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The journey of accounting for nature:

A qualitative study of the strive to account for nature through translation of the TNFD framework from a Scandinavian Institutionalism perspective

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Abstract

This thesis examines how the traveling idea of accounting for nature is translated and materialized into a standardized framework. This is interesting as there is a rising interest in how to report on environmental issues and this interest has now expanded beyond climate-related issues to nature more broadly. Drawing on an empirical study of the so-called TNFD framework and theories related to translation, the thesis identifies three main results. First, the process of translating the idea into a standardized framework is complex and conflict-intense, with idea carriers contesting components and engaging in iterative feedback loops through dis-embedding, packaging, and unpacking how to account for nature. Second, the idea carriers play a crucial role in the creation of the framework, where translations become accepted, excluded, contested, or ignored, based on what aligns with their local translation process. Third, idea carriers constantly evaluate the credibility, salience, and legitimacy of different frameworks. This leads to battles between alternative standardized frameworks, as idea carriers evaluate their local translations of the TNFD framework, where the materialization of a framework that does not align with the idea carriers' views can lead to the strengthening of other frameworks. In showing this, this thesis contributes to previous research into sustainability performance frameworks by showing how the idea of nature (and not just climate) is materialized, and how frameworks battle. Additionally, this thesis speaks to the translation literature by showing how actors accept, exclude, contest, or ignore aspects of the frameworks through local translation processes.

Keywords: Taskforce of Nature-related Financial Disclosures (TNFD), Translation, Travel of ideas, Idea carriers, Accounting for nature, Calculative practices, Credibility, Salience, Legitimacy, Dis-embedding, Packaging, Unpacking.

Introduction

Organizations are operating in an ever-changing business landscape, where ideas travel and are being translated constantly (Czarniawska and Joerges, 1996). One of these traveling ideas is known as sustainable development¹. A way to account for this traveling idea is by translating sustainable development into collectively created frameworks². Within sustainable development there is coexistence where ideas expressed in standardized frameworks unite and resemble one another due to legitimacy pressures, and where the ideas battle by adopting different aims and scopes (Reinecke et al., 2012). However, a challenge in this standardization process lies in the quantification of the sustainability performance³ of companies. The saying “what gets measured gets done” suggests that how we measure a phenomenon is important, which is an idea argued for in research (Bhanot et al., 2017; Trianni et al., 2017). Numerous examples exist where the idea of accounting for sustainability within businesses has led companies, governments, and other entities to collaborate in developing standardized frameworks. These include, but are not limited to, the Global Report Initiative (GRI) (Labuschagne et al., 2005; GRI, 2013), the ISO 14001 standard (Qorri et al., 2017), The Corporate Sustainability Reporting (CSRD) (European Commission, 2023), the Taskforce on Climate-Related Financial Disclosures (TCFD) (O’Dwyer & Unerman, 2020), and the Taskforce of Nature-related Financial Disclosures (TNFD) (Deweerdt et al., 2022). These standardized frameworks all aim to establish a measurable approach to assess sustainability performance.

A number of studies have been conducted discussing how ideas of climate-related sustainable development are materialized into the business landscape by the creation of sustainability frameworks, for example the adoption of integrated reporting (<IR>), GRI and TCFD, all of which are climate-focused (e.g., Sonnerfeldt & Aggestam, 2022, Rowbottom & Locke, 2016, Brown et al., 2009a, Brown et al., 2009b; O’Dwyer & Unerman 2020; Dragu & Tiron-Tudor, 2013). Previous research on the climate-related framework <IR> has found support that political, economic, and cultural aspects are influencing the use of the framework, hence its translation (Dragu & Tiron-Tudor, 2013). The creation of the framework <IR> unfolded as a collaboration between different actors: voluntary initiatives from local organizations combined with regulatory incentives from policymakers, and the enrollment of global actors (e.g., GRI) (Rowbottom & Locke, 2016). On a local level, these actors are seen as idea carriers who have significant importance for the co-translation of <IR> where a low commitment can also limit the compatibility, development, and use of the framework (Sonnerfeldt & Aggestam, 2022). Similarly, the creation of GRI shows how the inclusiveness of stakeholders, iterative testing and self-correction assured the standardization of the idea of including climate into the corporate agenda (Brown et al., 2009a; Brown et al., 2009b).

¹ Defined as: “sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs” (WCED, 1987).

² Within this master thesis the use of frameworks is interchangeable with standards as we define frameworks as “a set of voluntary predefined rules, procedures, and methods to systematically assess, measure, audit and/or communicate the social and environmental behavior and/or performance of firms” (Gilbert, Rasche & Waddock, 2011, p. 24) in close alignment of what is commonly defined as a sustainability standard within academia. However, to use the term of frameworks instead of standards is more aligned with the terminology of the field, practitioners, and is therefore used.

³ Sustainability performance is defined as: “negative or positive bottom line of economic, environmental and social impacts of an entity against a defined baseline” (Büyüközkan & Karabulut, 2018, p.254).

Furthermore, it made the standardized framework practical for organizations and meaningful for the financial market-users (Brown et al., 2009a; Brown et al., 2009b). Compared to <IR> and GRI, where both focus on climate emission impacts, the research about the emergence of the TCFD, which is centered around climate-related dependencies and risks, has highlighted several challenges regarding standardization (O'Dwyer & Unerman 2020). For example, there are challenges with data availability, how investors interpret climate-related disclosures, discrepancy in the understanding of the application of scenario analysis, and how the scenarios should be interpreted by stakeholders (Chua et al., 2022). These challenges have been partially addressed from a corporate perspective by conducting workshops and training of company executives, to assist in the translation of the idea of accounting for climate (O'Dwyer & Unerman 2020).

During the journey of materializing the traveling idea of accounting for climate-related sustainable development, organizations participating in the development process of translating the standardized framework into business practices experience resistance factors such as increased costs, limited resources, and a lack of core actor commitment (Sonnerfeldt & Aggestam, 2022). Misalignment between what is practical or possible to disclose for organizations, and what is meaningful for end-users within the financial market, is another challenge surfaced within the <IR> framework (Rowbottom & Locke, 2016). The swift stabilization of how to account for climate using GRI gave little space for the building of internal organizational processes and rethinking of fundamental assumptions within the GRI framework (Brown et al., 2009a). Furthermore, organizations are still under pressure from TCFD to understand the material risks within their supply chain, as it requires a high degree of stakeholder involvement (O'Dwyer & Unerman 2020). The traveling idea of incorporating nature-related sustainable development within the business landscape, expressed through the standardization of TNFD, is yet under-explored and seldom mentioned in research. An initial study from a global lens shows how a lack of transparency within supply chains creates complexities in measuring nature-related risks in pharmaceutical companies (Deweerd et al., 2022). However, it offers a limited in-depth understanding of how actors at both global and local levels are translating the idea of accounting for nature by either accepting, excluding, contesting, or even ignoring different forms of the TNFD framework in heterogeneous sectors.

Hence, the idea of incorporating sustainable development into the business landscape has historically been focused on handling climate-related issues and risks, for example the risk of increased greenhouse emissions (e.g., Zongming et al., 2019; 2020; Eccles & Krzus, 2019; O'Dwyer & Unerman, 2020). However, organizations are currently battling how to translate the traveling idea of nature-related (e.g., biodiversity) dependencies, impacts, risks, and opportunities (e.g., Deweerdt et al., 2022). There is an urgency to act, as half of the Earth's terrestrial ecosystems are depleted and exploited beyond repair (Watson et al., 2016), and that the rate of depletion is rapidly increasing while the taken-for-granted ecosystem services are fundamental for the survival of the economic system (Maron et al., 2018). As previous research offers a limited in-depth understanding of how actors, both on global- and local levels, are adapting to the traveling idea of accounting for nature, there is a need to expand on

this research. Furthermore, this study addresses the demand for additional research in the field, focusing on how sustainability is evaluated, translated, and developed into standardized frameworks (Büyükozkan & Karabulut, 2018; Searcy, 2012). By addressing these aspects, this study aims to contribute to the expansion of sustainability performance literature. The study will highlight various nature-related aspects, such as, how does the idea of accounting for nature emerge, how is the idea constructed into a standardized framework, how is the framework updated, who are the spokespersons and idea carriers of the idea, how is the traveling idea negotiated and reframed, what are the roles of the participating organizations, what trade-offs and challenges are experienced, and most importantly, how is the traveling idea of accounting for nature translated into a standardized framework. By drawing on the concept of translation from Scandinavian institutionalism, the study aims to contribute to existing literature by expanding the understanding of the complexities and dynamics involved in the translation process of the traveling idea of accounting for nature, which materializes into a sustainability framework. The study therefore seeks to expand the literature on not only sustainability performance, but also contribute to the broader field of translation research. The study is focusing on the following research question:

- How does the traveling idea of accounting for nature translate into a standardized framework?

The purpose of the study is therefore to move into the development of TNFD from a global perspective, through documents studies, and local perspective, delimited to Swedish organizations where interviews and workshops was conducted, to provide a better understanding of how the idea of accounting for nature is translated into the TNFD framework. The study aims to examine how businesses respond to the traveling idea, by either accepting, excluding, contesting, or ignoring different parts of the framework, based on their translation of it.

Theoretical framework

Scandinavian institutionalism & the translation of standardized frameworks in practice

With the purpose of the study, to demonstrate how the traveling idea of accounting for nature becomes standardized into the sustainability framework TNFD through translations, this paper draws upon Scandinavian institutionalism and its concept of translation, inspired by Actor-Network Theory (Czarniawska and Joerges, 1996). This study moves away from traditional institutionalism, which primarily focuses on how global actors shape social structures through their ideas, beliefs, and norms (Meyer and Rowan, 1977), and instead moves into the role of both global and local actors in a dynamic process of shaping and reshaping social structures through the translation of ideas, beliefs, and norms (Czarniawska, 2008). This study is using the concept of translation as defined by Mennicken (2008, p.389): "the relational and rhetorical work involved in making the development and spread of scientific inventions, calculative practices or models of financial control". It highlights the continuous effort and construction involved in the travel of ideas, resulting in the creation of

entities such as TNFD, which includes calculative practices and financial control, aligning with the insights of Czarniawska and Joerges (1996).

To understand the process of shaping and reshaping ideas, it is important to explore how these ideas are formed and travel. Drawing on the perspective of Scandinavian institutionalism, the travel of ideas occurs when they are translatable and practically manageable (Czarniawska and Joerges, 1996). Moreover, for ideas to have an impact and lead to changes in social structures, they require support from both global and local actors (Mennicken, 2008). This support can manifest in various ways, such as local-actors organizing workshops and seminars to explore and demonstrate the practical value of the idea, or global-actors engaging in lobbying efforts to secure political backing for the traveling idea (Czarniawska and Joerges, 1996).

When a traveling idea becomes materialized into a standardized framework, it is considered effectful as it leads to action (Røvik, 1996 in Sonnerfeldt & Aggestam, 2022). However, an idea or a de-contextualized framework can also undergo translation and acquire new meanings in different local contexts (Czarniawska and Joerges, 1996). An important aspect of what makes ideas travel or not, is the idea carriers (Sahlin-Andersson & Engwall, 2002). Researchers, professionals, leaders, consultants, and planners are commonly recognized as legitimate actors who frequently serve as idea carriers. Idea carriers act as change agents by capturing translated ideas, modifying them, and applying them across various contexts to facilitate the evolution of ideas (Sonnerfeldt & Aggestam, 2022). It is essential to understand that the translation process is dynamic, with actors continuously entering and exiting the process (Czarniawska and Joerges, 1996). Moreover, translation extends beyond human actions and includes the contribution of texts, metaphors, and artifacts in ongoing discourse. Ideas are translated into action and practice when actors collectively enact upon them after reaching consensus (Czarniawska and Joerges, 1996). However, competing ideas can halter materialization and prevent the ideas from being executed in practice and action (Brunsson, 1985, in Czarniawska and Joerges, 1996).

To gain deeper insights into the process of ideas traveling and materializing into social structures, Czarniawska and Joerges (1996) propose it to be conducted in four steps. Firstly, dis-embedding occurs as the idea is detached from its original institutional context. Secondly, packaging involves translating the traveling idea into a distinct entity which can be effectively translated further to other contexts. Thirdly, unpacking takes place as actors within the new context interpret the idea and initiate a fitting process to adapt it to local business practices. Finally, re-embedding happens when the entity is successfully translated into business practices. One example of how accounting for nature can be translated is to quantify it to represent indicators and metrics, often referred to as calculative practices (Miller, 2001). Hence, to understand the standardization of traveling ideas, there is a need to move into calculative practices. Calculative practices serve as a management tool offering evaluation, monitoring, and decision-making support across various organizational levels (*ibid.*). However, challenges arise when attempting to combine quantitative metrics (*i.e.*, calculative practices) and employee narratives in assessing sustainability performance due to the inherent

short-term focus of calculative practices compared to the long-term perspective of sustainability (Cuganesan et al., 2014). Additionally, challenges exist in determining the boundaries of corporate responsibility (e.g., how to accurately measure greenhouse gases) (Hiss, 2013). Nonetheless, research has found that diverse viewpoints and interpretations can coexist, illustrating the interplay between calculative practices and sustainability (Dumay and Ronney, 2016). Furthermore, studies have shown how the interplay between governmental narratives and calculative practices can generate sustainable transitions in transportation, highlighting the interconnectedness of sustainability and calculative practices (Jensen et al., 2017). Moreover, research supports the notion that calculative practices are essential drivers of sustainable development, as companies are more inclined to improve sustainability performance when it is measurable (Espeland & Sauder, 2007).

Another important aspect to acknowledge when examining the translation process of traveling ideas which materialize into a standardized framework within the context of sustainability, is to consider why standardized frameworks are either institutionalized or abandoned. Research has highlighted that the institutionalization or discontinuation of a standardized framework depends on the amount of credibility, salience, and legitimacy created for its users and idea carriers (Cash et al., 2003; De Olde et al., 2018). These concepts do not only shed light on the factors influencing the institutionalization or discontinuation of standardized frameworks, but also provide insight into why firms participate in the development process. It reveals that brand protection, reputation management (Brown et al., 2009a), and the pursuit of credibility are significant driving forces for companies to engage in the development of sustainability frameworks (Fortanier et al., 2011).

Credibility includes the cognitive belief, evidence, and arguments that support a framework and its underlying assumptions (De Olde et al., 2018). Sustainability frameworks, which aim to simplify complexity to support decision-making for actors (Meadows, 1998), face a dilemma: increased simplification may result in decreased credibility due to the framework's inability to capture the full complexity. Precision, sensitivity, data availability, time, and cost are factors influencing the credibility and use of sustainability tools (De Olde et al., 2018). Additionally, the developer's underlying assumptions and logic play a significant role in the use of sustainability frameworks (Gasparatos, 2010). Salience refers to the perceived relevance of sustainability frameworks to users and practitioners (Cash et al., 2003), where the value that these frameworks bring to users influences their adoption. Research in the agricultural sector suggests that perceived salience is influenced by factors such as framework design, cost, and time investment (De Olde et al., 2016; Lynch et al., 2000; Van Meensel et al., 2012). Furthermore, the ease of grasping the framework and its terminology also impacts its salience (i.e., the user-friendliness) (De Olde et al., 2016). Additionally, that the framework offers trustworthy decision-making aid which aligns with the experience of the user by being based on similar judgment values is also vital for the experienced salience of the framework (De Olde et al., 2016). Legitimacy involves building frameworks based on fair beliefs, values, and considerations of opposing views and interests (Cash et al., 2003). Hence, alignment between recommended indicators in a framework and the contextual beliefs of users, including localized cultural beliefs, is crucial for legitimacy (De Olde et al., 2018).

Methodology

To answer the research question and understand how the idea of accounting for nature travels and translates into the development of TNFD, this study has used a qualitative research design. Qualitative methods are suitable according to previous research (Silverman, 2019), as they allow for in-depth exploration of published documentation and firsthand accounts from organizational members within the social context of the TNFD's translation process.

To gain insights into how the idea of accounting for nature travels and is translated into TNFD on a global level, this study has utilized document studies. Previous research acknowledges the value of analyzing text to understand its reflection of reality (Silverman, 2019). Therefore, by examining documents, this study attempts to comprehend the translation of the idea of accounting for nature by following the framework's development from a global perspective. Additionally, by conducting a document study the research moves into analyzing participating actors in the creation of the documents, who are excluded, the purpose of the documents, if there are taken-for-granted assumptions with the process of constructing the documents and how they go about constructing the interpretation into text (Silverman, 2019). Hence, by conducting documented studies we can understand how the idea of accounting for nature is translated within the development of TNFD, but also the connected dynamics and complexities can be surfaced.

To understand, on a local level, how the idea of accounting for nature is translated by engaging in the TNFD framework a multiple case study design was used providing opportunities to understand the social accounts within a broader spectrum of case organizations compared to single case studies (Bryman and Bell, 2011; Eisenhardt & Graebner, 2007). Therefore, the multiple case study design gives opportunities to obtain richer data by allowing more than solely one case to be studied. However, it also generates complexities as each case has its own context which needs to be accounted for (Eisenhardt & Graebner, 2007). However, when handling this complexity through trustworthy descriptions of each of the settings within the organizations, it can offer conceptualized findings which are relatable across multiple sectors (Eisenhardt & Graebner, 2007).

The setting

To research how ideas of accounting for nature travels and are translated into business practices, the TNFD framework is researched, primarily due to its nature-related focus, while it still acknowledges the interplay of other sustainability dimensions and the climate. This framework shifts the focus of sustainability reporting to disclosing nature-related dependencies, impacts, opportunities, and risks, focusing on moving companies' focus and capital to become more nature-positive, contributing to increased sustainability (Deweerd, 2022). The framework focuses broader than disclosing solely environmental aspects of nature-related risks and dependencies (TNFD, 2022a). It also discloses social aspects of impacts and dependencies that link to nature-related risks, for example impacts on knowledge systems, culture, local communities, and indigenous people (TNFD, 2022b). Moreover, it

connects the additional risks, impacts, dependencies, and opportunities to how the organization is affected by this economically. Therefore, by researching the use of the TNFD framework, all dimensions of sustainability can be acknowledged, however with the focus on nature-related issues.

For the conducted multiple case study, the study had access to nine Swedish companies in heterogeneous sectors enrolled in the BioPath project (funded project), where the project has a main aim to partake in the co-creation of developing the TNFD framework. All participating organizations are engaged in accounting for nature by assessing the TNFD framework, in the version 0.3 and version 0.4. Furthermore, all the company participants are from the Swedish division of the company, hence the study applies a local perspective within a Swedish context.

Company A is a global organization who operates in the forest products industry and has over twenty-three thousand employees. Company B is a large energy company that operates primarily in the areas of power generation and distribution, with operations in multiple countries around the world and has over twenty thousand employees. Company C is a large Swedish bank who operates on a global scale with over twelve thousand employees worldwide. Company D is a government-owned financial institution that provides financial solutions to support Swedish exports and investments abroad. It is a medium-sized company with a global presence and has around three hundred employees. Company E is a large Swedish bank who operates on a global scale with about fifteen thousand employees. Company F is a small market research company with around fifty employees and operates primarily in the United Kingdom. Company G is a financial institution which supports initiatives for economic growth and environmental responsibility, and has around three thousand employees. Company H is a small government agency with around 30 employees, who manages substantial financial assets with a focus on responsible investments and long-term returns. University X is a public research university and one of the oldest in Sweden.

Organization	Respondent	Respondent	Respondent	Date of contact
Company A	VP Sustainable Finance*****	Sustainability Manager*		16-02-23 23-02-23 08-03-23
Company B	Director of Environmental Strategic Projects****	Strategy Analyst****	International Trainee****	24-02-23 16-03-23 08-03-23
Company C	Sustainability Specialist****			21-02-23 08-03-23 21-04-23
Company D	Sustainability Manager*			08-03-23
Company E	Sustainability Controller*	Head of Sustainability*		08-03-23
Company F	Consultant***			20-03-23
Company G	Lead Biodiversity Specialist*			22-05-23
Company H	Chief ESG and Communication Officer*			22-05-23
University X	Researcher*	Professor*		16-03-23 22-05-23

Notes: This table is a summary over the respondents that this study has built its empirical findings on.. *The respondent has been present at workshops, **The respondent has been part of interviews, ***The respondent has answered interview questions in writing, ****The respondent has been present at workshops and interviews, *****The respondent has been interviewed and answered interview questions in writing, *****The respondent has been present at workshops, interviews and answered interview questions in writing.

The data collection strategy

This study has used a combination of qualitative methods. These included document studies, six semi-structured interviews, each lasting approximately sixty minutes, and two five-hour focus group workshops involving a panel of twenty sustainability experts divided into smaller groups. This triangulation of research methods was used to ensure the credibility of the primary data collected (Silverman, 2019). To conduct a document study, we examined the published documents from the Taskforce of TNFD and their webinars, published on YouTube, which gave insights of how accounting for nature is embedded within the TNFD from a global perspective based on each new updated version. These documents were transcribed and later analyzed. Within document studies the sampling is of significant importance, therefore we took inspiration based on the recommendation from previous research to use documents valuable for answering the research question (Silverman, 2019).

Semi-structured interviews were used to gather the account and experiences of Swedish participants, engaged on a local level, who participate in the translation of accounting for nature using TNFD (Kvale, 2006). The interviews were conducted in a semi-structured manner to ensure richness of each account (Charmaz, 1996), which is not given in the structured interview format, but it also takes the advantage from having an interview-guide which aids the researcher and sets boundaries for the relevant topic compared to the unstructured interview (Silverman, 2019). The focus group discussions were used to gain

interpretative accounts of the collective experience, which is in line with Silverman's (2019) recommendations, to understand the translation of TNFD. Furthermore, this is an under-researched topic, further motivating the use of focus discussions (Silverman, 2019) to gain knowledge in the field from multiple sources in a discussion format.

The interviews and focus discussions were mainly conducted through digital meetings where cameras were used to capture visuals to ensure interview conditions close to physical meetings, getting all signals of communication (Archibald et al., 2019). To be able to gain knowledge of the local translation processes of accounting for nature using TNFD, a purposive sampling was used, incorporating only participants who were part of the translation process (Silverman, 2019). Ensuring mutual trust and good research climate is important for openness in interviews and focus discussions (Kvale, 2006), therefore the research was conducted aligned with the normalized ethical standpoints of qualitative studies approved by both parties through a consent form before the first contact (The Swedish Research Council: 2017: Silverman, 2019). The interviews were recorded and anonymized, based on the request from respondents, both on individual and organizational level to ensure that no one gets hurt by the research, and only relevant information was gathered following the General Data Protection Regulation.

We used an iterative approach to update our interview guide, as new categories and insights emerged through the coding process. By using this approach, we were able to capture perspectives and experiences of the respondents while also allowing for flexibility in our data collection and analysis. This approach allowed us to identify new themes and categories that we may have overlooked if we had relied solely on our preliminary interview guide. Moreover, the process contributed to continuously refining our research question and ensuring that we were collecting data that directly addressed the question.

The workshops were organized through physical and digital focus group discussions. Furthermore, in organizing these workshops, inspiration was taken from the Delphi method, where experts unite to discuss questions in which there is a disagreement to try to share knowledge to eventually reach a consensus (Linstone and Turroff, 1975). In practice, an anonymized survey containing 10–15 questions regarding the experience of the TNFD framework was sent to the respondents before the workshop. The results were later analyzed visually to understand where there was disagreement, and these questions were discussed during the workshop to share knowledge and reach consensus. Notes were taken during the discussions as recording was not allowed. Therefore, the quotes that originated from the workshops are a reconstruction based on transcribed notes.

The analytical strategy

The study is derived from an inductive approach, where we first collected data and then identified patterns which became the fundamental guiding point for our selection of relevant theories, taking inspiration from a grounded theory approach (Charmaz, 1996). These patterns were later condensed into themes. The patterns and themes are identified using a coding process which consisted of three stages, taking inspiration from Charmaz (1996), with

first-level coding which was conducted line by line, second-level coding which was conducted through broader categorizations, and third-level coding, which narrowed the broader categories further, leading to the eleven categories of codes: *an unanimous voice for the need of TNFD, implementation of the framework, data limitations, stakeholders, materiality, scenario analysis, nature-related frameworks, climate-related frameworks, trade-offs, resource allocation and dissatisfaction with updates.*

Our coding analysis revealed commonalities of the theory Scandinavian institutionalism (e.g., the traveling of ideas) and its concept of translation, which became suitable tools to understand how the idea of accounting for nature is translated through the use of TNFD. Moreover, this theory allowed us to examine how ideas, such as the concept of accounting for nature, emerge on a global level and undergo translation as it is used in local processes around the world. Eventually, the theoretical framework and third-level coding generated five themes that formed the basis for our empirical findings: *The idea of accounting for nature emerges, TNFD is a materialization of the idea of accounting for nature, Swedish organizations pick up on the idea of accounting for nature, Major challenges & Coping mechanism, and The rise or fall of the TNFD?*. The identified themes, summarized by the table below, are the primary empirical findings of the study, which enabled a fruitful discussion that helped us to answer the predefined research question of the study.

Thematic Summary

Themes	Example quotes	Explanation
The idea of accounting for nature emerges	Nature underpins the global economy. More than half of the world's economic output – US\$44 trillion of economic value generation – is highly or moderately dependent on nature. Our economies are embedded within nature, not external to it. Yet most corporates, investors and lenders today are inadequately accounting for nature-related risks and opportunities (TNFD, 2022a, p. 14).	This quote exemplifies how the emergence of accounting for nature is derived from actors sharing a common message of accounting for nature.
TNFD is a materialization of the idea of accounting for nature	Regarding the building blocks of the framework, the core components have a steadiness, not a lot of changes, where enhancements have been made and where there's new content. So, broadly we have tried to keep the core components of the framework broadly steady, to enable pilot testing and for the market to not sort of constantly shifting the core components (McKenzie in TNFD, 2022q, 13 July 2022).	This quote exemplifies how the core components of TNFD have remained stable between the beta versions
Swedish organizations pick up on the idea of accounting for nature	Our purpose for joining the TNFD is to understand what we need to report for handling our nature risk. TNFD also gives us a method to cope with biodiversity. (Sustainability Manager, Company D, 8 March 2023)	This quote exemplifies how Swedish firms are engaging in accounting for nature by translating TNFD
Major challenges & Coping mechanism	Fundamentally, the way that we measure biodiversity in order to assess impacts is so much more difficult than for climate because we do not have that single indicator metric that everybody uses (Director of Environmental Strategic Projects, Company B, 24 February 2023).	This quote exemplifies the challenges of measuring nature compared to climate-related issues
The rise or fall of the TNFD?	The core disclosure metrics are not functional because they only show the current state of biodiversity. The core metrics are not functional, are not built on local information and are not focused on how well the ecosystem is preserved in terms of ecosystem integrity, composition, and structure (Lead Biodiversity Specialist, company G, 22 May 2023). "Biodiversity is probably the fastest growing topic in the last few years. Going from nothing to a top global topic. Further TNFD is an ongoing conversation" (Chief ESG and Communication Officer, Company H, 22 May 2023).	The first quote exemplifies unsolved challenges within version 0.4 which leads to dissatisfaction within engaged TNFD actors. The second quote exemplifies how biodiversity aspects and TNFD are ever evolving, showing how new solutions can arise.

Notes: This table provides a thematic summary of the empirical findings; however, it does not offer a full view of the complexity of each theme. To grasp the full complexity, please visit the chapter empirical findings.

Ethical reflections and limitations of the study

When exploring how the idea of accounting for nature travels and its materialization into a framework of evaluating nature-related sustainability performance, TNFD, it is important to acknowledge certain limitations in the research. The study has researched a group of nine Swedish companies who are enrolled in the project BioPath, where the study is limited by time and only accounting for the experiences within these firms. As of when this thesis is published the TNFD framework has not yet moved into version 1.0, therefore this study focuses solely on the Swedish local translation process from version 0.3 and version 0.4 of the TNFD framework. The study is drawing on how ideas travel and become standardized into the TNFD framework. However, as the TNFD framework is still in the development phase, no organization has yet re-embedded the idea into business practice, and the study is therefore limited to focus on how the idea travels within the phases of dis-embedding, packaging and unpacking (Czarniawska and Joerges, 1996).

A limitation within the data collection strategy of using workshops is that the accounts are framed from a social context of a group (Silverman, 2019). Therefore, the study is limited to account for those individuals who chose to speak within the workshops. During the discussion, due to the voluntary aspects of the workshop, we could not force the sharing of everyone's accounts. Some of the workshop attendees did not contribute with their thoughts in the workshop, which may have resulted in potential insights lost, and which were not possible to complement by further interviews due to limited data accessibility.

The study has an advantage of having access to companies from heterogeneous sectors. On one hand it is an advantage that the researchable companies are enrolled in a funded project providing higher access to the researchers, but on the other hand it can also be seen as a disadvantage, as it can steer the expectations of the findings to contribute into the development of accounting for nature rather than inductively disclose the most interesting empirical findings. However, by transparently describing the limitation and our used methods in this study, it validates the trustworthiness of the process of reaching the findings, which is aligned with recommendation from previous research (Silverman, 2019).

In the process of conducting the thesis, our initial intention was to describe the practice of the implementation process of the TNFD framework. However, due to a limited number of organizations having implemented the framework, we had to adjust our focus. As our research progressed, the traveling idea of accounting for nature, with individuals involved in global and local processes acting as idea carriers, became the primary empirical insight of our study. These revisions in our research process however further imposed limitations on the timeframe of the study. Additionally, it is important to acknowledge that we as researchers are part of the process of shaping the idea of accounting for nature by engaging in workshops, interviews, and debating biodiversity topics. By being part of the discussions, the results of the study may be affected. But in a positive sense, being part of the connected discussions further validates the trustworthiness of the material gathered (Svensson et al., 2007).

Empirical findings

The idea of accounting for nature emerges

The idea of accounting for sustainable development has been derived from the debate of the main aspect of business (e.g., Dyllick, T., & Muff, 2016). This debate has led to the sustainability-related action of incorporating sustainability into the corporate agenda by the creation of frameworks, historically in the forms of <IR>, GRI and TCFD (e.g., Rowbottom & Locke, 2016; Brown et al., 2009a; O'Dwyer & Unerman, 2020), which is still ongoing. The main focus is now on new standardized frameworks, for example TNFD (voluntary) and CSRD (mandatory and government-supported) (Baumüller & GrBenic, 2021). However, in parallel with this development of accounting for sustainability, it has been mapped that approximately half of the Earth's ecosystem services have been destroyed beyond repair (Watson et al., 2016). Furthermore, researchers are referring to this era as: "loss without limit", in regard to nature underpinning the rapidly increasing rate of depletion of resources (Maron et al., 2018 in Maron et al., 2020 p.48). Scientists are warning societies of what will happen if ecosystems, such as resources given by freshwater, and biodiversity are taken-for-granted (Albert et al., 2021). Similarly, practitioners are acknowledging the fact that nature and business are interlinked, which fosters the idea of accounting for nature within business.

Nature underpins the global economy. More than half of the world's economic output – US\$44 trillion of economic value generation – is highly or moderately dependent on nature. Our economies are embedded within nature, not external to it. Yet most corporates, investors and lenders today are inadequately accounting for nature-related risks and opportunities (TNFD, 2022a, p. 14).

Furthermore, local initiatives have emerged to raise acknowledgement to account for nature in the larger debate of sustainable development. An example of such an initiative is the BioPath project, which has increased the debate of nature-related issues within sustainable development, surfacing important topics of biodiversity loss and how to go about accounting for nature within a business context.

Derived from this increasing concern for nature, the idea of accounting for nature within a business landscape is formed. The TNFD is one global attempt to materialize this traveling idea of accounting for nature by the Financial Stability Board (FSB).

TNFD is a materialization of the idea of accounting for nature

The goal of the TNFD framework is to surface organizations' dependencies and impacts on ecosystem services, fundamentally relying on biodiversity, pushing organizations to account for nature-related risks and opportunities, rather than solely understanding nature as extractive (Deweerd et al., 2022). TNFD helps with that by creating a common language of disclosure, promoting consistency and comparability. Therefore, the standardized framework strives to lead businesses to conduct more nature-positive actions and decisions (ibid.). The TNFD framework has an open-innovation approach, meaning it is developed in symbiosis with market participants. This involved releasing a series of prototype frameworks (version 0.1, version 0.2, version 0.3, version 0.4), where market participants and other stakeholders

can provide feedback and undergo pilot-testing, before the release of the last version 1.0. The pilot-testing and feedback process facilitated trust and engagement, as well as generated new ideas and perspectives that might not have been reached otherwise. Moreover, various governments participated in the creation of the framework. After its launch, TNFD reached support from governments, financial institutions, corporations, and civil society, and individuals in high positions such as the UN secretary, presidents, and prime ministers (TNFD, 2023b).

The TNFD framework includes recommendations for companies to disclose information regarding the four areas of governance, strategy, risk management, and metrics and targets (TNFD, 2022a). By using the same four pillars in both the TNFD and TCFD frameworks, it provided a structure familiar to many companies and financial institutions who already implemented the TCFD framework. While the specific guidance and recommendations provided within each pillar may differ, the use of a consistent structure helps ensure that the overall approach to sustainability reporting is coherent and consistent across different standardized frameworks. The TNFD framework is intended to support the transition to a sustainable economy in which nature and biodiversity are valued and protected, materializing the traveling idea of accounting for nature within a business context. TNFD is furthermore a standardized framework meant to help companies understand and manage their nature-related financial risks, opportunities, dependencies, and impacts (TNFD, 2021). To help companies work continuously with its nature-related issues, TNFD introduced a voluntary aid tool called LEAP (acronym for locate, evaluate, assess, and prepare) (TNFD, 2022h). It is thus meant for organizations to use LEAP by “locating” the interplay of organization and nature, “evaluating” the dependencies and impacts on nature, “assessing” risks and opportunities, and “prepare” by proactively handling identified nature-related risks and disclosing the relationship between nature and organization (TNFD, 2022a).

There are two hundred organizations currently in the process of pilot-testing TNFD (TNFD, 2023), and thus voluntarily co-creating and refining the framework, and by doing so, they have expressed their interest of accounting for nature within business, as well as their willingness to collaborate, share their expertise and feedback to improve the framework’s practicability. Through their active participation in webinars, consultation groups, data catalysts, and general feedback processes, these organizations have also been able to shape and influence the development of the standardized framework, as well as to learn from each other and the Taskforce members.

The main idea of accounting for nature was materialized into the first version (v0.1) of the TNFD framework and provided a high-level overview of the main aim, definitions, the four disclosure pillars, and the key components. However, v0.1 did not cover how to fully account for all aspects of nature, rather the second version (v0.2), released in June 2022, provided additional guidance on the four pillars of the framework, definitions, and the specific type of information that companies should disclose under each pillar. However, the main components presented in v0.1 remained static. It also introduced additional information about metrics and

targets for companies to disclose about their impacts on nature, and emphasized the importance of materiality assessment, assessing what is meaningful to disclose from different perspectives (TNFD, 2022j). The feedback for v0.2 emphasized that market participants desire more direction to interpret the TNFD framework to be able to convert the traveling idea of accounting for nature into their business context. This includes explicit guidance for specific sectors and biomes, as well as for financial institutions, and regarding technical components such as scenarios, metrics, targets, and data. Further feedback was provided to clarify the definitions of essential concepts within TNFD, the proposed disclosure recommendations, and the LEAP approach (TNFD, 2022m).

Regarding the building blocks of the framework, the core components have a steadiness, not a lot of changes, where enhancements have been made and where there's new content. So, broadly we have tried to keep the core components of the framework broadly steady, to enable pilot testing and for the market to not sort of constantly shifting the core components (McKenzie in TNFD, 2022q, 13 July 2022).

The urgency to account for nature led to the further development of version 0.3 (v0.3), released in November 2022, providing more guidance in how to translate the standardized framework TNFD into business practices. The materialization of TNFD was further developed with a special focus on data collection, metrics and analysis, and the role of materiality analysis in the context of nature-related financial disclosures. It also provided additional information on the integration of nature-related financial disclosures with other sustainability-related disclosures, further acknowledging the social dimensions, and case studies to demonstrate best practices (TNFD, 2022k).

Swedish organizations pick up on the idea of accounting for nature

Alongside the further developed framework that was in v0.3, the traveling idea of accounting for nature reached Swedish companies, who acted upon the idea and joined the efforts of reporting in accordance with the TNFD framework. Their interest was to gain methodological knowledge and guidance in how to measure nature-related issues, and to understand their nature-related risks and impacts to reverse the biodiversity crisis and thus account for nature. Furthermore, the engagement was a way of handling the customer demands of accounting for nature-related issues. Moreover, by making efforts to partake in the development process of the framework, they also got opportunities to shape the standardized framework.

Our purpose for joining the TNFD is to understand what we need to report for handling our nature risk. TNFD also gives us a method to cope with biodiversity (Sustainability Manager, Company D, 8 March 2023).

The respondents interviewed are in the translation process of accounting for nature, which is acted upon through the engagement towards TNFD. According to the respondents, incorporating the TNFD framework into business practices will be a gradual process, expanding into additional sectors and product lines over time. The respondents are however currently at different stages of the piloting process, in which two of the organizations who

have conducted pilot-testing, company A and company B, are in different business sectors. Other organizations are in the process of defining the scope of their upcoming TNFD piloting. The focus for all the organizations is on reviewing the recommendations of the TNFD framework, and specifically examining the first two steps of the LEAP approach, “locate” and “evaluate”, which is part of the risk management process within TNFD.

Within company A’s organization, the sustainability, risk, and finance departments work together collaboratively towards the idea of accounting for nature through actively engaging in the translation of TNFD into the organization, with full support from the board and management team. The organization has a large sustainability team which consists of over one hundred people working with sustainability topics. Among the team working with TNFD, they have appointed TNFD spokespersons, and are using external consultants to maximize resource efficiency. In contrast, other organizations are using consultants primarily to gather data and close the data availability gap. A consultant’s role in the translation of the TNFD framework is to assist organizations in the consolidation of data, identify data gaps and assist by recommending paths forwards in contextualizing the idea of accounting for nature that is provided by the TNFD framework.

We call them the TNFD spokespersons, so they would be the drivers together with us at a group level to act upon this and encourage the other divisions to conduct their pilots (VP Sustainable Finance, Company A, 16 February 2023).

In the case of company B and company C, the group involved for incorporating the idea of accounting for nature by translating of the TNFD framework is rather condensed, comprising two to three interconnected individuals, who collaborate internally with various departments. Within the condensed group, there is natural dividing of roles based on competence, experience, and working area. For company C, who is currently in the early stages of planning the pilot-testing of the TNFD framework, the board and executive management team have not made any significant contributions to the translation process but are nevertheless acknowledging the need to account for nature through the TNFD framework.

They [the board and management team] have been involved with my boss. She’s a sustainability officer, and she’s part of the executive management team. Um, but so far, I don’t think the whole board is involved, and the executive management hasn’t contributed anymore in any sense yet than that they know it’s happening. But since we’re at this early stage, they haven’t been facing any decisions or anything like that yet (Sustainability Specialist, Company C, 21 February 2023).

The Swedish piloting organizations have in common to have chosen a specific sector within the company for the pilot-testing of the TNFD, primarily based on data and information availability (e.g., knowledge about location and accessible information throughout the supply chain). The purpose was to identify the location-specific nature-related issues from their own and their suppliers’ perspective. The organizations preceded by prioritizing the most significant nature-related issues within the delimited sector of the supply chain. They looked for common denominators to narrow their focus and identified the most important suppliers

in terms of nature-related issues. Finally, the organizations attempted to quantify location-specific nature-related impacts and risks by combining information from enrolled suppliers and open data. To facilitate the translation of TNFD, organizations are trying to employ the infrastructural and information systems already in place. Furthermore, they are using their previous experience of reporting in accordance with GRI and TCFD to help them in testing the TNFD framework.

Major challenges & Coping mechanism

In the pursuit of organizations trying to account for nature by incorporating v0.3 of TNFD into their business practice, major challenges arise. Firstly, how to measure nature-related dependencies, impacts, risks, and opportunities is described by the respondents to be a more complex phenomena than climate. The measuring of nature-related aspects was described as an issue difficult to fully comprehend, which subsequently makes it difficult to translate into business practices and decision-making processes.

To be honest, it's a bit tricky because you have to benchmark, but you know it's really, it's not like climate matter, this is totally different (VP Sustainable Finance, Company A, 16 February 2023).

The traveling idea of accounting for nature and how to measure nature-related issues, equivalent to that of measuring emissions in the climate context, is already widely acknowledged and surfaced globally as a challenge.

We thought about 'what is our equivalent of emissions' from the climate context, what is the equivalent for nature? And, of course, there's going to be a lot of different impacts on nature that we want to focus on. The simplicity of the climate agenda is that missions are measured, the metrics have been well established as of the Montreal protocol. We don't have any of those building blocks to work with. But we know that there is going to be a lot more than a half a dozen gases that need to be measured (Goldner in TNFD, 2022r, 9 November 2022).

As of this global challenge, one respondent further confirms this by describing measuring nature in accordance with TNFD as extremely locally based with a plethora of indicators to choose from, which makes it complicated to aggregate on a company level. Measuring biodiversity was expressed to be more difficult than measuring climate because there is no single indicator metric which everyone uses, rather it is subjective and decided by each company.

Fundamentally, the way that we measure biodiversity in order to assess impacts is so much more difficult than for climate because we do not have that single indicator metric that everybody uses (Director of Environmental Strategic Projects, Company B, 24 February 2023).

A suggested development to improve the ability to translate accountability towards nature into business is to use a higher degree of standardized metrics to limit the measurement (metrics) catalog of TNFD and to develop a united target. Furthermore, to provide further guidance regarding the quantification of the idea of accounting for nature in terms of

biodiversity. Additionally, regarding the accessibility of climate-related and nature-related data, the former may be easier to find, which also becomes a delimiter in the translation of the TNFD. When it comes to the accessibility of data related to climate and nature, the former has been mentioned during interviews and workshops to be more readily available than data related to nature.

I think in general, climate data is more available (Director of Environmental Strategic Projects, Company B, 24 February 2023).

The challenge of measuring nature-related issues therefore arises from the combination of two factors: first, the limited availability of data on nature-related impacts, and second, the lack of a single, accepted metric for measuring those impacts.

Data is by far the single most difficult problem [...] It is hard to get there is no single metric, and I don't think we should strive to find a single metric, but it would be so much easier if it was (Sustainability Specialist, Company C, 21 February 2023).

Secondly, a common understanding of methods and concepts in the TNFD was brought up as an additional challenge in the translation process of incorporating TNFD to account for nature. One aspect of this is that the acronym LEAP is criticized by respondents as the locate phase is rather translated as the mapping phase within the organizations, and the “prepare” phase is criticized due to its passive wording. A lack of common understanding is also present regarding scenario analysis (a part of the disclosure recommendations for company strategy in the TNFD), in terms of interpretation and the subjective nature of scenarios. Scenarios are not necessarily predictive of what will happen, but rather a way of understanding what could happen under certain assumptions. It was further argued that as they do not have a complete data set when constructing scenario analysis, organizations should, instead of viewing them as forecasts, think of them as an effective way of opening constructive discussions and new ideas:

There's still a lack of understanding ways of doing these scenarios and how you interpret the outcome of these scenarios, because it's very much a subjective thing that is a bit dangerous. Some people actually interpret this outcome as a prognosis [...] You need to understand that a scenario is just a way of seeing 'OK what will happen if this particular scenario [occurs]' and there are so many assumptions there, and these assumptions, that's what is really tricky with scenarios [...] You don't have the entire data set because as you know there are different scenarios (VP Sustainable Finance, Company A, 16 February 2023).

It is difficult to compare nature-related impacts, dependencies, risks and opportunities across companies, as different assumptions will be made within the companies. Without standardized ways of conducting scenario analysis, it will be up to investors to make assessments based on their own analysis. There is therefore a need for more standardized and transparent methods for conducting scenario analysis and disclosing nature-related financial information for future versions of TNFD. Furthermore, other respondents similarly argue that there is a need to create a common understanding for how methods are used, and how they

are interpreted by stakeholders and investors. Moreover, adding to this discussion there is a need to develop a shared understanding of the issue of sustainability and biodiversity loss among various stakeholders, including suppliers and external parties involved in the sustainability and biodiversity discussions.

Furthermore, there is a need to create a common understanding of the problem [sustainability and biodiversity loss] and how to tackle it together with suppliers but also externally in the debate of sustainability and biodiversity (Sustainability Manager, Company A).

However, when working with risk mitigation there is a need to understand if a risk is mitigated, and whether that is a positive impact or if it is rather seen as an opportunity within the frames of accounting for nature through TNFD. Furthermore, in the debate of understanding sustainability contributions (e.g., the term nature positive in TNFD), there is a need to create a common understanding and interpretation of the terms. Furthermore, the respondents in the workshop unanimously acknowledge that depending on the lens used when explaining nature-positive, it can be interpreted differently.

From my view of what is nature-positive, there is a big difference if we view nature-positive from an ecosystem service perspective on a global level or if we move into a more local level. We can also view different sectors or for example comparing agriculture and forestry. There is a sector complexity in determining what is nature positive (Sustainability Controller, Company E 8 March 2023).

Thirdly, analyzing biodiversity in a complex system, such as a supply chain, is also a challenge for organizations in the urge of accounting for nature. The process brings a pressure for companies to make a comprehensive supply chain analysis and to obtain traceability down the supply chain to meet the requirements of being aware of all their nature-related dependencies, impacts, risks, and opportunities. To perform a detailed analysis of biodiversity, location-specific information is necessary, which can be difficult to obtain when dealing with multiple sites and a broad scope of inquiry. Furthermore, information about the source of origin and location is available within some supply chains but not in others, indicating that data availability can be a limiting factor in analyzing biodiversity and piloting TNFD.

[...] there's always a bit of a headache around the biodiversity area, since it encompasses a lot of complexity. Partly, to do a very detailed analysis, you need to go down to site-specific details, locations, and we have a lot of sites. And if we also broaden the scope to include the full supply chain perspective, location-specific information is not available (Director of Environmental Strategic Projects, Company B, 24 February 2023).

Additionally, a question raised was regarding who is responsible down the supply chain, especially in the light of the lack of information and data, which often is the case. Other respondents similarly mentioned the need for companies to have a comprehensive understanding of their entire supply chain when considering the impacts of their business on biodiversity in accordance with TNFD. Hence, there is a hope for additional guidance in how to handle supply chain complexities.

Fourthly, companies have been battling trade-offs in terms of resource allocation as part of the translation process of TNFD, which is a challenge. Allocation of resources concerns several things, including, but not limited to, data collection, the multitude of nature-related and sustainability policies, initiatives, standardized frameworks, and prioritization of resources (i.e., what to focus on). What follows is often trade-offs among the resources within the organization.

The trade-off right now, I would say, relates more to resources [...] the trade-off is really how many resources you can put into something (VP Sustainable Finance, Company A, 16 February 2023).

Trade-offs related to resource allocation and decision-making were mentioned during the interviews, specifically regarding how many resources can be allocated towards biodiversity initiatives. Prioritization must therefore be made between devoting resources to measuring and addressing biodiversity concerns versus other priorities, regarding mandatory disclosures framed in sustainability legislation (e.g., CSRD), where collaborations and associations are being pursued to address it. Respondents mentioned the need to allocate resources between new policies and initiatives, and the TNFD framework. Due to this experienced trade-off between different policies and standardized frameworks, there is hope for further alignment of frameworks in the future. Additionally, because of the uncertainty of the outcome of the final TNFD version, there is a restraint to committing fully and dividing resources into it. There is therefore a trade-off between investing in new policies and initiatives which have a more predictable outcome, than an emerging framework not yet fully understood.

Resources must be divided between new policies and initiatives, and the TNFD framework. It is difficult to commit when we don't know where it will end up (Strategy Analyst, Company B, 8 March 2023).

To tackle the complexities of translating TNFD, the respondents stress the need for a holistic view, with a focus on the supply chain in the company. Furthermore, in the process of handling trade-offs, a holistic and pragmatic approach to the translation of TNFD gives an understanding that companies need to cope with the demands of different stakeholders, not only the organization itself. Additionally, the piloting of TNFD is a way to gain learnings, building of capacity and competence to handle these issues; however, it is also vital to ensure that this competence translates into the supply chain beyond the organizational walls.

In this process we need to build capacity and the right competence along the supply chain to help facilitate the implementation of nature-related risks, dependencies, and impacts, but also opportunities (Sustainability Manager, Company A, 8th of March).

Therefore, there is a need to constantly negotiate the involvement of suppliers, for example, by using the LEAP-process as a tool to attract them by showing how applicable it is to help gain information on biodiversity issues. Though, this negotiation also takes place during business discussions and funding projects, where there is a need to educate and address questions surrounding TNFD to suppliers early in the process to gain their awareness and

involvement. Moreover, ensuring stakeholder involvement could be through making the engagement towards nature a part of the supplier contract. Another example of how to make a more efficient use of resources and improve data availability is through collaboration to share resources, knowledge, and expertise. Working with external stakeholders, through initiatives such as BioPath, was described by several respondents.

[...] we need to improve our data availability [...] and work with external stakeholders [...] for example through BioPath and try to decide on which metrics are most relevant to work with when it comes to biodiversity (Sustainability Specialist, Company C, 21 February 2023).

However, in tackling the complexities within the united collaboration of BioPath, there is an experience from some of the respondents that this new collective strive of the translation process of TNFD is new and challenging for everyone. Similar tendencies are seen on a global scale, where the Taskforce of TNFD is using collaborative practices to overcome challenges.

The rise or fall of the TNFD?

The organizations who are working dedicatedly to account for nature within their business and are using the TNFD framework, were hoping for several challenges to be resolved in the v0.4, which is the final version it will go through before the release of version one (v1.0) in September 2023. However, the latest version (v0.4) has kept all the core components and structure from the previous version (v0.3), with only smaller revisions of the language in the disclosure recommendations and scoping of the LEAP-process. The additional guidance provided by the Taskforce of TNFD was published case studies of scenario analysis, further information on core global metrics (excluding invasive species, based on hardships in measuring it), and updated criteria in the “locate” phase (TNFD, 2023p). However, the global development process has surfaced the need to embrace a learning-by-doing approach, and refining the framework in the future, even after the v1.0 release, which is supported by companies’ pilot-testing the TNFD.

In the focus of accounting for nature, there are however competing views regarding TNFD’s approach to metrics in v0.4. Some organizations are seeing that the metrics provided by TNFD gives comparability through the core disclosures, with additional flexibility in the metrics provided beyond that. However, there are also those who see skeptically towards the approach to metrics in TNFD, as it does not align with the main purpose of accounting for nature.

The core disclosure metrics are not functional because they only show the current state of biodiversity. The core metrics are not functional, are not built on local information and are not focused on how well the ecosystem is preserved in terms of ecosystem integrity, composition, and structure (Lead Biodiversity Specialist, company G, 22 May 2023).

Furthermore, there is also skepticism towards the validation of measurements used in the core disclosures, where for example the use of water abstraction to measure water stress is not

capturing the ecosystems' integrity, structure, and state of biodiversity over time, creating dissatisfaction with the standardization provided to account for nature in a quantitative sense. Additionally, the role of regulators and policymakers to drive the idea of accounting for nature into actual change has been highlighted, arguing that without alignment with mandatory frameworks, such as CSRD, and making policymakers part of driving the change forward, TNFD will not be as effective to account for nature. The views of how to drive the idea of accounting for nature through TNFD is thus not unanimous, as some argue that flexibility for the industry is crucial, while others suggest that policymakers are essential to force upon change.

If TNFD doesn't have the support and enforcement of regulators and policymakers, it will not move into being a driver for change (Lead Biodiversity Specialist, Company G, 22 May 2023).

Being that TNFD was aimed for accounting for nature, researchers and organizations are showing dissatisfaction with the framework. Rather than moving into learning by doing, they suggest that the challenges surfaced with TNFD should be incorporated into other initiatives. Several organizations are also shifting their focus due to dissatisfaction with the current updates of TNFD into looking at other future options to account for nature, for example CSRD. However, all are dedicated to account for nature regardless of which framework is used. Furthermore, all acknowledge that biodiversity is rapidly growing and frameworks such as the TNFD is a process.

Biodiversity is probably the fastest growing topic in the last few years, going from nothing to a top global topic. Further, TNFD is an ongoing conversation (Chief ESG and Communication Officer, Company H, 22 May 2023).

The participants are agreeing upon the fact that change is necessary to stop the detrimental path of destroying the ecosystems and reversing biodiversity loss, and that all initiatives should thus be seen as good efforts moving in the right direction, regardless of if TNFD will become a success story within the traveling idea of accounting for nature or not. The surfaced challenges within TNFD can hence be carried over to other standardized frameworks, leading to improvements. Traditionally, the concern for companies has been the risks that nature poses upon the company, rather than the risks the company poses on nature. However, to realize the idea of accounting for nature, society as a whole must create a sense of urgency to make companies change.

The focus [when using TNFD] is the risk for the company and not the risk on biodiversity. But if this [TNFD] is going to be an important part of the future of biodiversity, then we have an urge to create transition risks. Society must create an urgency for companies to change (Professor in Biodiversity, University X, 22 May 2023).

Discussion

The purpose of this study is to explore how the traveling idea of accounting for nature is materialized into a standardized framework, and how businesses adopt this framework by their engagement of accounting for nature. The study aims to examine how companies accept, modify, contest, or disregard various components of the TNFD framework in their strive accounting for nature. To address this purpose and the research question, the discussion follows the first three parts of the traveling of ideas: dis-embedding, packaging, and unpacking, outlined by Czarniawska and Joerges (1996), which proposes how ideas travel, are translated, and becomes materialized into standardized frameworks and business practices.

Dis-embedding

As sustainable development has historically been centered around climate-related issues, there was a growing need to let nature embody a larger position within this sustainability discourse. This dis-embedding (Czarniawska and Joerges, 1996) occurred as stakeholders recognized that the current boundaries in which the sustainability discussions took place were insufficient to fully capture the interplay between nature and finance. This can for example be seen in the warnings from researchers, who highlight that the current sustainability discourse is insufficient in adequately addressing the urgency of accounting for nature. The emergence of local initiatives such as BioPath has played a significant role in raising awareness of nature-related issues and promoting greater accountability.

Within this context, stakeholders from various sectors, including financial institutions, corporations, governments, research projects, and civil society organizations, are supporting the initiative and acting as idea carriers (Sahlin-Andersson & Engwall, 2002) as they began to explore the traveling idea of accounting for nature. Through this process, the idea was detached from its original institutional context and thus dis-embedded (Czarniawska and Joerges, 1996), which allowed for new perspectives and approaches to emerge. Through collaborative efforts and exchanges of knowledge, these idea carriers formed the Taskforce, who together with other stakeholders dis-embedded the traveling idea of accounting for nature by modifying and amplifying to enlarge its role within the sustainability discourse. By reshaping and modifying the traveling idea of accounting for nature it gained additional strength. This significant step later led to the packaging of the traveling idea into the formation of the TNFD framework, which provided a standardized approach to account for nature in financial decision-making processes. By recognizing the limitations within sustainable development, they could open up the discussions of what to include regarding financial disclosure, making the ideas practically manageable and thus possible to travel (Czarniawska and Joerges, 1996). The dis-embedding process opened up for a participatory process through its open-innovation approach, giving room for a wide range of actors to contribute with their insight and expertise. By allowing all stakeholders to become idea carriers, as ideas must be both globally and locally supported to lead to change (Mennicken, 2008), they could encourage a world-wide spread of the traveling idea of accounting for nature.

Packaging

As the idea of accounting for nature traveled among various actors, it gained momentum and shaped the thinking into ways to standardize it into a framework, as it is considered an effective way of leading ideas to action (Røvik, 1996 in Sonnerfeldt & Aggestam, 2022) which promotes change. Through a packaging process (Czarniawska and Joerges, 1996), the traveling idea of accounting for nature becomes defined and materialized into the TNFD framework. What is central in this process is addressing nature-related impacts, dependencies, risks, and opportunities relevant to the individual companies who adopt the framework. Furthermore, the traveling idea of accounting for nature is further developed and becomes clearer through the disclosure recommendations that are mirroring what TNFD is defining as accounting for all aspects of nature from a business context. When conducting this packaging of creating a translatable entity, TNFD takes inspiration from TCFD to ensure its credibility, salience, and legitimacy (Cash et al., 2003; De Olde et al., 2018). TNFD is therefore a modified version of TCFD that is adapted to nature instead of climate, thus aimed to be experienced as more relevant as it is connected to TCFD which is already established in the market, built on similar scope, same cognitive belief and assumptions (De Olde et al., 2016; Cash et al., 2003; De Olde et al., 2018). This action leads to translatability towards how to account for nature in organizations who have prior been engaged in TCFD, as they are already familiar with the framework's structures and assumptions now embedded into TNFD. Consequently, it also provides a limited willingness to fundamentally challenge the framework's essential components, as evidenced by empirical findings that highlight the early versions of TNFD (v0.1 and v0.2) which were focused on maintaining the assumed core components rather than exploring alternative perspectives. Hence, accounting for nature within the TNFD framework, as it shares a similar structure to TCFD, includes the responsibility of overseeing nature-related issues across the board and management (governance pillar), as well as operational aspects and supplier engagement.

Moreover, TNFD highlights the importance of measurability, in similarity to TCFD, by recommending the use of metrics and targets in the disclosure process to ensure effective assessment of nature-related issues. This can also be seen as the TNFD taking advantage of the legitimacy built by TCFD, and benefiting from the connection to TCFD, which enhances its relevance (i.e., increased salience) (Cash et al., 2003; De Olde et al., 2018) for companies seeking efficiency by connected reporting on climate and nature. This can be viewed as a mechanism to strengthen the positioning of the framework in translating the idea of accounting for nature. Accounting for nature becomes translated as to account for the company's nature-related impacts, dependencies, risk and opportunities through the whole company and its suppliers and to show transparency through measurability. In this sense, the translation of accounting for nature includes calculative practices as a way for companies to aid their decision-making process and monitor their strive to account for nature, in alignment with other established research that focus on the use of calculative practices (Miller, 2001). Furthermore, the measurability created by calculative practices provides legitimacy towards that the company is engaging in accounting for nature by making their progress evident to

society and themselves also increases the willingness of accounting for nature (Espeland & Sauder, 2007).

Within this materialization process of accounting for nature the additional supporting guidance aims to aid in the packaging of the framework making accounting for nature more defined. This is part of what makes the disclosure recommendations, which are generally described, into translatable entities within business practices on a practical level in connection to the packaging process (Czarniawska and Joerges, 1996). The supporting guidance is derived from the practical experience from several actors involved in the development of how to embody accounting for nature by using the TNFD framework, which show how organizations as idea carriers provokes changes to the practical use of the framework (Sonnerfeldt & Aggestam, 2022). However, it also shows how the changes driven from idea carriers are translated and materialized into text as a way of enacting changes to the framework to a broader audience, which emphasizes how the updates are a consequence of minor micro-translation processes constantly occurring. Furthermore, the empirical findings support feedback loops between the experience from knowledge partners, piloting organizations and other idea carriers which show how the open-innovation approach leads to an iterative development process of the framework. This leads to the development of accounting for nature within the framework generating the v0.3, and to the current v0.4.

However, the packaging process is carried out mainly with the help of organization and knowledge partners (e.g., as researchers and expertise in the field of nature-related issues). Accounting for nature using the TNFD framework is currently voluntary, as policymakers are not yet enforcing companies to adopt it. As a result, the decision to account for nature through TNFD largely relies on the collaborative efforts of companies. However, the absence of dynamic change factors facilitated by regulatory support and governmental narratives lowers the strength of the developed standardized framework, as governmental support is found to be critical to drive change regarding sustainability (Jensen et al., 2017). This shows how idea carriers both on a local and global level can support the initiative which leads to change, in close alignment with research (Mennicken, 2008), but where the strength of driving the change is limited due to the nonexistent regulatory enforcement imposed on companies to use the TNFD in accounting for nature.

Unpacking

Yet, organizations have attempted to unpack the idea of accounting for nature by using the TNFD framework and adopt it into local business practices. The attempted unpacking shows that the companies are giving recognition to the importance of biodiversity and its significant impact on their business operations. Engaging with the TNFD framework provided a valuable opportunity for companies to acquire knowledge and incorporate the idea of accounting for nature into their business practices. By actively participating in the co-creation of the framework, these organizations not only gained insights, but it also enhanced their brand reputation as environmentally responsible organizations (Brown et al., 2009a). Through their involvement, they took an active role as idea carriers and thus contributed to the traveling idea (Sahlin-Andersson & Engwall, 2002) of accounting for nature. However, as the

unpacking process was initiated (Czarniawska and Joerges, 1996) several challenges arose. The most prominent challenges found empirically are within how to quantify and standardize metrics of nature, hence, how to translate the idea of accounting for nature into calculative practices, to understand it in a more graspable way (Miller, 2001). However, this is not because there are complexities between the short-term focus of calculative practice and the long-term focus of sustainability performance as shown by Cuganesan et al. (2014). Rather, the challenge of quantifying nature into standardized metrics is similar to what Hiss (2013) acknowledged, the difficulty of how to accurately measure a phenomenon of sustainability, as the empirical findings show that measuring nature is fundamentally different to climate because it is locally embedded. Although, this attempt is a major step in creating action towards the idea of accounting for nature, as companies are more inclined to pursue sustainable development if it is measurable (Espeland & Sauder, 2007). Furthermore, there are also challenges with data availability of local information, scenario analysis, definitions with the nature discourse, dependencies of engagement of suppliers, and overviewing the supply chain and trade-offs of resources between policies and initiatives. It becomes evident that there is an initiated fitting and adopting process within the unpacking (Czarniawska and Joerges, 1996) where companies are handling a lack of guidance of translating the idea to account for nature presented within the TNFD in a holistic and pragmatic way. Moreover, collaborative efforts are used to seek answers of how to interpret and use the TNFD to account for nature. However, as the companies are surfacing the local challenges of using the TNFD, they are hoping for new guidance to emerge that will help to address and overcome these challenges.

The update from v0.3 to v0.4 of the TNFD framework has provided additional guidance towards the use of metrics and targets. However, these changes have resulted in a conflict among the idea carriers with opposing opinions which risk constraining the progress, as competing ideas can halt materialization and prevent ideas from being executed in practice (Brunsson, 1985, in Czarniawska and Joerges, 1996). The conflict that has risen is that some companies are embracing that the development of the TNFD framework will be a process which will continue to evolve beyond version 1.0, and therefore accepting the incompleteness regarding metrics, but others are dissatisfied. The dissatisfaction regarding how the metrics do not capture the true aspects of biodiversity within TNFD is a sign of declining credibility, as the arguments and evidence that the framework builds its metric recommendation upon is contested; this leads to lowered support for the framework within the local context (De Olde et al., 2018). This starts a process where the TNFD is questioned, as the updates intended to account for nature to a greater extent, are instead seen as too simplistic, which undermines the framework's ability to effectively account for nature and lowering its credibility. This situation can be seen in close resemblance to concerns raised by Meadows (1998), where oversimplified approaches in standardized frameworks that are not fully addressing complex environmental challenges instead limit the credibility of the framework. Furthermore, this also leads to the metrics proposed not being practically relevant to capture the full complexity of nature, which also lowers the salience, in accordance with Cash et al. (2003), of using the framework to account for nature. However, the alignment between the indicators recommended and the beliefs of users, vital for the legitimacy of the standardized framework

as shown by De Olde et al. (2018), are also lowered due to this conflict among idea carriers. Together, this lowers the strength of the TNFD framework of being a fitting translation of accounting for nature for businesses.

Moreover, the organizations experiencing this dissatisfaction have limited influence over the translation process of accounting for nature within the TNFD framework due to joining the process in v0.3. This limitation therefore arises from certain aspects of the framework already being stabilized and taken-for-granted within the global development of TNFD, leaving little room for significant modifications based on their concerns. In this late stage of the development of TNFD, the companies therefore realized that their inputs do not have a substantial impact in rethinking stabilized aspects of how to account for nature. Hence, based on the findings of this study, participants who adopt the TNFD framework in its mid-stages, primarily assume the role of highlighting challenges and contributing to the local translation of the framework's methods by developing internal business practices that align with the recommendations of the framework. Participating in the translation of accounting for nature through the TNFD framework in its later stage can be understood metaphorically as a double-edged sword, as it presents a trade-off dilemma. On one hand, it offers participants the opportunity to acquire knowledge and enhance their brand reputation. But on the other hand, they have limited influence over the framework's development due to the stabilization from the early-stage versions of TNFD prior to the entry of the Swedish organizations.

The shared challenges faced by organizations, where the questions outnumbered the answers, led to a shift in the discourse surrounding TNFD. The dissatisfaction regarding TNFD includes two aspects. Firstly, organizations must invest a significant amount of resources in obtaining locally specific data down the supply chain to meet the TNFD recommendations. However, even after acquiring the necessary data, the second challenge emerges, the lack of clarity, regarding valuing nature and determining appropriate metrics. Once organizations have invested resources in obtaining locally specific data, they face the dilemma of how to accurately measure and quantify their impact on nature. The absence of clear guidelines and standardized metrics within the TNFD framework that account for the fundamentals of biodiversity makes uncertainty arise, which makes it difficult to consistently assess and compare organizations' sustainability performance. This ambiguity hinders the ability to effectively account for nature and undermines the credibility and usefulness of the TNFD framework. Hence, the dissatisfied organizations began to reevaluate their ongoing engagement with TNFD to explore other standardized frameworks. Furthermore, due to hardships of rethinking already stabilized concepts within TNFD, in how to account for nature, the discussion within the dissatisfied organizations shifted away from repackaging TNFD, to instead reconsider its use and turn the attention towards other standardized frameworks, such as the mandatory framework CSRD. Hence, the misalignment between how organizations want to account for nature and how it is materialized and translated within the TNFD, led companies to abandon this interpretation of accounting for nature, showing the dynamic nature of the translation process where there are entry and exit of participants recurrently (Czarniawska and Joerges, 1996). Furthermore, it also shows how conflicting interpretations hinder materialization (Brunsson, 1985, in Czarniawska and Joerges, 1996) of

how to account for nature, where TNFD and CSRD are battling to gain support from local and global actors to reach the possibility of materialization. As credibility, salience and legitimacy gives insights in if a standardized framework is institutionalized or abandoned (Cash et al., 2003; De Olde et al., 2018) the empirical findings suggest that concepts are dynamic over time and if the support for the materialization of accounting for nature through the TNFD is lower than the alternative materializations, for example CSRD, it increases the risk of leading to a shift in the engagement from actors. However, the shift is also due to the fact that companies are restricted in the possibility to manage several biodiversity frameworks simultaneously, as companies have limited resources where they need to prioritize the standardized frameworks that provide the most comprehensive solution, supporting what the research has shown that the design, cost, and time investment is central to which framework is seen as relevant (De Olde et al., 2016; Lynch et al., 2000; Van Meensel et al., 2012).

The shifting support for TNFD and the increased discussion of CSRD shows how one idea of accounting for nature is traveling and is translated into several materialization alternatives depending on the packaging process. However, due to the dynamic nature of the translation process, characterized by the continuous entry and exit of participants (Czarniawska and Joerges, 1996), it is important to recognize that local processes in different parts of the world may have varying levels of engagement and adoption of the TNFD framework, as the idea of accounting for nature are still in the process of being translated.

By examining the previous research of the materialized frameworks of how to account for climate (Rowbottom & Locke, 2016; Brown et al., 2009a; Brown et al., 2009b; O'Dwyer & Unerman 2020; Chua et al., 2022; De Olde et al., 2016; Deweerdt et al., 2022), and reviewing the empirical findings of how to account for nature through the use of TNFD, it becomes clear that there are similarities and differences. In the strive to account for climate the translation of <IR> was driven by local organizations in collaboration with regulatory initiatives (Rowbottom & Locke, 2016). Similarly, in accounting for climate through GRI, the constant translation among key stakeholders, iterative testing, and self-correction was vital for its materialization and adoption (Brown et al., 2009a; Brown et al., 2009b). When accounting for nature using TNFD, similarly to GRI a collaboration of local organizations is driving the updating of the framework which is seen as iterative testing because challenges surfaced and were partly addressed in workshops. In contrast to the creation of GRI and <IR>, within the traveling idea of accounting for nature, it becomes evident that frameworks are battling for the engagement of actors. Similar to the swift stabilization and materialization of accounting for climate within GRI (Brown et al., 2009a), the idea of accounting for nature by using the TNFD also offers limited possibility to rethink already stabilized aspects of the translation. Furthermore, this study offers additional support that there are similar challenges of how to account for nature (surfaced through TNFD) as acknowledged within how to account for climate (surfaced through TCFD) of for example data availability and interpreting scenario analysis (Chua et al., 2022).

However, the study moves beyond these findings to show that when ideas are translated into a framework, for example within the TNFD framework, the idea carriers are actively accepting, excluding, and contesting the translation of how to account for nature, either leading to changes in the standardized framework, or shifts the idea carriers' engagement to the framework. Hence, the idea carriers are vital for the translation of the idea that travels and shapes how it is materialized, as implied by Sahlin-Andersson & Engwall (2002). However, the study also shows how changes that idea carriers enact upon can be excluded from the translation due to the stabilization of the translation in an earlier stage of the process. The study shows how the surfaced challenges are translated and are either addressed by the TNFD Taskforce or disregarded, which illustrates how the TNFD Taskforce is a vital idea carrier in the materialization of accounting for nature. By surfacing the challenges within the unpacking process, the study also acknowledges how the idea of accounting for nature and accounting for climate is fundamentally different in its translation of calculative practices. A deeper understanding is also provided regarding how conflicts can emerge between idea carriers, further complicating the standardization process of a traveling idea. Furthermore, the study shows complexities of how different standardized frameworks that are materializing the same idea, for example TNFD and CSRD, is in a constant battle where the credibility, salience and legitimacy is changing over time depending on the support from both global and local actors, which can ultimately lead to one framework being abandoned and the other institutionalized. This also shows the dynamic interplay of how multiple standardized frameworks that become translated in parallel can either be strengthened or weakened by the shift in credibility, salience, and legitimacy over time. Furthermore, by surfacing how idea carriers are shifting its engagement, it also brings up the question of how the learnings within one framework can be repackaged and fed into other initiatives.

Conclusion

By studying the idea of accounting for nature from a global and local perspective through the development of the TNFD framework, this study is fulfilling the purpose of increasing the knowledge of how ideas materialize into a standardized framework, contributing both to the literature of translation and sustainability performance. By doing so, the study acknowledges how idea carriers are accepting, excluding, contesting, or even ignoring different parts of the framework based on their translation of it. The research question of this paper, how does the idea of accounting for nature translate into a standardized framework, is answered by three conclusions.

Firstly, we conclude that the process of materializing the idea of accounting for nature into a standardized framework is inherently complex and conflict-intense. Idea carriers involved in this standardization process not only contest different perspectives on how to account for nature, but also engage in discussions and disagreements with other idea carriers. As a result, the translation process becomes iterative, moving through the packaging phase into the unpacking phase and back again in the form of feedback loops, allowing for continuous improvements and updates of the framework. This dedication to improve the framework was especially evident among idea carriers in the initial stages of their participation.

Secondly, we conclude that what makes the idea of accounting for nature travel is the idea carriers, hence making them vital for the creation of the framework. If idea carriers are experiencing that the standardized framework has become materialized with a translation that does not align with the idea carriers' translation of how to account for nature, they tend to abandon the framework to seek alternative frameworks where they find alignment. As the materialization becomes stabilized over time, the role of local idea carriers in the global translation process of accounting for nature is lowered.

Thirdly, we conclude that the development of a standardized framework is not a process unfolding in a vacuum. Rather, idea carriers continuously evaluate the credibility, salience, and legitimacy of one framework and compare it to alternative frameworks. This evaluation leads to battles between alternative standardized frameworks, as idea carriers strive to promote their preferred translation. Furthermore, the support and influence of idea carriers helps to shape which framework ultimately becomes institutionalized. The materialization of a framework that does not align with the idea carrier's view of accounting for nature regarding accounting for nature can strengthen the position of an alternative standardized framework that better aligns with their perspective. In such cases, it creates an opportunity for alternative frameworks to gain strength and support. Additionally, in the event of a shift from one framework to another, idea carriers can effectively make use of the knowledge and experience gained from the previous framework into the new framework.

These three conclusions lead the paper to suggesting the practical implication to embrace the need for collaborative efforts among idea carriers to reach a standardized framework that addresses the diverse perspectives and challenges involved with accounting and quantifying nature. Moreover, the paper has three main contributions. Firstly, our study provides an expansion to the current literature within the design, practice, and translation of sustainability performance frameworks into business practices, by showing how an idea of accounting for nature becomes translated and standardized into a framework. Previous literature has focused on how accounting for climate is materialized into climate-related frameworks. Hence, this study provides valuable insights of how nature is fundamentally different to climate, by investigating the traveling idea of accounting for nature as it becomes translated and materialized into a nature-related framework. However, by highlighting the differences between nature and climate, it is our aspiration and hope that a more comprehensive and nuanced understanding of the relationship between climate and nature can be formed. Secondly, by showing how different frameworks are battling in gaining the support for their translation of how to account for nature, the paper expands the research of sustainability performance frameworks by providing another example of how sustainability frameworks battle. Thirdly, our study contributes to the literature of translation as it expands on how actors (i.e., idea carriers), are actively translating the idea of accounting for nature by accepting, excluding, contesting, and ignoring parts of the TNFD framework. Therefore, the study contributes with a more nuanced explanation to how an idea travels and is translated into a standardized framework, in a context of accounting for nature, by the active engagement of idea carriers. However, limited by the time constraints and the narrow focus

of studying a local translation process unfolding within a Swedish context, future research could expand this by looking at multiple translation processes within different contexts and under a longer time frame. This could lead to greater understanding of how a nature-related idea travels through all the phases, dis-embedding, packaging, unpacking, and re-embedding, and gets materialized into a framework, which would also give further insight into the global dynamics of how the idea is traveling. Furthermore, future research can expand on researching the relationship between different frameworks and the support of idea carriers further, developing the idea of frameworks battling.

The nature-related paradigm referred to as: “loss without limit” (Maron et al., 2018 in Maron et al., 2020 p.48), needs to stop to ensure the survival of the nature-related environmental assets and ecosystem services which the society is dependent upon. By our paper surfacing how idea carriers make the idea of accounting for nature travel and becomes translated into a framework, we urge for collaborative efforts among idea carriers to enable an institutionalized framework which accounts for nature.

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