anthropocentric. Further, it focuses strongly on the institutional logic's manifestation in a business context, departing from the complete focus of the ecologic logic on the ecosystem. Colloquially, it could be said that Yan et al.'s (2021) and Olesson et al.'s (2023) environmental logic and ecologic logic, respectively, are less "pure" than the ecologic logic that this research conceptualises is. Thus, this research's ecologic logic advances Yan et al.'s (2021) and Olesson et al.'s (2023) work by strengthening the conceptualisation of institutional logics in the field of environmental and ecological sustainability.

The institutional logics continuum

This research finds that the organizations of the interview participants blend different institutional logics, and that the degree to which they are immersed in different institutional logics varies, as illustrated in figure 7. This is very much in line with what different researchers have found in the context of impact investing and socially and environmentally responsible organizations (e.g. Agrawal & Hockerts, 2019b; Yan et al., 2021; Olesson et al., 2023). Per se, the statement that organizations are immersed in different institutional logics to varying degrees is an oversimplification. Thus, based on the framework proposed by Besharov & Smith (2014), most research go on to describe whether the blended institutional logics they identified are contested, aligned, estranged, or dominant (see figure 1 in 2. Literature Review).

Based on my findings, however, I believe this approach falls short of explaining the intricate interactions of different institutional logics in organizations. In 3.4 Data analysis I present the elements used in this research to classify the institutional logics identified (namely, objective, measures of success, motivation, values, worldview, people, processes & means, and vocabulary). For example, interview participant #1 seemed to be equally immersed in the impact logic and financial logic's worldview. However, in terms of measures of success and

processes and means, they were much more immersed in the financial logic. Besharov & Smith’s (2014) framework does not allow to make this distinction.

Although the choice of elements is debatable and varies across different researches, I believe that analysing blended institutional logics in organizations on a continuum across these elements can yield a much richer level of insight on the intricate interactions of different institutional logics in organizations. Therefore, I propose the institutional logics continuum, illustrated by figure 9 (for the sake of simplicity, the framework is presented as to analyse two institutional logics only. A three-, or multidimensional model would, of course, be possible, too, even though it would be (more) difficult to depict visually).

Element	Compatability	Institutional logic A		Institutional logic B	
		Centrality	Centrality	Centrality	Centrality
Objective	<i>high / low</i>	<i>high / low</i>	←	→	<i>high / low</i>
Motivation	←	→	...
Values			←	→	
Measures of success			←	→	
Worldview			←	→	
People			←	→	
Processes & means			←	→	
Vocabulary			←	→	

Figure 9: Institutional logics continuum.

The continuum allows to differentiate more accurately along the lines of the elements, thereby providing a more nuanced understanding of how different institutional logics blend within an organization. By highlighting the compatibility of the different institutional logics, as well as each element’s centrality to its respective institutional logic, it becomes possible to identify potential areas of conflict. Moran & Ward-Christie (2022) point out that cooperation between organizations, in which both organizations adhere to blended institutional logics, tend to run into difficulties because “superficial alignment masks underlying misalignment of each contributory logic” (p. 1012). The continuum can help to overcome these challenges; by mapping the organizations on the continuum, its application can be extended to identify potential areas of conflict among two or more organizations that share similar institutional logic blends. Thereby, it helps to understand how these organizations blend the same institutional

logics differently, and where potential areas of conflict lie. For example, figure 10 shows the application of the continuum to interview participants #1 and #16.

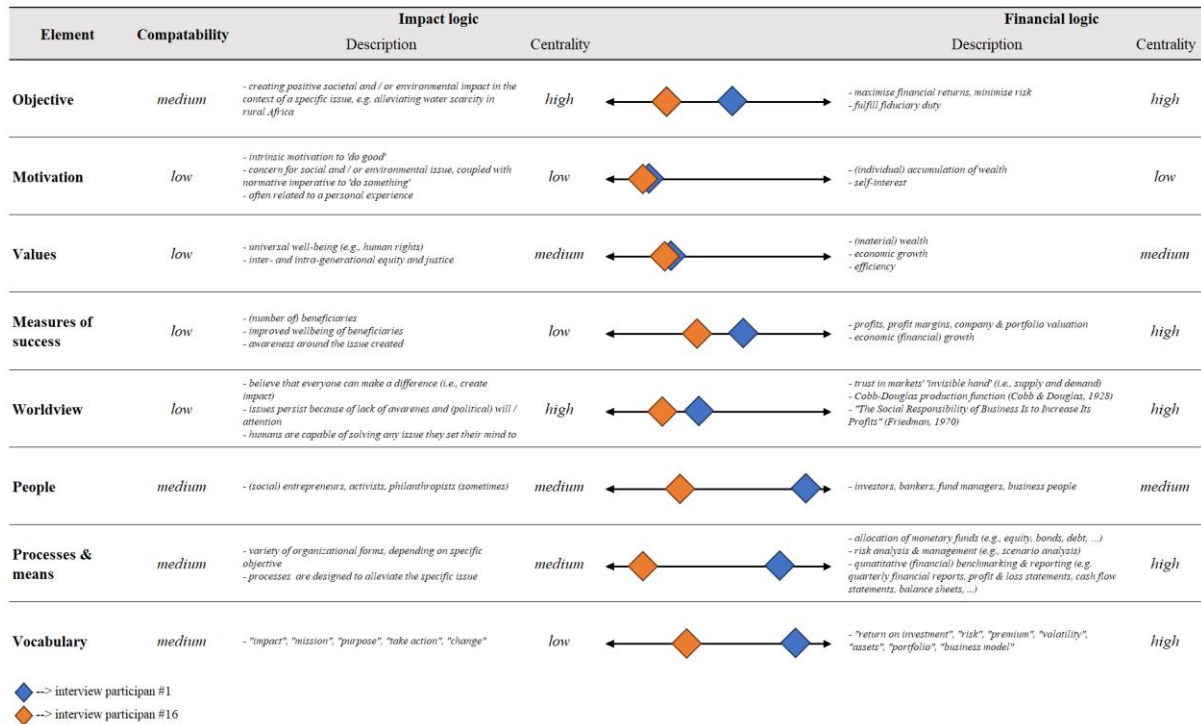


Figure 20: Institutional logics continuum applied to interview participants #1 and #16.

Role of institutional logics in determining the extent of engagement among organizations with different institutional logics framework

The institutional logics continuum complements the framework on the role of institutional logics in determining the extent of engagement among organizations with different institutional logics (see figure 8), insofar as it offers a nuanced perspective on two of the framework's most important variables: the degree of immersion in the principal institutional logic, and the degree of complementarity of the alternative institutional logic.

The framework can be complemented by research from behavioural sciences. For example, the degree of immersion in the principal institutional logic is supported by Tversky & Kahneman's (1973) research on the confirmation bias, which refers to the tendency of interpreting new information in such a way as to support existing beliefs, and the availability heuristic, which refers to the tendency of relying on easily available information to make sense of new information. It could be argued that the higher the degree of immersion in the principal institutional logic, the higher the chances of organizations succumbing to the confirmation and availability bias when engaging with or interpreting information about an alternative institutional logic.

The notion that the perception of and the attitude towards the alternative institutional logic play a distinct role, separate from (albeit influenced by) the degree of immersion in the principal institutional logic, is supported by Magdomedova & Bastida-Vialcanet's (2022) statement that "numerous studies signalize deeply ingrained mutual misunderstandings between [social enterprises] and [social finance entities] that inhibit collaboration" (p. 550; based on Schwienbacher & Larralde, 2012; Sunley & Pinch, 2012). Further, Sanbonmatsu & Fazio (1990) find that whenever the "motivation to make a correct decision" (p. 614) decreases, the tendency to rely on attitudes to make decisions increases, thus providing support for the importance of the strength of the incentive to the quality of the engagement with the alternative institutional logic – particularly, when the organizations holds a negative attitude towards it.

It could be argued that the perception of and the attitude towards the alternative institutional logic should be combined to a single element within the framework, or even left out altogether, given that they are – to a certain degree – reflected in the degree of immersion in the principal institutional logic. However, I decided to leave both elements separately in the model, for two reasons: first and foremost, this distinction emerged from the data, suggesting its importance. Second, an evaluation of the academic definitions of these concepts⁸ shows that considering them separately yields a much richer picture to understand the interactions between organizations with different institutional logics.

The framework, particularly the reinforcing effect positive and negative interactions with the alternative institutional logic can have on the principal institutional logic within an organization, resonates with Reay & Hinings (2009) findings that organizations can effectively adopt an alternative institutional level when they "develop mechanisms of collaboration that support the co-existence of [...] logics" (p. 647). Ultimately, these mechanisms translate into an organization's ability to engage with an alternative institutional logic. Research on the importance of personal relationships between individuals across organizations for the success of collaboration abounds (e.g., O'Leary et al., 2012; Vangen & Huxham, 2003), supporting the link between the quality of engagement and the experience with the alternative institutional logic.

Finally, this allows to answer the research question – *how can institutional logics explain the lack of funding of and investment in nature-based solutions?* This research shows

⁸ "Perception is the process of interpreting and organizing [...] information in order that we can understand it" (Schacter et al., 2016, p. 156). "Attitude is a psychological tendency that is expressed by evaluating a particular entity with some degree of favor or disfavor" (Eagly & Chaiken, 1993, p. 1).

that both organizations that engage in nature-based solutions, and financial institutions adhere to different institutional logics. The ecologic logic and the financial logic, i.e., these organizations' principal institutional logic respectively, are particularly incompatible along the lines of the elements that characterize institutional logics. Many organizations that engage in nature-based solutions and some financial institutions, mainly impact investors, further adhere to the impact logic, which they blend with their respective principal institutional logic. These differences in institutional logics are manifested in vastly different objectives, motivations, values, processes, etc. In other words, all parties involved show a high degree of immersion in their respective principal institutional logic. This is reflected in the rather negative perceptions of and attitudes towards the respective alternative institutional logic, which in turn severely limits the parties' ability to engage with each other, successful engagement in this case being successful funding of or investment in organizations that engage in nature-based solutions.

5.2 Implications, limitations, and further research suggestions

Implications

This research complements existing research on nature-based solutions by further strengthening and conceptualising the ecologic logic (see Olesson et al., 2022; Yan et al., 2021), and showcasing that organizations that engage in nature-based solutions blend the ecologic logic and the impact logic, primarily. Although the ecologic logic should come as no surprise to people engaged in nature-based solutions, in combination with the institutional logics continuum, it should be helpful to such organizations to reflect on how this institutional logic shapes their organization's success, and where it might be holding the organization back. This behaviour, known as self-monitoring, tends to delay action on pre-held attitudes, thus increasing chances of collaboration (Gangestad & Synder, 2000). Financial institutions interested in supporting nature-based solutions can use the ecologic logic to become more familiar with and develop a better understanding of the organizations in this sector.

For organizations that engage in nature-based solutions and would like to secure more funding, as well as financial institutions that would like to direct more funds into nature-based solutions, best practices from the interview participants revolve around three recurring themes:

- 1) Making a conscious effort to adopt and maintain a positive attitude towards organizations with different principal institutional logics. It lays the foundation for fruitful cooperation, as exemplified by interview participant #13's non-threatening,

and welcoming attitude towards business, which allowed them to devise a number of different mechanisms to fund their organization.

- 2) Becoming truly familiar with the alternative institutional logic. It allows not only to accurately identify the degree of complementarity, but creates more openness towards the alternative institutional logic, too, thereby increasing the chances of successful engagement. Interview participant #12 showing their potential investors around their forest site, thereby immersing them in the ecologic logic, is a potent example.
- 3) Finally, almost all interview participants stressed the importance of aligning philosophically – even if the search for organizations to cooperate with might require more effort. Philosophical alignment can serve as a strong incentive to explore creative ways to cooperate.

In the context of investing in socially and environmentally responsible organizations, institutional logics have mostly been used to explain how organizations in the sector blend institutional logics to accommodate for their organizational needs (e.g., Maiborn & Smith, 2016; Nicholls, 2010; Oleson et al., 2023). To the extent of my knowledge, and somewhat surprisingly, the institutional logics perspective has barely been used to explain interactions between organizations – a conclusion shared by Moran & Ward-Christie (2022), who list themselves, Castellás et al. (2018), and Agrawal & Hockerts (2019b) as the only exceptions to this. Neither, however, present a conceptual model on how different institutional logics between organizations shape the way these organizations engage. In the context of cross-sector partnerships, Ahmadsimab & Chowdhury (2019) use institutional logics to understand interactions between organizations with different institutional logics. However, their focus lies much more on managing tensions (Ferraro et al., 2015), than on why these tensions arise in the first place. This research fills this gap. In particular, it builds on the research of Besharov & Smith (2014) by extending their framework on blended institutional logics to consider the various elements of institutional logics, and applying it on an inter-organizational level (see institutional logics continuum). Further, it contributes to the research of pluralistic institutional logics, particularly to that of “hybrids of hybrids” (Moran & Ward-Christie, 2022, p. 1011).

Limitations

There are some important limitations of this research to consider. In terms of methodology, there was a lack of heterogeneity of interview participants, particularly financial institutions. A more complete approach would have included participants from a more diverse

set of organizations, for example banks, insurance companies, etc. Most financial institutions that participated in this research are rather small. Further, they all displayed a pro-social and pro-environmental attitude already, which makes generalization of the findings in regards to financial institutions questionable. Specifically, there were two factors holding me back from including a more diverse set of financial institutions: first, since the focus of this research was on nature-based solutions, it was important that interview participants were not only familiar with nature-based solutions, but had already engaged with organizations in the sector, too. This limited the range of options. Second, most financial institutions that I approached for an interview either did not reply at all, or rejected the invitation. Further, the interview participants that stemmed from the Bioregional Weaving Labs' network had already been pre-selected by the organization. On this pre-selection I had no influence.

Further, given my own pro-social and pro-environmental attitude and despite my best effort to prevent it, I cannot rule out that my own biases as a researcher impacted both the way I conducted the interviews, as well as my interpretation of them.

Institutional logics are inherently difficult to conceptualize, particularly, since there is no standardized approach. Since most researchers chose elements that fit their research context best, the choice of elements is inherently ambiguous. Despite my efforts to choose universally applicable elements based on institutional logics research (e.g. Thornton & Ocasio, 1999; Tracey et al., 2011) and principles on coding paradigms (Tiefel, 2005), my research is no exception. It is particularly difficult to strike a balance between describing institutional logics in much detail (i.e., through a large number of elements) and conveying their essence in an readily comprehensible framework.

Finally, this difficulty is reflected in the coding process and the attribution of interview participants' quotes to the elements of the institutional logics, insofar as the different data points, first order codes, second order themes, and aggregate dimensions are not necessarily mutually exclusive.

Further research suggestions

Building on the limitations mentioned in the previous segment, I believe that repeating this research with a larger number of and a more diverse set of interview participants could yield more detailed insights. Whereas I interviewed organizations that engage in nature-based solutions and impact investors only, widening the pool of interview participants could help to

- 1) advance the conceptualization of the ecologic logic, particularly in regard to its institutional grounding, by including interview participants from other disciplines related to the environment, such as biologists, nature conservationists, etc., and to
- 2) sharpen the role of institutional logics in determining the success (or failure) of inter-organizational interactions, by including a more diverse set of interview participants from, on the one side and as mentioned above, disciplines related to the environment, and on the other side, different kinds of financial institutions, such as commercial banks, insurance companies, etc. Presumably, these interview participants would be more deeply immersed in their respective principal institutional logics, which would allow to test and advance this research's proposed framework.

Next, in the conceptualization of the role of institutional logics in determining the extent of engagement among organizations with different institutional logics framework, I draw on behavioural sciences to explain the role of the perception of and the attitude towards the alternative institutional logic. I believe there is much potential in further exploring institutional logics through a behavioural sciences perspective. Possibly, the self-fulfilling prophecy, as in how the alternative institutional logic is perceived, what attitude is adopted towards it, and the eventual quality of the engagement, might prove particularly interesting (Merton, 1948).

Further, I invite researchers on institutional logics to explore the continuum framework. As previously pointed out, there is no universally accepted set of elements to characterise institutional logics. Rather, researchers tend to choose elements that fit the particular context of their study. Not only does this make institutional logics difficult to compare across studies; this practice runs the risk of the choice of elements reflecting the researcher's own (principal) institutional logics. Although I attempted to consider this during my choice of elements, and to define them so that they could be applied across context, I am far away from proclaiming neutrality or even appropriateness of my choice of elements. Further research building on principles to design these elements (e.g., Tiefel, 2005; Tracey et al., 2011) to address this issue.

Finally, I join Moran & Ward-Christie (2022) in their call for more research on the role of institutional logics in determining the success (or failure) of inter-organizational interactions, and on how to overcome incompatible institutional logics when attempting to engage with organizations with alternative institutional logics.

5.3 Conclusion

This research addressed the question of *how institutional logics can explain the lack of funding of and investment in nature-based solutions*. I approached the research question from three distinct but interrelated angles, each of which addressed a different, important research gap. First, by identifying and conceptualising the institutional logics in the context of nature-based solutions, particularly the ecologic logic, this research contributes to the growing field of research on nature-based solutions. Second, I presented the institutional logics continuum, which builds on the work of Greenwood et al. (2011) and Berkashov & Smith (2014) by providing a more nuanced framework to understand how different institutional logics blend within organizations. Finally, this research addresses the role of institutional logics when organizations with different institutional logics seek to engage with each other – a research area that, despite its potential (Moran & Ward-Christie, 2022), has received only very little attention so far –, by introducing a framework which links an organization’s degree of immersion in its principal institutional logic to its ability to successfully engage with organizations with alternative institutional logics. The second and the third angle of the research question contribute to the theoretical field of institutional logics.

I believe in the potential of nature-based solutions, and I hope the different organizations that are involved in this sector can use this research’s findings to evaluate where the institutional logics they are embedded in are holding them back. Further, I hope they can use this research’s frameworks to find better ways to collaborate and to grow the impact of nature-based solutions. Further, I invite researches in the field of institutional logics to use and advance the frameworks this research introduces. As a global society we are increasingly facing grand challenges (Ferraro et al., 2015) that will require us to think beyond our philosophical (read, ideological) constraints and to work alongside each other. I profoundly agree with Gümpey et al.’s (2020) sentiment that institutional logics provide a strong framework not only to understand organizational and individual behaviour, but to guide more meaning- and impactful cooperation between organizations and individuals. While I find that the success of two organizations’ seeking to cooperate depends on their ability to engage with each other (which in turn depends on their institutional logics, of course) and their incentive to do so, I believe that the strongest determinant is each and everyone’s innate will to make it work. In the words of English writer George Herbert – *where there’s a will, there’s a way*.

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7. Appendix

7.1 Appendix I – Examples of nature-based solutions

Example #1: IRIDRA



IRIDRA is an environmental engineering company based in Florence, Italy. Founded in 1998 by an environmental chemist, a biologist and a mechanical engineer, IRIDRA is an internationally recognized leader in nature-based solutions. IRIDRA specialises in constructed wetlands for wastewater treatment. Although archaeological evidence indicates that wetlands were used to treat wastewater as early as 2,000 BC already, it has only been throughout the last 20 years that their benefits have been

recognized by a wider audience. Some benefits include their minimal maintenance requirements, low carbon footprints, and consistently high levels of performance. Constructed wetlands can be used for primary (i.e., removal of solids), secondary (i.e., bacterial decomposition), and tertiary (i.e., extra filtration) water treatment. To do so, they rely on complex biological, chemical, and physical processes, such as catabolic and anabolic microbial degradation and ultraviolet radiation degradation, and can be combined with and to support other ecosystem services. One such example is Gorla Maggiore’s “Water Park”, designed by IRIDRA. It is a multipurpose nature-based solution that not only uses a constructed wetland to treat 150,000 m³ of sewer overflow per year, but also serves to improve the water quality of the Olona river, mitigate the risk of floods, support local biodiversity, and offers a recreational site to citizens (IRIDRA, n.d.).

Example #2: Fundación Lonxanet



Founded in 2002, Fundación Lonxanet is a Spanish organization that empowers local traditional fisheries to protect marine protection areas. Fundación Lonxanet recognized that traditional

fisheries were (and continue to be) severely threatened by the pollution and overexploitation of the sea by industrial fisheries and the lack of attention given to their issues by local governments, leading to a marginalization of local tradition fisheries, which employ environmentally friendly fishing practices. Fundación Lonxanet supports local traditional fisheries by giving them more direct access to markets, thus strengthening their economic standing. Maybe more importantly, they support local traditional fisheries in setting up marine protection areas in which they can not only fish, but for which they are also responsible. Fundación Lonxanet enables this through participative governance structures that create a culture of shared responsibility and give them a unified voice, thus transforming the role of the traditional fisheries from mere fishers to environmental protectors (Fundación Lonxanet, n.d.).

7.2 Appendix II – Interview guidelines

For investors:

General

- Q1** Tell me about your organisation and your role.
- Q2** As laid out earlier, my research is about the investment gap in NbS. In your words / opinion - what's the issue?
F2.1 Could you describe particular **instances** where this showed?
F2.2 What did you **think** in that situation?
F2.3 How did you **react** in that situation?
- Q3** What do people in your field / around you think the issue is?




Finance

- Q4** Do you finance any NbS?
F4.1 Could you describe "the road" you took to get there?
Could you describe particular **instances**? What did you **think** / how did you **react** in that situation?
F4.2 Why that type of financing? What are its benefits and shortcomings?
F4.3 How did it come to pass?

Investees

- Q5** What is your relationship with your investees (in NbS) like (positive and/or negative)?
F5.1 Are there issues that regularly come up?
Could you describe particular **instances**? What did you **think** / how did you **react** in that situation?
F5.2 What are common arguments that you - and your investees - bring up?
Could you describe particular **instances**? What did you **think** / how did you **react** in that situation?
F5.3 How do you resolve those issues?
Could you describe particular **instances**? What did you **think** / how did you **react** in that situation?
F5.4 Would you wish investees saw certain things differently? Elaborate.
Could you describe particular **instances**? What did you **think** / how did you **react** in that situation?
F5.5 What advice would you give NbS-businesses?
F5.6 What advice would you give fellow investors that invest in NbS?
- Q6** How did you / how do you approach investees? / How do they approach you?
F6.1 Are there issues that regularly come up?
Could you describe particular **instances**? What did you **think** / how did you **react** in that situation?
F6.2 What are common arguments that you - and your investees - bring up?
Could you describe particular **instances**? What did you **think** / how did you **react** in that situation?
F6.3 How do you resolve those issues?
Could you describe particular **instances**? What did you **think** / how did you **react** in that situation?
F6.4 How do you prepare when you approach investees?
Could you describe particular **instances**? What did you **think** / how did you **react** in that situation?
F6.5 Would you wish investees saw certain things differently? Elaborate.
Could you describe particular **instances**? What did you **think** / how did you **react** in that situation?
F6.6 What advice would you give NbS-businesses?
F6.7 What advice would you give fellow investors that would like to invest in NbS?

PEER QUESTIONS

-  **Johanna 1** - What indicators are in your opinion essential to report on for receiving financial capital and why?
-  **Johanna 2** - How important are financial results compared to environmental and social returns and why?
-  **Johanna 3** - What do you believe are the biggest challenges to measure impact?

WRAP UP

- W1** What further questions would you have liked me to ask you?
- W2** What else would you like to say or add to this conversation?
- W3** What questions would you like to ask me?

For organizations engaged in nature-based solutions:

General

Q1 Tell me about your organisation and your role.

Q2 As laid out earlier, my research is about the investment gap in NbS. In your words / opinion - what's the issue?

F2.1 Could you describe particular *instances* where this showed?

F2.2 What did you *think* in that situation?

F2.3 How did you *react* in that situation?

Q3 What do people in your field / around you think the issue is?

Finance

Q4 How do you finance your NbS?

F4.1 Could you describe "the road" you took to get to that form of financing?

Could you describe particular *instances*? What did you *think* / how did you *react* in that situation?

F4.2 Why that type of financing? What are its benefits and shortcomings?

F4.3 How did it come to pass?

B4.4 What types of (social) finance did you already use? (BWL)

Investors

Q5 What is your relationship with your investors like (positive and/or negative)?

F5.1 Are there issues that regularly come up?

Could you describe particular *instances*? What did you *think* / how did you *react* in that situation?

F5.2 What are common arguments that you - and your investors - bring up?

Could you describe particular *instances*? What did you *think* / how did you *react* in that situation?

F5.3 How do you resolve those issues?

Could you describe particular *instances*? What did you *think* / how did you *react* in that situation?

F5.4 Would you wish investors saw certain things differently? Elaborate.

Could you describe particular *instances*? What did you *think* / how did you *react* in that situation?

F5.5 What advice would you give fellow NbS-businesses?

Q6 How did you / how do you approach investors?

F6.1 How do they react when you approach them?

Could you describe particular *instances*? What did you *think* / how did you *react* in that situation?

F6.2 Are there issues that regularly come up?

Could you describe particular *instances*? What did you *think* / how did you *react* in that situation?

F6.3 What are common arguments that you - and your investors - bring up?

Could you describe particular *instances*? What did you *think* / how did you *react* in that situation?

F6.4 How do you resolve those issues?

Could you describe particular *instances*? What did you *think* / how did you *react* in that situation?

F6.5 How do you prepare when you approach investors?

F6.6 Would you wish investors saw certain things differently? Elaborate.


Could you describe particular *instances*? What did you *think* / how did you *react* in that situation?


F6.7 What advice would you give fellow NbS-businesses?

B6.8 Which types of social finance could be useful to scale systemic innovations in your region? (BWL)

PEER QUESTIONS

 **Johanna 1** - What indicators are in your opinion essential to report on for receiving financial capital and why?

 **Johanna 2** - How important are financial results compared to environmental and social returns and why?

 **Johanna 3** - What do you believe are the biggest challenges to measure impact?

WRAP UP

W1 What further questions would you have liked me to ask you?

W2 What else would you like to say or add to this conversation?

W3 What questions would you like to ask me?

7.3 Appendix III – Overview of institutional logics

Perspective	Element	Ecologic logic	Impact logic	Financial logic
Objective	What is this institutional logic's objective?	<ul style="list-style-type: none"> - preservation and integrity of the Earth's biosphere and its ecosystem - harmonious coexistence of humans with nature - reconnect humans with nature 	<ul style="list-style-type: none"> - creating positive societal and / or environmental impact in the context of a specific issue, e.g. alleviating water scarcity in rural Africa 	<ul style="list-style-type: none"> - maximise financial returns, minimise risk - fulfill fiduciary duty
Motivation	What motivation drives the pursuit of that objective?	<ul style="list-style-type: none"> - deep and intrinsic appreciation of nature - serious concern for the Earth's biosphere 	<ul style="list-style-type: none"> - intrinsic motivation to 'do good' - concern for social and / or environmental issue, coupled with normative imperative to 'do something' - often related to a personal experience 	<ul style="list-style-type: none"> - (individual) accumulation of wealth - self-interest
Values	What does this institutional logic attribute value to?	<ul style="list-style-type: none"> - nature - (natural) sciences - humbleness in relating to nature 	<ul style="list-style-type: none"> - universal well-being (e.g., human rights) - inter- and intra-generational equity and justice 	<ul style="list-style-type: none"> - (material) wealth - economic growth - efficiency
Measures of success	How does this institutional logic measure and define its success?	<ul style="list-style-type: none"> - integrity and wellbeing of the Earth's biosphere and its ecosystems - systems and resilience thinking approach - rejects quantifiable metrics - nature is complex and unpredictable - humans are part of nature - decries human disconnection from nature - rejects linear thinking and dualistic separation from nature - rejects anthropocentric understanding (i.e., control over, exploitation) of nature 	<ul style="list-style-type: none"> - (number of) beneficiaries - improved wellbeing of beneficiaries - awareness around the issue created 	<ul style="list-style-type: none"> - profits, profit margins, company & portfolio valuation - economic (financial) growth
Worldview	How does this institutional logic understand explain the world and its environment?	<ul style="list-style-type: none"> - nature is complex and unpredictable - humans are part of nature - decries human disconnection from nature - rejects linear thinking and dualistic separation from nature - rejects anthropocentric understanding (i.e., control over, exploitation) of nature 	<ul style="list-style-type: none"> - believe that everyone can make a difference (i.e., create impact) - issues persist because of lack of awareness and (political) will / attention - humans are capable of solving any issue they set their mind to 	<ul style="list-style-type: none"> - trust in markets' 'invisible hand' (i.e., supply and demand) - Cobb-Douglas production function (Cobb & Douglas, 1928) - "The Social Responsibility of Business Is to Increase Its Profits" (Friedman, 1970)
People	Who are the people embedded in this institutional logic?	<ul style="list-style-type: none"> - biologists, forest rangers, professors (sometimes), architects (sometimes), (environmental) engineers (sometimes) 	<ul style="list-style-type: none"> - (social) entrepreneurs, activists, philanthropists (sometimes) 	<ul style="list-style-type: none"> - investors, bankers, fund managers, business people
Processes & means	What are the processes and means this institutional logic uses to achieve that objective?	<ul style="list-style-type: none"> - reliance on intelligence of nature - enabling role for nature to flourish, e.g., protection areas, regenerative practices 	<ul style="list-style-type: none"> - variety of organizational forms, depending on specific objective - processes are designed to alleviate the specific issue 	<ul style="list-style-type: none"> - allocation of monetary funds (e.g., equity, bonds, debt, ...) - risk analysis & management (e.g., scenario analysis) - quantitative (financial) benchmarking & reporting (e.g. quarterly financial reports, profit & loss statements, cash flow statements, balance sheets, ...)
Vocabulary	What do subscribers of that institutional logic talk about?	<ul style="list-style-type: none"> - "nature", "ecosystem", "system", "transition", "wellbeing", "connection" 	<ul style="list-style-type: none"> - "impact", "mission", "purpose", "take action", "change" 	<ul style="list-style-type: none"> - "return on investment", "risk", "premium", "volatility", "assets", "portfolio", "business model"

Sources: adapted from Agrawal & Hockers (2019b), Casetillas et al. (2018), Laasch (2018), Nicholls (2010), Olesson et al. (2023), Schoenmaker & Schramade (2019), and other sources identified