

Master Thesis

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Nature as a Dynamic Stakeholder: Amplifying the Voice of Our 'Reason to Be' in Business

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Abstract

Against the backdrop of growing ecological crises, this master's thesis examines how companies can integrate nature as an active and legitimate stakeholder in their decision-making processes. Despite a wide range of CSR measures, nature often remains reduced to a managed resource in the corporate context - considered but not represented. The aim of the work is to identify conditions and structures under which nature can be recognized as a co-creator of corporate strategies.

Theoretically, the work is based on an interdisciplinary framework that combines classical stakeholder theories with ecological and governance-orientated approaches. These include Agency Theory, Resource Dependence Theory, the Planetary Boundaries Model and the Biocracy Approach. These perspectives make it possible to extend the concept of stakeholders to non-human actors.

The empirical investigation is based on a qualitative multiple case study design on VAUDE and Interface Inc. The centerpiece is a multidimensional evaluation model with four integration dimensions: (1) governance structures, (2) ecological risk management, (3) systemic thinking along planetary boundaries and (4) communicative legitimacy. The database includes company sources and an expert interview to validate central criteria (Interface Inc.).

The analysis shows: VAUDE pursues a holistic, biocratic approach with strong cultural anchoring of ecological interests. Interface Inc., on the other hand, is data-driven within the ESG framework, but remains limited in its representation of ecological concerns. Four key success factors can be derived from this: institutionalized representation, cultural anchoring, systemic thinking and participatory communication.

The work is intended as a conceptual contribution to ecological stakeholder integration. It offers a structured evaluation model for analyzing entrepreneurial practices and provides theoretical impulses for supplementing classic governance concepts with an ecological perspective.

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List of Abbreviations

AI	Artificial Intelligence
ASN	Algemene Spaarbank Nederland
CDP	Carbon Disclosure Project
CEO	Chief Executive Officer
CSR	Corporate Social Responsibility
CSRD	Corporate Sustainability Reporting Directive
DACH	Germany, Austria and Switzerland (region)
DE	Deutschland / Germany
DNA	Deoxyribonucleic Acid or company culture (context-dependent)
DNK	Deutscher Nachhaltigkeitskodex (German Sustainability Code)
ECG	Economy for the Common Good
EMAS	Eco-Management and Audit Scheme
ES	Ecosystem Services (likely context)
ESG	Environmental, Social, and Governance
EU	European Union
GRI	Global Reporting Initiative
IFRS	International Financial Reporting Standards
IPBES	Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services
LCA	Life Cycle Assessment
MCA	Multi-Criteria Analysis
MSI	Multi-Stakeholder Initiative
NCP	Nature's Contributions to People
NGO	Non-Governmental Organization
RDT	Resource Dependence Theory
SBTN	Science Based Targets for Nature
SDG	Sustainable Development Goals
SME	Small and Medium-sized Enterprise
TCFD	Task Force on Climate-Related Financial Disclosures
TNFD	Task Force on Nature-Related Financial Disclosures
UN	United Nations
WWF	World Wide Fund for Nature

1. Introduction

1.1 *Context and motivation*

'Nature is not governed, it governs.' - Johann Wolfgang von Goethe

With this quote, Johann Wolfgang von Goethe expresses the idea that nature is not simply dominated or controlled by humans, but plays an active, often decisive role in human behaviour. This view is crucial for the discussion on the integration of nature in economic decision-making processes. In classic stakeholder theory, as originally developed by Freeman (1984), stakeholders are individuals or groups who have an interest in a company's activities and whose concerns should be included in decision-making processes. Nature is often viewed merely as a resource whose use needs to be optimized. This reduces its role in the corporate context to a purely functional one.

However, in the face of increasing environmental challenges - including climate change, resource scarcity and biodiversity loss - it is becoming clear that nature is far more than just a passive resource. It is proving to be an active player whose influence on economic developments and social stability is becoming increasingly noticeable (cf. Schaltegger et al., 2012, p.1f). Companies are therefore called upon to include nature in their strategic considerations not only as a resource to be exploited, but also as a dynamic and mutually effective stakeholder.

Goethe's statement thus calls for a fundamental change in perspective: nature is not merely a passive object, but an active co-designer of corporate culture and strategic orientation. Viewing nature as an independent stakeholder is not just a theoretical approach but also has practical relevance. Studies show that companies that integrate environmental sustainability into their strategies are not only better able to achieve environmental goals but can also realize economic benefits (cf. Porter & Kramer, 2011, p.4f). In view of the growing importance of ecological issues for long-term corporate strategy, it is therefore essential to understand nature as a fully-fledged stakeholder that must be integrated into management on an equal footing.

The aim of this paper is to develop the theoretical basis for the consideration of nature as an independent stakeholder in corporate strategy. It is assumed that the active integration of nature can support companies in developing more sustainable and long-term viable business models. The central question of this thesis is therefore: How can nature be integrated as a stakeholder in corporate strategies to promote sustainable development? Answering this question requires an interdisciplinary approach that combines elements of stakeholder theory (cf. Freeman, 2010, p.58), sustainability research (cf. Elkington, 1997, p. 71) and strategic management (cf. Porter & Kramer, 2011, p.17).

This work makes a contribution to existing research by demonstrating not only the need for, but also concrete ways in which nature can be considered as a stakeholder. It develops an expanded understanding of stakeholder management that goes beyond traditional, human-centred interest groups and recognizes nature as an active, co-creative actor.

1.2 Problem definition and objectives

Stakeholder theory has been a central foundation of corporate management for decades and emphasizes that organizations do not act in isolation, but interact with various stakeholder groups (cf. Freeman, 1984, p.5). However, the classic perspective of this theory is primarily limited to human stakeholders, while nature is usually only considered as an external factor or resource (cf. Starik, 1995, p.207). As a result, environmental challenges such as climate change, resource scarcity and biodiversity loss are often only understood as risks for companies, instead of seeing nature as an active player that directly influences economic processes (cf. Rockström et al., 2009, p.472f).

In practice, many companies pursue sustainability strategies, but these often remain within the framework of voluntary initiatives or regulatory requirements (cf. Bansal & DesJardine, 2014, p.70f). While concepts such as corporate social responsibility (CSR) or the triple bottom line model (cf. Elkington, 1997) have brought sustainability more into focus, they remain formulated from an anthropocentric perspective: Sustainable measures are primarily implemented when they serve the interests of human stakeholders. A more comprehensive model that systematically integrates the interdependencies between companies and nature into stakeholder theory is still lacking (cf. Driscoll & Starik, 2004, p.56f).

This theoretical gap leads to the central problem of this paper: How can nature be integrated into corporate strategies as an active stakeholder? While some studies indicate that ecologically sustainable business practices can bring long-term competitive advantages (cf.

Porter & Kramer, 2011, p.9f), it remains unclear how companies can build a dynamic relationship with nature as a stakeholder.

The aim of this paper is therefore to develop the theoretical basis for the integration of nature as a stakeholder. To this end, existing stakeholder models are critically analysed and expanded to include an ecological dimension. At the same time, practical recommendations for action will be developed to support companies in integrating natural systems into their decision-making processes as independent stakeholder groups. An interdisciplinary approach is pursued that combines stakeholder theory, sustainability research and strategic management.

The results of this work should contribute to the further development of stakeholder management and provide companies with concrete approaches for achieving a long-term balance between ecological sustainability and economic value creation.

1.3 Research questions and research gap

Since its introduction by Freeman (1984, p.48), stakeholder theory has continuously evolved and expanded to include perspectives that go beyond purely economic interests. While traditional approaches primarily focus on human stakeholders, there are now efforts to integrate non-human actors, especially nature, into stakeholder models (cf. Starik, 1995, p.208; Haigh & Griffiths, 2009, p.348f). Despite these developments, nature is still predominantly regarded as an external influencing factor or resource in the economic debate and in business practice, rather than as an independent stakeholder with legitimate interests (cf. Barter & Bebbington, 2013, p.3f). Companies usually respond to environmental change through adaptation strategies or regulatory compliance, while proactive stakeholder engagement with nature has hardly been systematically researched (cf. Driscoll & Starik, 2004, p.67).

This research gap is particularly evident in the fact that although nature has a profound impact on companies - for example through climate change, biodiversity loss or resource scarcity - most stakeholder models consider it merely as a framework condition or passive element. A key challenge is that traditional stakeholders can influence companies through direct communication, representation of interests or contractual relationships, while nature as a non-human actor has no voice of its own. As a result, there is a lack of theoretical and methodological approaches as to how companies can involve nature as an active and legitimised stakeholder in decision-making processes (cf. Gray et. al, 2014, p.160f).

Against this background, the central research question arises:

How can companies effectively engage nature as a stakeholder and amplify its voice to make business truly sustainable?

Answering this question requires an extension of stakeholder theory to analyse which adjustments are necessary so that nature can be conceptualised as an active stakeholder. At the same time, companies need to develop strategies to view environmental concerns not just as a regulatory or ethical obligation, but as an integral part of their stakeholder strategy.

In addition to this theoretical dimension, there is also an empirical research gap: To date, there are hardly any systematic approaches to measure or evaluate how companies effectively integrate environmental concerns into their stakeholder management processes. Analysing existing best practices and identifying new mechanisms for considering nature as a stakeholder are therefore essential to develop sustainable corporate strategies.

By answering this research question, a contribution is to be made to the further development of stakeholder theory by considering nature not just as a passive element within economic systems, but as an actor whose interactions with companies can be clearly defined, strategically anchored and operationalised in practice.

1.4 Organisation and structure of the thesis

This master's thesis is systematically structured to examine the integration of nature as a stakeholder in corporate strategies. It combines theoretical foundations, a structured analytical framework and empirical case study analysis to offer a conceptual and practice-oriented understanding of how ecological interests can be embedded in corporate decision-making. The goal is to support companies with a conceptual approach that enables them to view nature not merely as an external influence, but as an active, legitimate stakeholder. While not offering a ready-made implementation tool, the thesis provides a structured evaluation model that helps assess the degree to which ecological representation is embedded in strategic governance.

After the introduction, which outlines the research context, objectives, and research gap, the content of the thesis is organised into the following chapters:

Chapter 2 establishes the theoretical groundwork. It begins by discussing classical stakeholder theory, its origins, and stakeholder classifications. It then elaborates on the specific conceptualisation of nature as a stakeholder and the justification for its inclusion. The chapter further integrates complementary theoretical perspectives – including Agency Theory, Resource Dependence Theory, the Planetary Boundaries framework, and the Biocracy approach – to build a multi-perspective foundation for analysing ecological representation in corporate governance.

Chapter 3 explains the methodological approach of the study. It describes the qualitative case study approach and justifies the selection of the analysed company. It also describes the development and weighting of the evaluation criteria, the data collection methods used, the content analysis approach and the evaluation system. In addition to analysing documents and publicly available company data, a guideline-based expert interview was conducted to supplement the evaluation model and examine practical aspects of implementation. The chapter also addresses the quality criteria applied, which are intended to ensure transparency, reliability and scientific integrity.

Chapter 4 focuses on the integration of nature into corporate strategy. It analyses strategic anchoring points, available models and instruments for implementation, and common barriers companies face. These include financial, organisational, and cultural challenges that may limit the integration of nature as a stakeholder in practice.

Chapter 5 presents the core empirical findings of the study. It begins with company profiles of VAUDE and Interface Inc. and then applies the developed evaluation framework to assess each case. The analysis covers four thematic dimensions: governance structures, ecological risk management, systemic thinking based on planetary boundaries, and communicative legitimacy. The chapter concludes with cross-case findings, identifying best practices, success factors, and implementation gaps.

Chapter 6 reflects on the findings within the context of the theoretical framework and discusses broader implications. It analyses enablers and constraints for corporate ecological governance and derives practice-oriented recommendations. Furthermore, it evaluates how

the insights contribute to a revised understanding of stakeholder theory, particularly regarding non-human actors.

Chapter 7 summarises the key findings of the thesis, provides a precise answer to the research question and highlights the consequences for corporate strategies and management models. Finally, recommendations for future research are given to further develop the concept of nature as a stakeholder and to promote its anchoring in theory and practice.

This clear and logical structure ensures a coherent progression from theory to method, from analysis to reflection. By combining interdisciplinary theory with empirical insights and actionable recommendations, the thesis offers a comprehensive contribution to understanding how nature can be meaningfully integrated into corporate governance and long-term sustainability strategy.

2. Theoretical foundations

2.1 Stakeholder theory

Stakeholder theory describes the relationship between companies and the various stakeholder groups with which they are connected. It represents an alternative to the classic shareholder theory, which sees companies as primarily committed to their investors. In contrast, the stakeholder theory assumes that organisations do not act in isolation but are part of a comprehensive network in which mutual relationships exist. This view has become much more important in recent decades and now forms a central theoretical basis for corporate management - particularly in the context of sustainability (cf. Freeman, 1984, p. 4f).

Stakeholder engagement is not only understood as an ethical or moral obligation, but increasingly also as an economic necessity. Companies that actively engage in dialogue with their stakeholders can reduce regulatory risks, achieve long-term value enhancement and secure their competitiveness in the long term (cf. Freeman et al., 2018, p. 10f). Stakeholder theory is becoming increasingly relevant, especially in light of growing environmental and social challenges, as these factors are having a greater influence on business decisions. This raises the fundamental question of the extent to which the concept of stakeholder theory can also be extended to non-human actors - especially nature.

In this thesis, stakeholder theory therefore serves as a theoretical foundation for systematically analysing corporate environmental responsibility. By understanding companies as part of a complex network of economic, social and ecological relationships, this perspective enables a differentiated examination of the question of whether and how nature can be viewed as a stakeholder in its own right. This broadens the previously strongly anthropocentric focus of theory and opens new approaches for sustainable corporate strategies.

2.1.1 Origin and development

The origins of stakeholder theory can be traced back to the 1960s, when the first management concepts in Scandinavia and the USA viewed companies as part of a larger social system (cf. Bonnafous-Boucher & Rendtorff, 2016, p.3). Stakeholder theory was established by R. Edward Freeman (1984), who argued that companies are more successful

in the long term if they consider not only the interests of their investors, but also those of their suppliers, customers, employees and society.

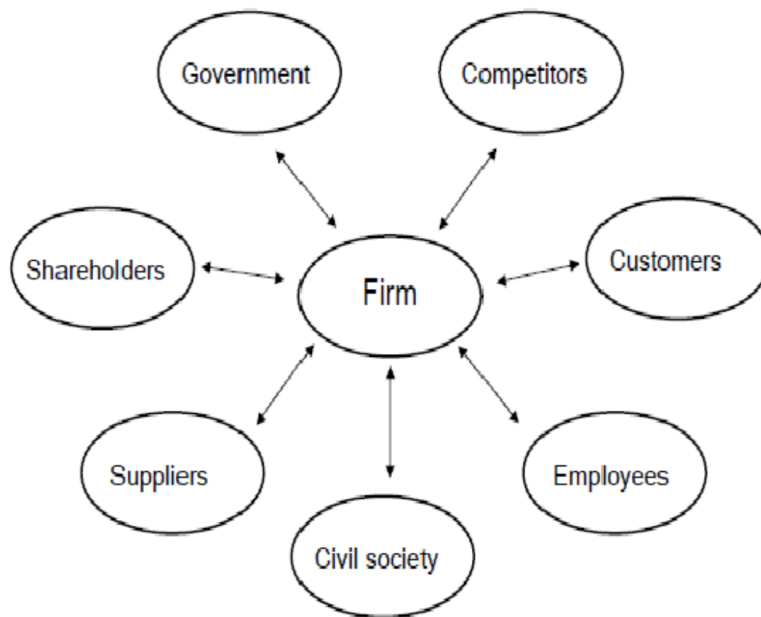


Figure 1: The original stakeholder model (Freeman, 1984)

Freeman's concept quickly developed further and led to the differentiation between three central perspectives of stakeholder theory:

Normative stakeholder theory: This states that companies have a moral obligation to consider the interests of all stakeholders, regardless of their economic influence (cf. Enyinna, 2013, p.82).

Instrumental stakeholder theory: This argues that companies that actively engage with their stakeholders are economically more successful (cf. Jones et al., 2018, p.371).

Descriptive stakeholder theory: This describes how companies interact with stakeholders based on empirical observations (cf. Mishra & Dwivedi, 2012, p.474f).

While the original stakeholder theory focussed primarily on human actors, it has been increasingly expanded to include ecological aspects in recent decades. Sustainability research has contributed to the fact that not only individuals or organisations, but also natural systems can be regarded as stakeholders (cf. Gladwin, Kennelly & Krause, 1995, p.877f). This development shows that the classic, anthropocentric view of stakeholder theory must give way to a broader perspective that also integrates the environment into the

corporate decision-making process. This paradigm shift is being driven by the increasing social and political relevance of ecological issues.

2.1.2 Stakeholder categories and their significance

A central issue in stakeholder theory is the classification of the various stakeholder groups. A distinction is often made between primary and secondary stakeholders (cf. Clarkson, 1995, p.110).

Primary stakeholders (internal) are those who have a direct relationship with the company and directly influence its economic success, such as customers, employees, investors and suppliers (cf. Clarkson, 1995, p.106). They are essential to a company's existence as they help shape its business model and are directly involved in decision-making processes.

Secondary stakeholders (external), on the other hand, have no direct economic influence, but can play an important role in social perception and regulation. These include, for example, governments, NGOs, the media or the general public (cf. Clarkson, 1995, p.107). Secondary stakeholders can significantly influence companies through political pressure, media campaigns or consumer movements.

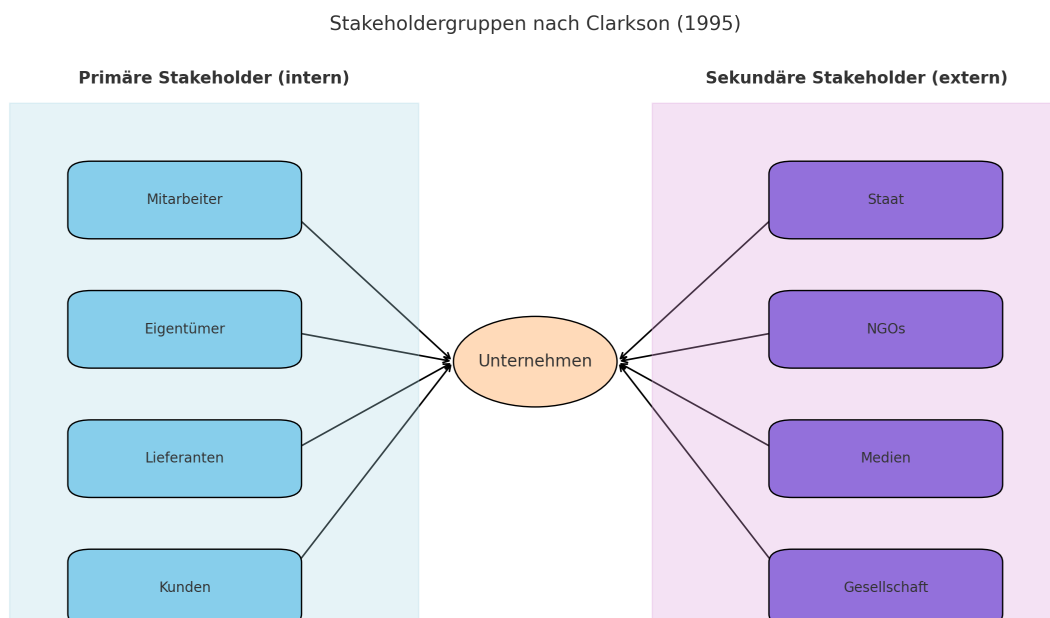


Figure 2: Own illustration based on Clarkson (1995)

The categorisation of nature as a stakeholder is one of the central challenges of modern stakeholder theories. In classical theory, nature is not considered an actor in its own right, as it has no conscious power to act or negotiate (cf. Driscoll & Starik, 2004, p.57f). Nevertheless, companies are directly dependent on natural resources such as water, soil and biodiversity, so some researchers argue that nature should be considered a primary stakeholder (cf. Haigh & Griffiths, 2009, p.350). It forms the physical basis of all economic activities and provides essential ecosystem services without which companies could not exist.

At the same time, nature could also be seen as a secondary stakeholder, as it is often represented by intermediaries such as environmental organisations, governments or scientific institutions (cf. Laine, 2010, p. 75f). These actors are committed to protecting the environment and exert indirect influence on companies through political measures or market mechanisms. In this context, the question arises as to what extent companies integrate ecological interests into their decision-making processes and what strategic approaches are required to ensure sustainable value creation.

The increasing urgency of environmental challenges such as climate change and resource scarcity has meant that companies can no longer view nature as a passive factor, but as a dynamic stakeholder whose protection also ensures long-term economic stability. While traditional stakeholder categories usually treat nature as an external factor, current research shows that environmental factors must increasingly be understood as integral components of economic decision-making processes (cf. Driscoll & Starik, 2004, p.66f). This change in perspective requires new entrepreneurial approaches that go beyond minimum legal requirements and establish a sustainable corporate strategy.

The question therefore arises as to how companies can adapt their business models so that they recognise nature not only as a resource, but also as a legitimate stakeholder. The challenge lies in the practical implementation of these theoretical concepts and the development of management strategies that adequately integrate ecological concerns. The next section examines which theoretical concepts legitimise nature as a stakeholder and what practical implications this has for companies.

2.2 Nature as a stakeholder

Recognising nature as an independent stakeholder is becoming increasingly important in the scientific debate. While companies have long pursued primarily anthropocentric approaches in their stakeholder analyses, there is a growing demand to consider ecological systems as legitimate stakeholders (cf. Driscoll & Starik, 2004, p.66). Nature influences companies both directly through the provision of resources and indirectly through ecological boundaries, the transgression of which entails long-term economic risks (cf. Whiteman et al., 2013, pp.25-28). Systematically integrating nature as a stakeholder therefore requires a rethink in corporate management that goes beyond traditional sustainability measures. In this context, the question arises as to how nature can be defined as a stakeholder and which characteristics distinguish it from traditional stakeholders.

2.2.1 Definition and concept of the 'nature stakeholder'

The definition of a stakeholder is traditionally based on the ability of an entity to enter direct dialogue with the company and influence its decision-making processes (cf. Brugha & Varvasovszky, 2000, pp.239-241). However, since nature has no conscious ability to act, an extension of the classic stakeholder definition is required. Starik (1995, p.213) suggests that stakeholders do not necessarily have to have an explicit ability to communicate but can also be regarded as stakeholders through their existential significance for a company. Haigh & Griffiths (2009, p.354) argue that nature is a legitimate stakeholder through its role as a resource base and through its ability to influence companies through environmental change. This perspective means that companies need to develop mechanisms to systematically take ecological interests into account.

To transfer this theoretical concept into practice, companies need concrete structures that institutionalise nature as a stakeholder. One possibility is the implementation of environmental advisory boards made up of experts from science, NGOs and internal sustainability officers to integrate ecological criteria into strategic corporate decisions (cf. Schaltegger et al., 2017, p.205). Another example is sustainability committees that monitor decision-making processes and ensure compliance with ecological standards (cf. Eccles & Klimenko, 2019).

An innovative approach to legally recognising nature as a stakeholder is the granting of legal status to ecosystems. In New Zealand, for example, the Whanganui River has been

recognised as a legal entity, allowing it to be represented by human agents in legal matters (cf. O'Donnell & Talbot-Jones, 2018, p.4). Another development is the legal recognition of the Taranaki Maunga, which now 'owns itself', with representatives of indigenous communities and government acting as stewards (cf. Raposas, 2025). Such approaches show that nature as a stakeholder is not only discussed at a conceptual level but can already be integrated into legal and corporate structures.

2.2.2 Differences to traditional stakeholders

Nature differs from traditional stakeholders in several key aspects. While human stakeholders - such as customers, employees or investors - can interact directly with the company, nature lacks this direct power to act (cf. Schlosberg et al., 2018, pp.424-428). This presents companies with the challenge of developing suitable mechanisms to integrate ecological interests into decision-making processes.

There is a fundamental difference in the way they are affected and influenced. Traditional stakeholders often have specific economic or social interests that they can actively represent (cf. Mitchell et al., 1997, pp.857-860). Nature, on the other hand, can only react passively to corporate activities - for example through ecological changes such as species extinction or climate change. This makes it necessary for companies to proactively address environmental issues instead of waiting for immediate stakeholder pressure (cf. Šević & Bajalski, 2019, p.55f). Companies need to recognise that environmental changes are not just external conditions but can have a direct impact on their production processes, supply chains and resource costs.

A second difference lies in the temporal dimension of the effects. While traditional stakeholders may have short-term economic expectations of a company, environmental changes often only have a long-term impact (cf. Brondoni et al., 2019, pp.4-8). This requires a long-term perspective in management to seriously consider nature as a stakeholder and not just pursue short-term environmental goals. Companies need to implement mechanisms that reconcile long-term environmental sustainability with short-term business interests. One possibility is to give greater weight to environmental factors in investment decisions and to develop sustainable alternatives to existing processes at an early stage.

A third key difference lies in the representation and enforcement of ecological interests. Traditional stakeholders have legal and economic means at their disposal to assert their interests against companies. Nature, on the other hand, needs representatives to defend its interests, be it through environmental organisations, scientific institutions or political regulations (cf. Boström & Ugglå, 2016, pp. 357-360). This places high demands on the transparency and credibility of those who advocate for ecological concerns to ensure that environmental interests are not only taken into account symbolically.

2.2.3 Necessity of recognising nature as a stakeholder

Nature is not just a resource, but the essential basis of entrepreneurial activity. Companies only exist because natural systems provide them with the necessary resources. This perspective makes it clear that nature is not just a passive factor in the economic environment, but rather the central 'reason to be' of entrepreneurial activities (cf. Whiteman et al., 2013, p.4f). Without functioning ecosystems, neither production nor economic development are possible. Companies should therefore not only take responsibility for the environment, but also actively integrate it into their strategic decisions to ensure long-term stability and sustainable business success.

A helpful model for visualising this necessity is the IPBES Conceptual Framework. It shows the complex interdependence between nature, economic processes and governance structures and emphasises the fundamental dependence of companies and society on stable ecological systems.

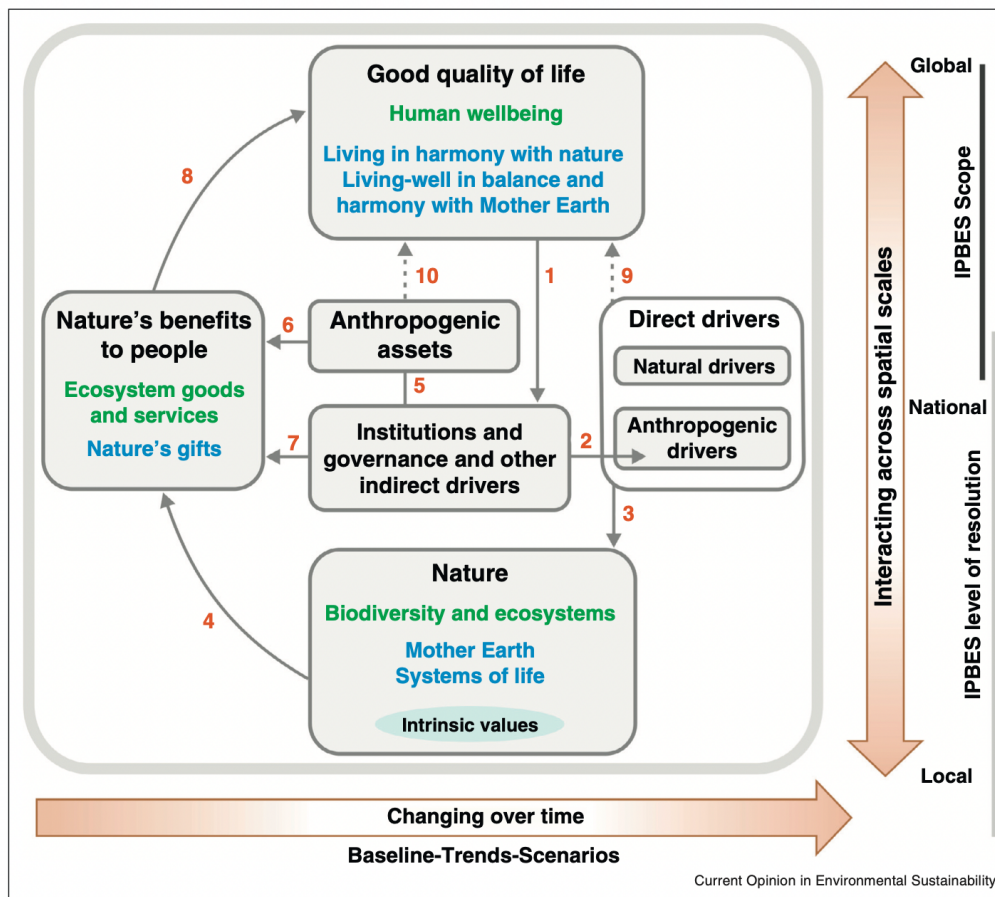


Figure 3: The IPBES Conceptual Framework - link between nature, governance and human well-being

The model makes it clear that nature cannot be regarded merely as a passive resource, but as an active influencing factor in a dynamic system. In the lower section, nature is shown as the basis of biodiversity and ecosystem services, which have an impact across different levels (local, national, global). In the middle level, the model shows institutions and governance structures that influence both nature and anthropogenic factors through political and economic decisions. The upper section shows human well-being, which is directly dependent on nature and its services (cf. Díaz et. al, 2015, pp.5-8).

It is particularly important to emphasise that the model makes it clear that anthropogenic factors - such as economic decisions, regulatory measures and direct drivers such as environmental pollution - have long-term effects on natural systems. This means that companies should not only take short-term environmental measures but must pursue a long-term strategy to maintain ecological stability. The model provides a theoretical basis for companies to understand and implement the need to systematically integrate nature into strategic decision-making processes.

In the face of increasing environmental crises and regulatory developments, it is essential for companies to consider nature as a dynamic stakeholder. Political actors are increasingly tightening environmental legislation, for example through the introduction of the EU Taxonomy for Sustainable Investment or the Supply Chain Duty of Care Act in Germany (cf. European Commission, 2022). The German Lieferkettensorgfaltspflichtengesetz (LkSG), which came into effect in 2023, requires companies to assess and mitigate environmental risks within their supply chains, making nature an explicit consideration in corporate governance (cf. German Federal Government, 2021). This regulatory development reinforces the necessity for businesses to integrate ecological concerns not just as voluntary measures but as an essential part of their strategic decision-making. These regulatory developments are forcing companies to consider environmental factors not only as voluntary CSR measures, but to treat them as an integral part of their corporate governance. While this presents challenges, it also opens new opportunities to minimise long-term risks and increase company value.

In addition, the perception of companies in society is changing fundamentally. Sustainability-conscious consumers and investors are demanding transparency and a sense of responsibility in companies' environmental strategy, which means that ESG (environmental, social, governance) criteria are playing an increasingly central role (cf. Eccles & Klimenko, 2019). Companies that integrate environmental values into their DNA and communicate them credibly can not only strengthen their market position but also gain the trust of stakeholders and investors. In the long term, this helps to secure competitive advantages and increase resilience to environmental and regulatory challenges (cf. Lin, 2024, pp. 2–6).

The following sections shed light on how these findings can be put into practice and which theoretical models support companies in doing so. In particular, the specific mechanisms and strategies that exist for systematically anchoring nature as a stakeholder in corporate decisions and thus ensuring long-term ecological and economic sustainability are discussed.

2.3 Theoretical frameworks for integrating nature as a stakeholder

The recognition of nature as a stakeholder in corporate strategy necessitates a robust theoretical foundation that explains the interdependencies between businesses and ecological systems. Traditional management theories have historically focused on human-centric stakeholder relationships, often relegating nature to the role of a passive resource.

However, the growing urgency of environmental challenges necessitates a shift towards frameworks that integrate ecological considerations into business decision-making (cf. Whiteman et al., 2020, p.6f).

Several theoretical approaches provide valuable insights into how companies can conceptualize and operationalize nature as a legitimate stakeholder. These frameworks emphasize the necessity of embedding nature's interests into long-term business strategies and integrating ecological concerns into governance structures (cf. Lambooy, 2024, p.9). Expanding existing theories to include non-human entities in corporate governance models is essential for ensuring sustainable business practices.

One of the most relevant perspectives in this context is Agency Theory, that highlights the role of corporations as stewards who must act on behalf of nature, given that nature itself lacks direct representation. This perspective suggests that businesses have a responsibility to integrate environmental interests into their decision-making processes (cf. Sjøfjell, 2018, pp.10-14).

Closely related to this is Resource Dependence Theory, which underscores the reliance of businesses on natural resources and the necessity of managing these dependencies sustainably to ensure long-term operational stability (cf. Tashman, 2021, pp.1280-1284).

The Planetary Boundaries Framework provides a scientific basis for understanding the ecological thresholds within which businesses must operate to avoid destabilizing environmental systems (cf. Williams et. al, 2024, p.1).

Lastly, Biocracy extends democracy by granting parliamentary consideration to nature and all living beings, making it a theoretical model for the integration of nature as a stakeholder. It institutionally elevates ecological interests to a governance level, enabling sustainable decisions in harmony with natural systems (cf. Gadatsch et. al, 2018, p.4f)

These frameworks collectively provide a foundation for integrating nature into corporate decision-making in a systematic and accountable manner. By applying these theoretical perspectives, companies can move beyond compliance-driven sustainability efforts and

establish governance structures that embed ecological considerations as core strategic priorities.

2.3.1 Agency Theory

Agency theory, which was originally developed to explain principal-agent relationships in corporate management, provides a helpful frame of reference for analysing how nature can be integrated into corporate decision-making processes as a non-human stakeholder. According to this theory, agents (e.g. managers) act on behalf of headmasters (e.g. shareholders) to realise their interests within corporate management (cf. Eisenhardt, 1989, p. 58). Traditionally, the theory has been applied in the area of financial corporate governance with the aim of reducing information asymmetries and minimising conflicts of interest between management and investors through contractual agreements, incentive systems and control mechanisms.

Over time, the theory has also been applied to other contexts - to issues relating to corporate governance, which involve the coordination of diverse interests in companies. In relation to sustainability, the agency theory can be extended to the idea that companies act as trustees of natural capital and incorporate ecological interests into their strategic planning (cf. Masoud, 2024, pp.5-8). From this perspective, nature - although it does not have a voice itself - is seen as a headmaster whose interests should be adequately represented by corporate action. Companies thus take on the role of agents who act in the interests of long-term ecological responsibility.

A key problem in considering nature as a stakeholder is that it has no ability to act on its own - it can neither actively represent its interests nor participate in decision-making processes or negotiations. This results in the need to appoint so-called proxy agents - such as environmental NGOs, sustainability officers, scientific institutions or regulatory authorities - who speak on behalf of nature (cf. Fischer-Lescano, 2020, pp. 244-246). These proxy agents have a fiduciary responsibility and ensure that environmental considerations are incorporated into business decisions. Particularly relevant in this context is the role of internal company actors such as sustainability managers or executives, whose personal values and ecological understanding significantly influence how environmental issues are addressed within the company. In their role, they act as 'advocates' for nature and represent it strategically (cf. Sookram, 2013, p 1f, p.9f).

A practical example of such a representative role is the WWF (World Wide Fund for Nature), which has launched the Science Based Targets initiative (SBTi) in collaboration with partners such as the UN Global Compact and the World Resources Institute. This framework translates scientific findings on climate change into corporate target systems and thus acts as a legitimate representative of ecological boundaries in the corporate context (cf. Romito, Vurro & Pogutz, 2023, p.2818f). Forms of institutionalised representation also exist in law: in India, for example, the Ganges and Yamuna rivers were recognised as legal entities in 2017 to ensure their protection (cf. O'Donnell & Talbot-Jones, 2018, p.4). In Europe, the Dutch ASN Bank demonstrates how ecological interests can be permanently integrated into corporate structures through ethics committees. The bank uses its governance mechanisms specifically to establish sustainability criteria and biodiversity targets as the basis for investment decisions (cf. ASN Bank, 2010, p.6).

At the same time, institutional investors are increasingly focussing on the integration of environmental, social and governance (ESG) objectives into corporate policy as part of active shareholder engagement. As influential mediators between social requirements and corporate strategies, they play a central role - especially when they demand sustainability as a condition for capital investments (cf. Ringe, 2023, p. 23f). One example is the Norwegian sovereign wealth fund, which consistently withdraws from companies with harmful environmental impacts and thus indirectly represents ecological interests.

Despite its relevance, the application of agency theory in the field of environmental governance faces several challenges. The central problem is that profit-orientated corporate goals are often at odds with long-term ecological goals. Even if regulatory requirements can ensure certain standards, the voluntary commitment of companies often remains subordinate to short-term profit interests (cf. Sjøfjell, 2018, pp. 8-10). It is also difficult to precisely record environmental performance and integrate it into existing economic management systems. This makes it difficult for authorised representatives to transparently present the impact of their representation and effectively enforce the interests of nature (cf. Masoud, 2024, p.2).

Another critical aspect concerns the legitimacy and accountability of proxy agents. Close cooperation between environmental organisations and companies or economic dependencies of scientific institutions harbour the risk of conflicts of interest or

greenwashing. The effectiveness of ecological representation therefore depends to a large extent on the independence of the actors, their institutional anchoring and the disclosure of their methodology. According to Leow (2019, p.2), the legitimacy of proxy representation can be derived from three sources: a principal's explicit authorisation, the necessity of protecting the principal's interests, or the structural requirement to act on behalf of artificial legal entities.

For a successful application of agency theory to nature as a stakeholder, it is therefore essential to ensure that authorised agents act effectively and accountably. The risk of regulatory capture, where companies exert excessive influence on sustainability targets, remains a serious risk. Strengthening public-private cooperation, independent supervisory bodies and close cooperation between science and business are key measures to counteract this problem (cf. Squires & Elnahla, 2020, pp. 134-136). The institutional anchoring of environmental concerns at board level, for example through the appointment of Chief Sustainability Officers (CSOs) with clearly defined responsibilities, ensures that environmental issues are considered at the highest strategic level (cf. Ebele et. al, 2023, p.1f).

Agency theory thus offers a differentiated and practical model for recognising nature as an integral part of corporate decision-making processes. It shows that the integration of ecological interests is not only a moral but also a functional requirement. It thus makes a significant contribution to the concrete implementation of the concept of 'nature as a stakeholder' and illustrates ways in which companies can systematically integrate ecological responsibility into their strategic objectives.

2.3.2 Resource Dependence Theory

Resource Dependence Theory (RDT), originally developed by Jeffrey Pfeffer and Gerald R. Salancik in 1978, emerged in the field of organisational research and strategic management. It was designed to show how organisations deal with external uncertainties and limited access to essential resources - especially regarding their dependence on other organisations such as suppliers, government agencies or financial institutions. The theory views organisations as open systems that are in constant exchange with their environment to gain access to vital resources. This view emphasises that companies do not act in isolation but are embedded in complex relationships of dependency with external actors and

environmental conditions. Consequently, power relations, strategic decisions and organisational behaviour are not exclusively internally based but are strongly influenced by the availability and control of external resources (cf. Hillman et. al, 2009, p.1404f). In the context of environmental sustainability, the theory is gaining importance as it enables a better understanding of the structural dependence on natural resources such as water, soil, climate and biodiversity (cf. Çeltekligil, 2020, p.131f).

Natural resources form the basis of almost all economic activities. Without stable ecosystems, functioning water cycles or a stable climate, production processes and global supply chains are at considerable risk. Climate change, species extinction and increasing resource scarcity therefore act as external influencing factors that cannot be controlled directly but must be considered strategically (cf. Tashman, 2021, pp.1280-1287). From the RDT perspective, companies are in an asymmetrical relationship with nature: they are dependent on it, but cannot fully control it (cf. Çeltekligil, 2020, p.134). This realisation requires a rethink: Nature is not just a provider of resources, but a system-critical stakeholder that should be understood as the 'reason to be' of economic activity. This realisation calls for a reorientation of entrepreneurial thinking in which not only economic but also ecological resilience takes centre stage.

A central element of the RDT is 'managing dependencies'. Applied to ecological contexts, this means that companies must reduce their dependence on unsustainable resource flows and create reliable access to ecological services. This can be done by diversifying supply chains, investing in the circular economy or cooperating with environmental organisations. A multiple case study by Schnittfeld and Busch (2016, p.349f), for example, showed that companies in global supply chains are increasingly realising sustainability goals by shifting power, control instruments and trust. Sustainability management along the entire value chain is thus becoming a strategic must - far beyond a mere moral obligation.

In addition, the RDT illustrates how partnerships with external players - especially NGOs, government agencies or research institutions - can act as a strategic resource. Such networks not only support risk management but also promote innovation processes through access to ecological knowledge and technologies. In practice, these inter-organisational relationships are becoming increasingly important to manage dependencies in a targeted manner and create joint benefits (cf. Drees & Heugens, 2012, p.3f). In this context, nature is no longer viewed exclusively as an environmental condition, but as a legitimate actor

whose interests should be represented by these partners and incorporated into corporate decision-making processes - a key prerequisite for giving nature a 'voice' in the sense of stakeholder theory.

Another important aspect is the issue of environmental uncertainty. In the classic application of the RDT, external uncertainty is seen as a risk to efficiency and predictability. Applied to ecological contexts, this means that climate change, regulatory changes or reputational risks represent uncontrollable variables to which companies must react. In this context, early warning systems, sustainability risk analyses and scenario planning are concrete management strategies with which organisations attempt to reduce their ecological vulnerability (cf. Tashman & Rivera, 2016, pp.1507-1511). The introduction of environmental management systems or climate stress tests shows how strategic resilience to ecological shocks can be developed.

In addition, RDT provides a valuable perspective for understanding power shifts due to resource availability. Companies with low-emission technologies, biodiversity-rich areas or sustainable raw materials can gain strategic competitive advantages. Particularly in resource-intensive sectors such as agriculture, energy or the textile industry, control over ecological resources is increasingly becoming a source of power (cf. Wang et al., 2023, pp.700-704). In addition to technical innovation, this also requires new forms of ecological governance and institutional cooperation.

To summarise, the application of Resource Dependence Theory around environment and sustainability shows that companies are not only socially and economically embedded, but also ecologically embedded. They depend on natural systems in terms of function, legitimisation and innovation strategy. These dependencies make it necessary to expand traditional management perspectives: Nature is to be understood as an active, uncontrollable and at the same time system-critical influencing factor. RDT offers a well-founded theoretical model for analysing these systemic dependencies and developing strategies that combine ecological resilience, sustainability and economic success.

2.3.3 Planetary Boundaries

The concept of 'planetary boundaries' was developed by Rockström and his research team in 2009. It describes nine ecological limits, compliance with which is of central importance for the stability of the Earth system - and therefore for the survival of humankind. These

limits include climate change, the loss of biodiversity, changes in the nitrogen and phosphorus cycles, land use and the introduction of new substances such as plastics or chemical pollutants (cf. Rockström et al., 2009, p. 472; Steffen et al., 2015, p. 1). Exceeding one or more of these limits can trigger irreversible tipping points that destabilise both ecological and socio-economic systems worldwide. Companies not only contribute to exceeding these limits but are also themselves affected by the resulting impacts. Against this background, the concept represents a normative framework that calls for ecologically responsible economic behaviour (cf. Whiteman et. al, 2013, p.19, p. 27).

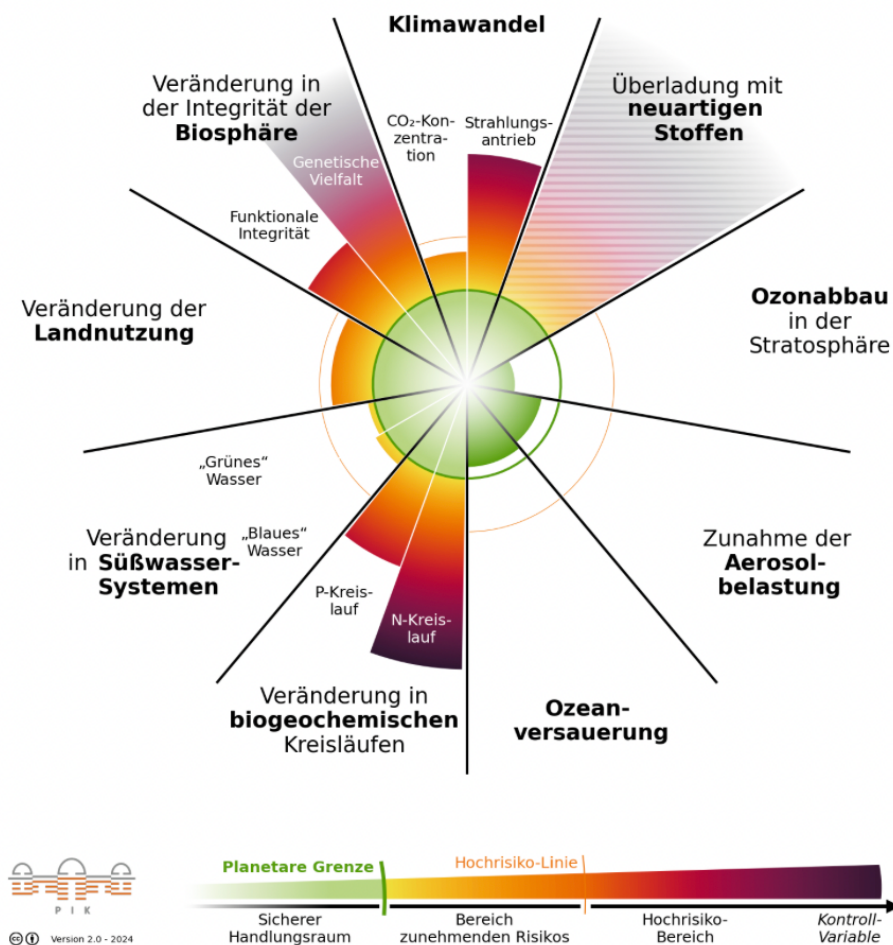


Figure 4: Illustration of the nine planetary boundaries and their current status (2023).

The concept plays a central role in this master's thesis, as it offers a scientifically sound approach to understanding nature not just as an environmental factor, but as an equal and systemically integrated stakeholder. The defined boundaries reflect the 'scope for negotiation' within which entrepreneurial action may take place without jeopardising ecological resilience and thus also future economic foundations. While traditional stakeholders articulate their interests directly, nature communicates via biophysical feedback (cf. Whiteman et. al, 2013, p.10): Events such as droughts, floods, species

extinction or climate-related disruptions to supply chains are an expression of an overstressed system. Respecting these planetary boundaries thus becomes a key requirement of sustainable business strategies and a sign that nature is recognised as a legitimate, equal stakeholder (cf. Williams et. al, 2024, p.22).

One of the biggest challenges is to integrate the concept of planetary boundaries into corporate decision-making processes. Companies must learn to assess their ecological impact not only in relative terms - i.e. regarding efficiency improvements - but also in absolute terms, within the specified ecological limits (cf. Ryberg et al., 2018, p.3). To this end, there are increasing calls for a so-called 'downscaling' of the global model to the level of individual companies or sectors. Research shows that the global boundaries can certainly be translated into operational key figures - for example through ecological footprints or life cycle analyses (cf. Sala et al., 2020, p.2, 10).

One concrete approach to implementation is the concept of 'safe operating space', which assigns each company a fair share of the globally available resources. The aim is to organise corporate activities in such a way that they do not exceed this share - comparable to financial budgets (cf. Häyhä, 2016, p.64f). IKEA, for example, works with a company-internal CO₂ budget that is based on scientifically sound climate targets and is orientated towards atmospheric pollution limits (cf. IKEA, 2025). A case study on European production and consumption shows that several of these limits - such as greenhouse gas emissions, land use and resource consumption - have already been significantly exceeded. The influence of individual companies is by no means negligible (cf. Sala et al., 2020, pp.10-12). In the light of stakeholder theory, the planetary boundaries model leads to a paradigm shift: Nature is no longer seen as a mere backdrop to economic processes, but as an active system with clearly defined boundaries. While traditional stakeholders assert their interests through communication, contracts or lobbying, nature expresses its 'voice' through physical feedback and tipping points. Companies that ignore these ecological realities risk not only their resilience and legitimacy, but also their long-term competitiveness. In this context, Whiteman et al. (2013, p.26f) emphasise that planetary boundaries should be understood as 'boundary conditions for entrepreneurial existence' - an approach that fundamentally transforms the entrepreneurial self-image.

The concept is also particularly important for the design of governance structures. Companies need management tools that explicitly take planetary boundaries into account.

These include science-based targets, internal environmental budgets and sustainability indicators that are orientated towards ecological threshold values. However, studies show that many companies formulate their environmental targets primarily from an organisation-centric perspective - without recourse to external, systemic impact limits (cf. Haffar & Searcy, 2018, pp.1085-1088). This results in the risk of sustainability degenerating into mere image politics without having any real impact. It is only by linking sustainability reporting to planetary boundaries that it becomes an effective instrument of environmental responsibility. State and international institutions also play a decisive role. As part of the Green Deal and the Taxonomy Regulation, the European Commission is explicitly calling for corporate behaviour to be geared towards planetary boundaries. The UN 2030 Agenda refers to these limits, particularly in Goal 12 ('sustainable production and consumption patterns'). This results in a regulatory trend: compliance with planetary boundaries is increasingly becoming a legal and investment-relevant condition for corporate success (cf. Dao et. al, 2018, pp.49-51).

For companies, this results in a fundamental change: Away from the paradigm of unlimited growth and towards economic activity within the ecological carrying capacity (cf. Cairns, 1997, p.1168). Nature is no longer understood as a mere means of production, but as a higher-level system that defines the framework conditions for economic activities. This results in the need to understand ecological boundaries not as a restriction, but as a strategic guideline. Respecting these limits thus becomes a central corporate responsibility.

Studies such as that by Algunaibet et al. (2019, p.1890) make it clear that even if the Paris climate targets are met, many energy systems will continue to exceed several planetary boundaries. This shows that technological efficiency alone is not enough. Rather, far-reaching changes in business models are required. The integration of nature-based solutions, regenerative agriculture, circular economy and consistent biodiversity management are among the key elements of acting in harmony with ecological limits (cf. Williams et al., 2024. P.15f).

To summarise, the concept of planetary boundaries not only provides a scientific basis for sustainable business but also serves as a systemic framework for realigning stakeholder relationships. Companies are required to view nature not just as an environmental variable, but as an active co-designer of their strategy. The central challenge is to translate this

perspective into concrete management instruments - for example, through target systems, decision-making models and governance mechanisms based on planetary boundaries. In this way, a theoretical environmental concept becomes a practical instrument for corporate responsibility and sustainability.

2.3.4 *Biocracy Approach*

The biocracy approach is based on the fundamental assumption that corporate governance systems should not exist in isolation from natural systems but should be orientated towards their principles. The content of the term 'biocracy' is based on the systems theory and ecological considerations of Fritjof Capra and Gregory Bateson, as they have been formulated since the 1970s in particular - even if the term itself is not explicitly used there. The approach draws on biological processes of self-organisation to develop sustainable decision-making and control mechanisms (cf. Turnbull, 2012, p.348f, Capra & Luisi, 2014, p.15f). Nature is understood here not just as a source of inspiration, but as a concrete model for institutional structures: Governance should - by analogy with ecosystems - be organised in a decentralised, participatory, adaptive and self-regulating way (cf. Schulz et. al, 2015, p7369f).

Central to the thinking behind biocracy is the conviction that organisations act in a similar way to living systems: They are embedded in complex, dynamic environments and must constantly adapt to external changes without losing their internal stability (cf. Capra & Luisi, 2014, pp.13-15). This systemic approach contrasts with the hierarchical and linear structures of traditional corporate management. Instead of centralised control, biocracy propagates a network of responsibilities in which each unit - analogous to a biological organ - takes on a specific function and is simultaneously in feedback with others (cf. Udoewa, (2024, p.49f).

In practical terms, biocracy encourages companies to embed ecological responsiveness into their organisational logic. Muray (2017, pp.94-97) argues that biocracy represents a significant shift away from anthropocentric governance logics, where human utility dominates decision-making. Instead, it seeks an integrated form of organisational ecology in which both natural and human actors co-shape strategic goals. This includes recognising the legitimacy of natural systems as stakeholders within the governance process, even though these systems do not articulate interests directly.

To operationalise this, Arminjon (2015, pp.20-29) draws on Cannon's foundational ideas and expands the concept of biocracy by linking it to physiological regulation models like allostasis. He suggests that corporate and ecological governance must be dynamic, context-responsive and politically embedded. In this view, nature sets adaptive parameters that companies must integrate—not as static compliance measures, but as variable, systemic conditions for resilience. For companies, this means they must move beyond traditional efficiency paradigms and structure their governance processes to align with environmental rhythms and regenerative cycles.

Rather than relying solely on external sustainability standards, biocracy envisions institutional frameworks in which ecological limits and feedback are directly embedded in strategic management. Companies thereby act as nodes within a larger system, responding to and co-regulating with the biosphere. This governance style does not interpret nature as a passive recipient of human impact, but rather as an active, co-constituting element of decision-making systems. It assigns nature a voice not through symbolic representation, but via embedded systemic indicators and distributed adaptive governance (cf. Muray, 2017, pp.96-99).

While the normative aspiration of biocracy is clear, both Muray and Arminjon point out that empirical research and operational implementation remain in early stages. The model is conceptually rich but practically underdeveloped. Nonetheless, it presents a forward-looking framework that links biological principles, systems thinking, and political agency. In the context of this thesis, biocracy complements traditional stakeholder theory by structurally acknowledging nature's role—not as an external constraint, but as a co-regulating entity whose systemic properties set the terms for sustainable corporate value creation.

3. Methodology

3.1 *Research design and case study approach*

This chapter outlines the methodological framework used to address the research question: How can companies effectively engage nature as a stakeholder and amplify its voice to ensure truly sustainable business practices? Given the complexity and normative nature of the topic, a qualitative case study approach was chosen. This allows for a deep contextual understanding of how companies implement ecological principles in corporate governance and integrate nature as a stakeholder in practice. The study follows an abductive research logic, in which theoretical concepts and empirical insights are continuously linked and refined throughout the research process. The chosen methodology links the conceptual insights from Chapter 2 with a structured evaluation of business practices in Chapter 5.

To adequately capture the multidimensional character of the phenomenon, this thesis applies a mixed methods approach. It combines qualitative document and literature analysis with expert interviews and a structured evaluation using Multi-Criteria Analysis (MCA). This enables both rich contextual understanding and comparative assessment across cases.

The qualitative paradigm is particularly suitable for exploring new and under-researched phenomena (cf. Jameel et. al, 2018, p.2). As the integration of nature as an active stakeholder is still an emerging field in both theory and corporate practice, qualitative methods offer the flexibility to capture nuanced, context-dependent, and complex structures. Case study research is especially well-suited for investigating “how” and “why” questions in real-world settings, particularly when the boundaries between phenomenon and context are not clearly defined (cf. Baxter & Jack, 2008, p.545). In this thesis, the aim is not to generalise statistically, but to develop analytically valid insights into how sustainability pioneers operationalise ecological values.

The research is based on a comparative multiple-case study design. The selected companies—VAUDE and Interface Inc.—were chosen based on theoretical sampling (cf. Glaser & Strauss, 1967, p.45) and their relevance to the phenomenon under investigation. Both organisations are recognised for their pioneering role in sustainable business practices and provide contrasting yet complementary approaches. By examining two distinct sectors (textile/outdoor industry and flooring industry), the study aims to identify transferable governance mechanisms for integrating nature as a stakeholder.

This analysis is primarily conducted through a literature-based case study using qualitative document analysis of publicly available sources. In addition, an expert interview was conducted with Interface Inc. For VAUDE, the analysis relied exclusively on publicly available corporate materials, including detailed sustainability documentation and third-party assessments. The interview with Interface complements the document-based analysis by providing first-hand perspectives on the company's ecological governance structures and internal implementation practices.

The case studies are not treated as representative, but as strategic exemplars that allow theoretical insights to be tested and expanded (cf. Eisenhardt, 1989, pp.535-537). Each company will be analysed based on a set of predefined evaluation criteria derived from the theoretical models in Chapter 2. The findings will be interpreted through the lens of stakeholder theory, agency theory, resource dependence theory, the planetary boundaries framework, and the biocracy approach.

3.1.1 Qualitative case study strategy

The case study strategy relies on document analysis and an expert interview. The methodological details are described in Section 3.4.

This approach ensures a consistent link between the conceptual framework from Chapter 2 and the empirical company analysis in Chapter 5, while maintaining a high level of transparency, replicability and scientific reliability. The core strength of qualitative case study research lies in its ability to generate rich, context-specific insights through in-depth analysis (cf. Hussein, 2023, pp.31–33). This is particularly relevant for examining how nature can be institutionalised as a stakeholder – a concept that is inherently complex, normative, and context-sensitive.

The primary data from documents and the interview is analysed using structured content analysis following the approach of Kuckartz (2018, p.97f). The methodological details of this analysis, including the coding procedure and evaluation logic, are outlined in Section 3.4.2.

The use of multiple case studies allows for comparative validation of findings and identification of patterns across different organisational and cultural contexts. This

contributes to a more robust understanding of how nature can be meaningfully anchored in strategic corporate decision-making (cf. Rhodes et al., 2014, p.91f).

3.1.2 Justification of company selection

The selection of the case study companies VAUDE and Interface Inc. follows a targeted theoretical sampling strategy (cf. Barglowski, 2018, p.159f), as both companies show a high degree of relevance to the theoretical models discussed in Chapter 2. VAUDE, as a medium-sized German outdoor manufacturer, is regarded as a pioneer in sustainable business management, especially in the German-speaking CSR and environmental governance discourse. Interface Inc., an international manufacturer of flooring systems based in the USA, has gained international attention for its systemic and regenerative sustainability strategy.

To strengthen the methodological rigor, this study also follows a maximum variation sampling logic (cf. Patton, 2002, p.243), choosing cases that differ significantly in sector, company size and geographical scope. This increases the likelihood of revealing both common patterns and context-specific differences in the integration of nature as a stakeholder. While VAUDE operates primarily in the textile and outdoor sector with a strong SME identity and family leadership, Interface Inc. represents a multinational enterprise from the construction and interior design industry.

The theoretical relevance of the companies further justifies their selection: Interface Inc. exemplifies the application of Agency Theory and Planetary Boundaries thinking through its "Climate Take Back" strategy and closed-loop systems, while VAUDE demonstrates innovative approaches in stakeholder engagement and sustainable governance structures relevant to Bocracy and Resource Dependence Theory.

The selection of VAUDE and Interface Inc. is also empirically supported by academic literature. VAUDE is recognized as a best-practice example for strategic sustainability integration in SMEs, with studies highlighting its institutional anchoring of ecological responsibility and stakeholder-oriented governance (cf. Peters & Simaens, 2020, p.3; Fiedler et al., 2019, p.329f). Interface Inc., on the other hand, has been examined as a leading case of corporate transformation and ecological stewardship, particularly in relation to stakeholder management, circular economy, and governance innovations aligned with planetary boundaries (cf. Khoo et. al, 2021, pp.307-309). These scientific findings

underscore the relevance and suitability of both cases for a differentiated analysis of how nature can be integrated into corporate strategy as a dynamic stakeholder.

3.2 Development of evaluation criteria

To assess how companies integrate nature as a stakeholder, a structured set of evaluation criteria was developed. These criteria operationalise the theoretical foundations established in Chapter 2 and translate them into concrete dimensions for empirical analysis. The aim is to evaluate the institutional, procedural, and communicative anchoring of ecological concerns within companies using a consistent framework.

The evaluation framework is based on a dual structure comprising two overarching dimensions:

- **Governance & Sustainability Strategies:** This includes internal mechanisms such as environmental decision-making structures, the application of ecological frameworks, risk assessment tools, and incentive systems.
- **Sustainability Communication & CSR:** This focuses on external representations of nature as a stakeholder, including transparency, stakeholder engagement, and the verification of environmental claims.

Each criterion is explicitly linked to at least one of the theoretical frameworks presented in Chapter 2:

- Agency Theory informs criteria related to environmental representation, independent oversight, and monitoring mechanisms (cf. Eisenhardt, 1989; Sjøfjell, 2018).
- Resource Dependence Theory supports criteria involving the valuation of natural capital, ecological risk management, and integration of sustainability into the supply chain (cf. Pfeffer & Salancik, 1978; Drees & Heugens, 2013).
- Planetary Boundaries underpin criteria related to the recognition of ecological limits in strategic planning and decision-making processes (cf. Rockström et al., 2009; Whiteman et al., 2013).

- Biocracy provides the normative justification for decentralised environmental governance, participatory structures, and ecological expertise in corporate decisions (cf. Capra & Luisi, 2014; Muray, 2017).

The full criteria matrix, including specific indicators and theoretical assignments, is presented in Appendix A. It contains seven core evaluation criteria that were designed to ensure practical applicability, allowing for consistent and comparable assessment based on publicly available documents and an expert interview conducted with Interface Inc.

This multi-theoretical and multidimensional framework enables a nuanced comparison of case study companies and supports a deeper understanding of how nature is strategically institutionalised in corporate governance.

While this chapter defines the evaluation criteria and their theoretical foundation, the concrete tools and instruments through which companies operationalise nature's stakeholder status—such as the use of proxy agents or science-based frameworks—are further explored in Chapter 4.2.

3.3 *Evaluation and analysis method*

To assess the extent to which companies integrate nature as a genuine stakeholder, this thesis applies a structured, multi-criteria evaluation framework based on qualitative content analysis. This methodological approach enables both a systematic and context-sensitive comparison of the selected case study companies, VAUDE and Interface Inc., by linking theoretical models with practical indicators. A central feature of this methodology is the use of Multi-Criteria Analysis (MCA), a well-established tool in sustainability research that facilitates the transparent and replicable assessment of qualitative data.

MCA is particularly suited for complex decision-making processes where multiple, often conflicting criteria need to be balanced (cf. Dean, 2022, p.8f). It has been widely used in environmental and sustainability contexts to assess performance against a range of indicators (cf. Huang et al., 2011, p.3579; Kiker et al., 2005, p.69). In the context of this thesis, MCA provides the foundation for translating qualitative information from reports, documents, and an interview into a structured scoring system.

The evaluation framework is operationalised in two steps:

- First, a weighting system is applied to reflect the relative importance of each evaluation criterion (Section 3.3.1).
- Second, each criterion is scored based on a 1–5 scale according to defined indicators (Section 3.3.2).

This dual process ensures that the evaluation captures both the presence and the strategic relevance of specific governance and sustainability practices within the companies.

3.3.1 Weighting of criteria and justification

Building on the MCA logic introduced above, this section outlines how the evaluation criteria were weighted to reflect their strategic relevance by integrating qualitative and quantitative data into a unified evaluation framework. In sustainability research, MCA is used to address problems that involve trade-offs between ecological, social, and economic dimensions (cf. Cinelli et al., 2014, p.138f). For this thesis, MCA allows the translation of qualitative information into scores and weighted results that reflect the strategic anchoring of nature as a stakeholder.

The MCA used here builds on the seven core evaluation criteria developed in Section 3.2. These criteria are based on the theoretical foundations established in Chapter 2 and are categorised under two overarching dimensions: "Governance & Sustainability Strategies" and "Sustainability Communication & CSR".

Each criterion was assigned a weight based on its theoretical relevance and its strategic influence on corporate decision-making. Figure 2 presents the weighting scheme used:

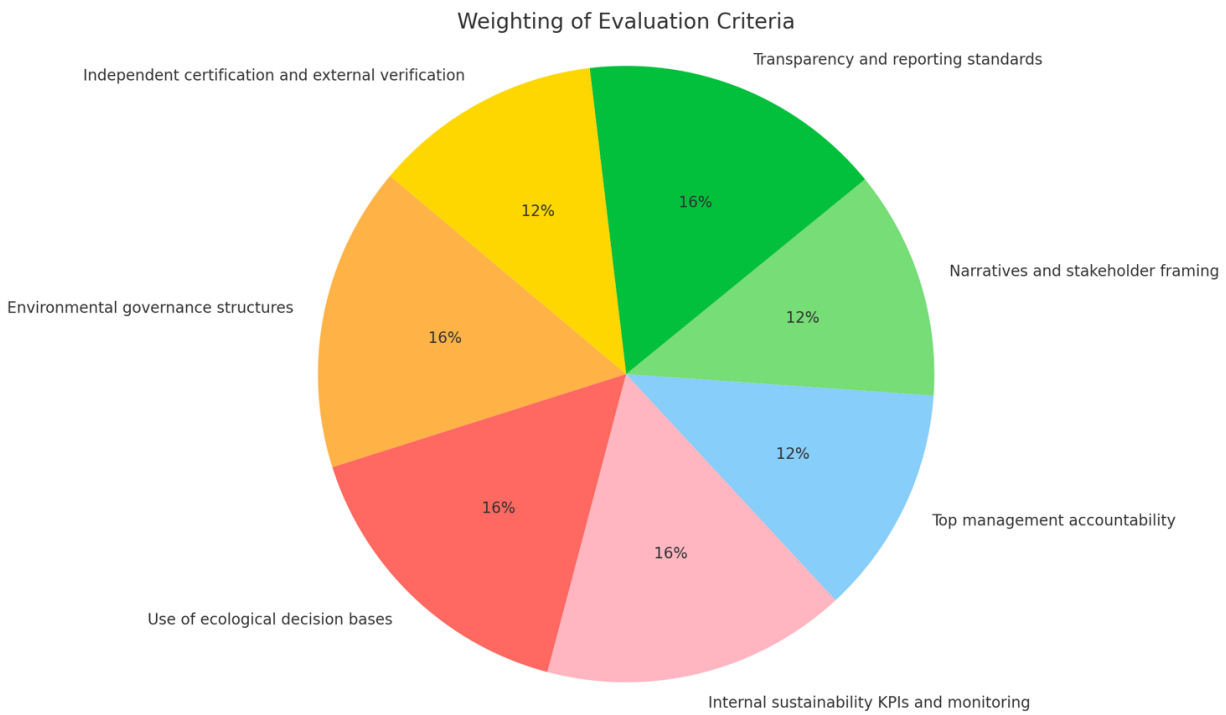


Figure 5: Weighting of Evaluation Criteria - Own illustration based on MCA

As shown, higher weights (16%) were assigned to criteria such as "Environmental governance structures", "Internal sustainability KPIs and monitoring", and "Use of ecological decision bases", as these directly reflect the systemic integration of nature in corporate governance. Criteria such as "Narratives and stakeholder framing" or "Top management accountability" were weighted slightly lower (12%) due to their more indirect or supportive role.

This weighting provides a basis for interpreting the scores generated through the MCA, helping to prioritise criteria with stronger strategic implications.

3.3.2 Assessment procedure and scoring

Following the definition of weights, each company is scored on a 1–5 scale for each of the seven evaluation criteria. The scoring guidelines are based on the presence, consistency, and institutionalisation of each criterion in the company's strategy and operations.

Table: 1–5 Scoring Scale

Score	Description
1	No evidence of implementation or only minimal reference
2	Initial steps taken, but lacking consistency or strategic anchoring
3	Moderate implementation; present in some areas with partial formalisation
4	Broad implementation; formally anchored and regularly applied
5	Comprehensive, strategic integration with systemic application

Table 1: Own Illustration 1-5 Scoring Scale

The total performance of each company is calculated as a weighted average of all scores. For example, if a company scores 4 on a criterion weighted at 16%, it contributes 0.64 to the overall score. The final performance score for each company is the sum of these weighted contributions, allowing a nuanced yet structured comparison of their governance systems.

This method also allows for the integration of qualitative insights from the expert interview conducted with Interface Inc. These statements are thematically analysed and used to triangulate and validate the findings from the document analysis.

3.4 Data basis and analysis procedure

This section explains the empirical data used in the thesis and the methods used to collect and analyse the data. It forms the practical link between the conceptual evaluation framework (Chapters 3.2-3.3) and the implementation of the case study analysis (Chapter 5). Based on the selected research design (see Chapter 3.1), both the qualitative document analysis and the expert interview serve as data sources. This mixed-methods approach enables methodological triangulation, which increases the validity and reliability of the results.

3.4.1 Data sources and collection

The empirical basis of this study consists of two data types: (1) qualitative document analysis and (2) an expert interview with Interface Inc.. The document analysis primarily draws on publicly available corporate materials from VAUDE and Interface Inc., including

sustainability and integrated reports, corporate responsibility strategies, websites, governance codes, and third-party assessments (e.g. rankings, certifications, press coverage). These documents were selected based on their relevance to the evaluation criteria and were compiled between November 2023 and March 2024.

In addition to document-based material, only Interface Inc. participated in an expert interview. For VAUDE, no interview could be conducted; instead, the evaluation is based entirely on corporate documents and third-party assessments. The interview lasted approximately 30–40 minutes and were carried out via video call in March 2024. It serves to supplement the document analysis with internal perspectives and implementation findings in relation to the governance of sustainability and the representation of nature by the stakeholders. The interview was transcribed and analysed according to the same evaluation criteria to ensure a high degree of methodological consistency across all data types. The interview guide can be found in Appendix B.

3.4.2 Content analysis and scoring approach

To evaluate the integration of nature as a stakeholder, a structured qualitative content analysis was applied. This method follows the approach of Kuckartz (2018, p.97f), which is particularly well-suited for analysing complex and multi-dimensional qualitative data. It allows for the systematic categorisation of content based on predefined and emergent themes, enabling a transparent and replicable evaluation process.

The process consisted of the following steps:

1. Category development - The evaluation criteria outlined in Chapter 3.2 served as predefined categories. The coding categories were based on the predefined criteria matrix from Chapter 3.2.
2. Qualitative content analysis - All relevant company documents and interview transcript were manually coded using the criteria matrix. To ensure consistency and reliability, the same coding guide was applied across both data types. The coding followed the method of structured content analysis by Kuckartz (2018, pp.101-104), who emphasises iterative category refinement, transparency in coding logic, and thematic clustering for interpretation.

3. Scoring - Following the coding process, each criterion was rated on a 1–5 scale to reflect the degree to which it is fulfilled by the respective company. The scoring scheme, presented in Table 1 (Chapter 3.3.2), is based on three key aspects: presence, consistency, and institutionalisation of each evaluated practice. This scale ensures that not only the existence of a measure is assessed, but also its strategic depth and level of implementation.
4. Weighting and synthesis - Although the weighting system was conceptually defined beforehand (Chapter 3.3.1), it was applied after the coding and scoring to calculate the overall performance values. Each of the seven criteria was assigned a weight based on its strategic importance. The final performance score per company was calculated by multiplying the individual score with its respective weight and summing the weighted results. This combination of scoring and weighting allows for a differentiated and balanced assessment.

This evaluation logic—coding → scoring → weighting—was applied consistently to both document and interview data, enabling methodological triangulation and ensuring analytical robustness. All coding was done manually and cross-checked to ensure category consistency and traceability.

The results of this scoring process are presented in Chapter 5.2 and form the basis for the cross-case findings discussed in Chapter 5.3.

3.5 Research quality, transparency and ethics

To ensure the scientific robustness of this thesis, particular attention was paid to the quality criteria of validity, reliability, transparency, and ethical responsibility throughout the research process. These aspects were addressed both in the conceptual design and in the practical execution of the case studies.

The validity of the research was supported through the development of a theoretically grounded and empirically applicable evaluation framework. The criteria used to assess the integration of nature as a stakeholder were derived from well-established sustainability theories and translated into measurable dimensions. This ensured that the empirical investigation was not only clearly aligned with the conceptual foundations of the thesis but

also capable of producing meaningful and transferable results. To strengthen internal validity, the same analytical framework was systematically applied to both case study companies, VAUDE and Interface Inc.

Reliability was promoted through a consistent and transparent methodological procedure. All data—including sustainability reports, strategy documents, and interview transcript—were evaluated using the same coding logic and scoring system. The application of structured content analysis (cf. Kuckartz, 2018, p.97f) allowed for a traceable interpretation of qualitative data while maintaining flexibility for contextual nuance. By documenting the analysis steps in detail and presenting the evaluation matrix and scoring logic in the appendix, the study enables intersubjective comprehensibility and replication by other researchers.

Transparency was also ensured through clear documentation of all research steps. This includes the theoretical derivation of evaluation criteria (Chapter 3.2), the justification of weighting decisions (Chapter 3.3), and the operationalisation of the assessment method (Chapter 3.4). The integration of an expert interview not only added depth to the analysis but also strengthened methodological triangulation, thereby increasing the interpretive robustness of the results. Inconsistencies or limitations in available data were critically reflected upon and addressed where possible.

Finally, ethical responsibility was a key guiding principle, especially in the handling of the expert interview. Prior to the interview, the participant was informed in detail about the research objectives, the rights, and the intended use of the data. Anonymity was guaranteed unless otherwise agreed. Care was taken to ensure that corporate sustainability claims were critically contextualised and not accepted at face value. The analysis aimed to reflect both achievements and potential blind spots in a constructive and balanced manner.

This integrated approach ensures compliance with established standards of qualitative case study research, supporting both the credibility and ethical integrity of the study's findings.

4. Integration of nature in corporate strategies

4.1 *Strategic anchoring of nature in decision-making*

To understand how nature can be effectively institutionalised as a stakeholder in corporate governance, it is important to distinguish this chapter from the theoretical foundation outlined in Chapter 2. While Chapter 2 conceptualises nature's role in stakeholder theory, agency, planetary boundaries, biocracy, and resource dependence, this chapter moves one step closer to practical application. Specifically, it explores how these theoretical concepts translate into governance mechanisms, organisational routines, and strategic planning processes within companies. Thus, Chapter 4 serves as a critical bridge between the theoretical groundwork and the case-specific findings in Chapter 5.

Strategically anchoring nature as a stakeholder requires that ecological interests are not treated as externalities but are structurally embedded in corporate decision-making. This includes formalised processes for environmental oversight, dedicated roles or departments responsible for ecological issues, and the integration of sustainability objectives into corporate mission statements and strategic KPIs. A growing body of literature highlights that without such institutionalisation, sustainability risks being relegated to peripheral CSR activities rather than becoming a core element of corporate governance (cf. Epstein et al., 2015, p.5f; Lozano, 2015, p34f).

One central aspect of anchoring nature in strategic processes is the development of internal governance structures that reflect ecological accountability. This may include sustainability committees at the board level, designated environmental officers, or cross-functional task forces that ensure environmental perspectives are included in strategic decisions (cf. Klettner et al., 2014, p.157f). According to Kotsantonis et al. (2016, p.13f), companies that formally embed environmental responsibilities at the top management level demonstrate higher consistency in long-term ecological goal setting and reporting.

Moreover, ecological anchoring is closely tied to the use of science-based frameworks such as the Planetary Boundaries or Science-Based Targets for Nature (SBTN). These frameworks allow companies to translate global ecological thresholds into corporate strategy, thereby operationalising sustainability beyond symbolic commitments (cf. Whiteman et al., 2013, p.25f). However, recent studies have shown that while references to such frameworks are increasing, only a minority of companies integrate these into

investment or product development decisions (cf. Erlandsson et al., 2022, p.2f). This gap between ambition and implementation remains a critical challenge in anchoring nature systematically.

Equally relevant is the implementation of internal monitoring mechanisms and incentive structures. Research suggests that environmental KPIs embedded in executive compensation systems can strengthen the commitment to ecological goals and reinforce accountability (cf. Eccles et al., 2011, p.6f; Flammer et al., 2019, p.2f). Nevertheless, their effectiveness depends on the degree of transparency, clarity, and consistency in how such KPIs are defined and measured.

From a biocratic perspective, strategic anchoring also involves adopting decentralised and participatory forms of decision-making, where ecological knowledge is not merely consulted but integrated into governance structures. This may take the form of environmental advisory boards, integration of scientists or NGOs into corporate strategy workshops, or feedback loops based on ecosystem data. Capra & Luisi (2014, pp.17-19) argue that such organisational forms reflect the systemic interdependence of human and natural systems, allowing for a governance model that is both adaptive and resilient.

It is also important to note the role of policy and regulatory environments in shaping the degree to which companies institutionalise nature. For instance, the EU taxonomy and Corporate Sustainability Reporting Directive (CSRD) increasingly require companies to embed ecological metrics into their reporting and strategy. Yet, studies by Hahn et al. (2014, p.14f) and Ioannou & Serafeim (2017, pp.4-7) highlight that compliance-driven approaches often lack the depth needed to address ecological complexity meaningfully. Therefore, companies that proactively move beyond compliance and structurally integrate nature into strategic core processes are likely to be more resilient and future ready.

In summary, the strategic anchoring of nature in corporate governance involves a multi-layered transformation: from formal structures and decision-making logic to KPIs, cultural norms, and incentive mechanisms. As such, this dimension is a central pillar in assessing whether companies genuinely recognise nature as a legitimate stakeholder or merely instrumentalise it for reputational benefits. The following sections will further explore the tools, frameworks, and challenges involved in operationalising this anchoring process.

4.2 Models and instruments for implementation

To operationalise nature as a stakeholder in corporate governance, companies require concrete tools, procedures, and institutional mechanisms. While Chapter 2 outlined the theoretical underpinnings for integrating nature into decision-making, this section focuses on the practical frameworks and instruments that support such integration. These tools are crucial for transforming abstract concepts such as planetary boundaries or stakeholder rights into applied governance practices.

One of the most prominent developments in this field is the Science-Based Targets for Nature (SBTN) framework. SBTN offers companies a structured, science-aligned process for assessing and mitigating their impacts on natural systems, including freshwater, biodiversity, land use, and ecosystem integrity. It provides guidance for identifying priority environmental issues and developing measurable action plans. The framework follows a five-step process: assess, interpret & prioritise, measure, set targets, and act (cf. SBTN, 2020). Its ambition lies in pushing companies beyond risk minimisation toward regenerative strategies aligned with Earth's biophysical limits. In this sense, SBTN provides an actionable pathway to embed the logic of planetary boundaries into corporate practice.

Complementary to SBTN is the Natural Capital Protocol (NCP), which enables businesses to quantify their dependencies and impacts on natural capital. It consists of a four-stage decision-making framework: (1) Why? (objective), (2) What? (scope), (3) How? (measurement and valuation), and (4) What next? (integration into decisions) (cf. Natural Capital Coalition, 2016, p.4f). The NCP supports companies in identifying how ecosystem services—such as water provision or carbon sequestration—contribute to their operations and long-term value creation. It allows firms to internalise environmental costs and to align governance decisions with ecological constraints. In doing so, it reflects the logic of resource dependence theory, where the environment is not merely an externality but a core strategic variable.

However, beyond metrics and reporting, meaningful stakeholder inclusion also requires representational mechanisms—that is, voices that speak for nature in internal decision processes. This is where the concept of proxy agents and nature advocacy roles becomes relevant.

While the proxy agent concept offers a theoretical foundation for the representation of non-human stakeholders (see Chapter 2.3.1), nature advocacy roles in companies translate this logic into tangible governance instruments that embed ecological perspectives in decision-making. These roles—sometimes formalised as Chief Sustainability Officers, ecological advisors, or environmental committees—serve as institutional advocates for ecological concerns, especially in board-level or cross-functional contexts. They act as translators of environmental science into business logic, ensuring that environmental trade-offs are not overlooked or sidelined in strategy discussions.

Importantly, such roles are not merely symbolic. Their effectiveness depends on their level of influence, organisational embeddedness, and ability to access and interpret relevant data (cf. Whiteman et al., 2013, p.26f). When well-positioned, they can shape materiality assessments, veto unsustainable decisions, and catalyse system-level shifts in corporate culture. They fulfil the requirements of agency theory by institutionalising mechanisms that prevent ecological concerns from being excluded in favour of short-term economic interests.

In addition, some companies have begun to experiment with hybrid models, where NGOs, indigenous representatives, or environmental scientists are formally involved in governance processes—e.g., through nature councils or external advisory panels. These structures mirror elements of biocracy, where governance systems are deliberately designed to account for ecological complexity and interdependence (cf. Capra & Luisi, 2014, pp.17-19). While rare, these approaches indicate a shift towards more inclusive and systemic decision architectures.

The relevance of these instruments is also reflected in reporting frameworks such as the Task Force on Climate-related Financial Disclosures (TCFD), which emphasizes forward-looking assessments of ecological risks through scenario analysis (cf. TCFD, 2017, pp. 25–29). The framework also recommends integrating environmental metrics into governance structures (p.20f) and suggests considering their inclusion in executive remuneration policies where climate-related risks are material (p.37). Together with SBTN and the NCP, it forms part of a broader toolkit that companies can use to represent nature's voice in planning and performance management.

In summary, the implementation of nature as a stakeholder requires a combination of:

1. Analytical tools (e.g., SBTN, NCP) that translate ecological complexity into business-relevant data,
2. Governance roles (e.g., proxy agents, sustainability officers) that act on behalf of nature within the organisation, and
3. Participation structures (e.g., advisory boards) that embed ecological perspectives in decision-making.

These instruments enable companies to move beyond symbolic engagement and towards a systemic integration of nature into corporate governance. They reflect both the ethical imperative to include nature in decision processes and the strategic need to account for ecological dependencies and risks.

4.3 Barriers and limitations in corporate practice

Despite the growing recognition of nature's relevance for corporate governance, companies face substantial challenges when attempting to integrate ecological concerns into strategic decision-making. These challenges are not merely technical but are rooted in organisational routines, cultural mindsets, and systemic economic structures. Understanding these tensions helps contextualise the upcoming case study results and highlights the real-world complexity of embedding nature as a stakeholder.

A major structural challenge lies in the dominance of economic rationality and short-term thinking in corporate practice. Many companies are tied to financial logics that prioritise shareholder value and quarterly reporting cycles, leaving limited room for long-term ecological considerations (cf. Dyllick & Hockerts, 2002, pp.130-133; Hahn et al., 2014, p.10, p.35). In this context, nature-related strategies are often framed as risk mitigation or reputation-building measures rather than being integrated into core governance systems.

At the organisational level, there is frequently a lack of internal capacity and expertise to engage with ecological complexity. Scientific uncertainty, data gaps, and the interdisciplinary nature of biodiversity governance pose challenges, especially for small and medium-sized enterprises (SMEs). Implementing tools such as Science-Based Targets for Nature (SBTN) or Life Cycle Assessment (LCA) requires ecological and systemic

competencies that are not yet widespread in most companies (cf. Whiteman et al., 2013, pp.26-29).

Inertia within corporate structures further reinforces these limitations. Existing governance systems and incentive structures are often resistant to change and compartmentalise environmental concerns into CSR or sustainability departments without executive influence (cf. Oliver, 1991, pp.149-154). As a result, ecological issues may remain peripheral to strategic decision-making, even in companies with ambitious sustainability goals.

Culturally, many firms continue to operate within an anthropocentric worldview, treating nature as a resource rather than as a legitimate stakeholder. This perception limits the institutional legitimacy of nature-focused roles, such as *nature advocacy positions* or *proxy agents* (see Section 4.2), which challenge traditional notions of control, rationality, and managerial authority (cf. Schuler et. al, 2017, p.2f). Shifting towards more relational or ecocentric governance models thus requires not only procedural innovation but also cultural and normative change within organisations.

Legal and regulatory frameworks can reinforce these tensions. While instruments such as the EU's Corporate Sustainability Reporting Directive (CSRD) or the Taskforce on Nature-related Financial Disclosures (TNFD) (see Section 4.2) provide valuable guidance, they often remain voluntary, vague, or non-binding in implementation (cf. Sjøfjell, 2018, p.11). In the absence of strong regulatory mandates, companies may struggle to justify bold ecological commitments to shareholders or boards.

In addition, practical barriers such as insufficient environmental data, inconsistent reporting standards, or lack of comparability limit the implementation of performance-based nature governance (cf. Kotsantonis & Serafeim, 2019, pp.10-13). This also affects structured assessment methods such as the Multi-Criteria Analysis (MCA) used in this thesis, as data limitations constrain the scope and precision of evaluation.

Lastly, companies may face reputational risks when communicating ambitious ecological goals. Without full implementation, firms risk accusations of greenwashing, which may lead to reputational damage and stakeholder scepticism (cf. Lyon & Montgomery, 2015, p.223f).

This dynamic creates hesitation: organisations may avoid transformative ecological language to avoid being held to standards they are not yet equipped to meet.

Taken together, these organisational, systemic, and normative challenges do not negate the possibility of integrating nature as a stakeholder—but they highlight the structural and cultural conditions under which such integration can succeed. These conditions will be further explored in the case studies in Chapter 5 and reflected upon in light of the empirical findings in Chapter 6.

5. Case Study Analysis

5.1 *Company profiles*

In the following section, the two case study companies VAUDE and Interface Inc. are presented, which form the empirical basis for this work. These profiles do not serve as descriptive company portraits but are analytically grounded and contextualised to support the subsequent evaluation. They provide an insight into the institutional frameworks, strategic orientations and organisational conditions under which environmental concerns are embedded in corporate practice. This is crucial as the assessment framework developed in Chapter 3.2 and the corresponding assessment logic in Chapter 5.2 are not realised in a vacuum. The industry background, ownership structure, governance configuration and sustainability history of companies shape the feasibility, priorities and limitations of integrating nature as a stakeholder. Therefore, this section provides the empirical basis for a contextualised interpretation of governance structures, stakeholder engagement mechanisms and environmental performance.

To ensure analytical relevance, the company characteristics that are directly related to the evaluation criteria are emphasised in the profiles. The selected companies differ in terms of size, sector and geographic scope, but are very ambitious in terms of their environmental commitment. This contrast enables a more comprehensive cross-case analysis of the implementation of environmental values in corporate practice.

The data basis of the two cases differs slightly - an expert interview was only conducted with Interface Inc. The differences in data access are considered in the interpretation, but do not affect the comparability of the criteria applied. All in all, these profiles form a structured lens through which the operationalisation of nature as a stakeholder can be examined in practice.

5.1.1 *VAUDE – Responsible innovation in the outdoor sector*

VAUDE is a medium-sized, family-run company based in Tettngang, Germany, that manufactures outdoor equipment. It was founded in 1974 by Albrecht von Dewitz and has since developed into one of Europe's leading brands in the field of environmentally friendly outdoor products. Since 2009, VAUDE has been led by Antje von Dewitz, who has transformed the company into a widely recognised pioneer in ecological and social

sustainability within the German-speaking business community (cf. VAUDE, n.d, a); VAUDE, 2024a).

With approximately 600 employees and a turnover of around €130 million (cf. VAUDE, n.d., b; VAUDE, n.d., c), VAUDE specialises in equipment and apparel for mountaineering, cycling, and hiking. Its product portfolio is characterised by durability, reparability, and ecological innovation. The company combines in-house manufacturing with global supplier relationships, emphasising fair working conditions, transparency, and environmental protection along the value chain (cf. VAUDE, 2024a; EMAS, n.d., a; EMAS, n.d., b).

VAUDE's sustainability strategy is systematically integrated into corporate governance. In 2010, it introduced the "Green Shape" label—an internal standard for ecological product design based on strict criteria relating to material safety, climate impact, and recyclability (cf. VAUDE, 2024b). VAUDE also reports according to the German Sustainability Code (DNK) and has aligned its business strategy with the UN Sustainable Development Goals (SDGs), particularly SDG 12 (Responsible Consumption and Production) and SDG 13 (Climate Action) (cf. VAUDE, 2024c).

The company is EMAS-certified since 2008 and publishes regular, externally audited environmental reports. These efforts are supported by a sustainability steering committee that includes members of the executive board and operational departments, ensuring cross-functional alignment of ecological targets (cf. VAUDE, 2024a; EMAS, n.d., b). Internal environmental KPIs and externally validated reporting tools are used to monitor progress.

In addition to operational sustainability, VAUDE actively promotes transformation across the business ecosystem. The company collaborates with NGOs, policymakers, and sustainability networks—such as the Gemeinwohl-Ökonomie movement—to advance systemic change in business practices (cf. VAUDE, 2024d). One key platform for this is the VAUDE Academy for Sustainable Business, which offers training, workshops, and consulting for organisations seeking to implement ecological and social responsibility. This initiative exemplifies the company's ambition to act as a sustainability multiplier beyond its own operations (cf. VAUDE Academy, n.d.).

Taken together, VAUDE represents a values-driven business model that embeds nature not only as an external constraint, but as a normative stakeholder. Its ecological commitments

are not isolated CSR efforts, but form an integral part of corporate strategy, governance, and identity.

5.1.2 Interface Inc. – Regenerative leadership in business

Interface Inc. is a global flooring manufacturer headquartered in Atlanta, Georgia (USA). The company specialises in modular carpet tiles, resilient flooring and rubber flooring solutions for commercial and institutional customers. Interface was founded in 1973 by Ray C. Anderson, who initially focussed on the innovative development of carpet tiles for office environments. In the mid-1990s, Anderson experienced a profound personal and professional turnaround after reading *The Ecology of Commerce* by Paul Hawken - a key moment that set Interface on the path to becoming one of the industry's leading international sustainability pioneers (cf. Interface, 2025a; Interface, 2025b).

Today, Interface employs around 4,000 people worldwide and has an annual turnover of around 1.3 billion US dollars (cf. Interface, 2025a). With production facilities and branches in over 100 countries, the company has a global presence and pursues a business strategy that is consistently geared towards ambitious environmental and social goals. Interface serves a wide range of industries - from office buildings and educational institutions to the healthcare and hospitality sectors - and applies the principles of the circular economy and regenerative design along the entire value chain (cf. Interface, 2025b; Interface Blog, 2022).

At the heart of Interface's transformation lies its long-term strategic vision, which is closely linked to the concept of "business as a force for good." The company first articulated this vision in its revolutionary "Mission Zero®" programme, launched in 1994 with the aim of eliminating any negative environmental impact by 2020 (cf. Sherwood et. al, 2020, pp.5-10; Interface, 2025b). After reaching significant milestones—including the introduction of carbon-neutral products, closed-loop recycling systems, and biobased material innovations—Interface transitioned to its current sustainability strategy: Climate Take Back™. This programme promotes restorative practices, climate-positive product development, and systemic change beyond operational boundaries (cf. Interface, 2025c).

Sustainability is also anchored in Interface's governance model. The company has a dedicated Vice President of Sustainability and integrates environmental goals into its broader corporate strategy. Sustainability responsibilities are embedded across teams and

departments, supported by internal oversight structures that ensure alignment with long-term ecological objectives (cf. Interface Blog, 2024; Interface Investors, 2025).

Beyond operational measures, Interface positions sustainability as an integral part of its corporate identity. This is reflected in its leadership structure, internal awareness initiatives, and public commitments to climate action. Rather than being confined to a specific department, environmental responsibility is treated as a cross-cutting theme that informs multiple aspects of the company's operations. This integrated perspective lays the groundwork for the subsequent evaluation of how ecological considerations are embedded in governance and decision-making.

5.2 Application of evaluation framework

Building on the methodological design and evaluation criteria presented in Chapter 3, this chapter applies the developed framework to assess how VAUDE and Interface Inc. integrate nature as a stakeholder into their corporate governance and strategy. The aim is not only to describe the sustainability efforts, but to assess their institutionalisation, depth and consistency using a structured multi-criteria analysis (MCA) approach.

The evaluation is based on the seven evaluation criteria developed in Chapter 3.2, which are organised into four analytical dimensions:

- (1) Governance, responsibility and stakeholder inclusion,
- (2) Resource dependence and environmental risk management,
- (3) Planetary boundaries and systemic corporate resilience,
- (4) Communication, transparency and external legitimacy.

Each company is evaluated based on these dimensions using qualitative content analysis and the evaluation logic defined in Section 3.4.2. Each criterion is scored on a five-point scale, based on three dimensions: (1) presence of the criterion in corporate governance or strategy, (2) degree of institutionalisation, and (3) consistency of documentation and operational practices. The individual scores are then weighted according to the relative importance of each criterion (see Section 3.3.1) and aggregated to enable both individual case insights and cross-case comparisons.

To ensure transparency, the rationale for each score is presented directly in the case analysis with reference to specific documents or interview extracts. The detailed scoring

matrices, including scores, weightings and results, are presented in Appendix C. This enables a clear and reproducible comparison of the two companies' performance in operationalising environmental governance.

The analysis does not aim to identify a 'winner', but to examine how different organisational configurations and sectoral contexts influence the integration of nature into corporate decisions. The following sections (5.2.1-5.2.4) provide a thematically structured analysis of the two case studies based on the key evaluation dimensions.

5.2.1 Governance, responsibility and stakeholder inclusion

The integration of nature as a dynamic, legitimate stakeholder in the company stands and falls with the existing governance structures. Only if ecological concerns are not anchored as a marginal aspect, but as an integral part of corporate management, will nature be given a real voice in corporate action. Governance serves not only to control environmental issues, but also to institutionalise them: It translates the principles of ecological responsibility into binding rules, processes and control mechanisms (cf. Aguilera et. al, 2021, p.1473f). However, it is not just about risk assessment, but about actively recognising nature as a dynamic, changing actor that helps shape corporate decisions. Governance thus forms the backbone for any serious integration of natural interests into corporate decision-making logics - a core hypothesis of this thesis.

VAUDE analysis: Governance as a credible voice of nature

VAUDE impresses in the analysis with a remarkable coherence between claim and lived practice: Nature is not only formally considered here but is also understood as an active co-creator and embedded in governance processes. The structural anchoring of ecological responsibility is particularly impressive. With an outstanding score of 4.6 in the 'Formal processes & structures' criterion, VAUDE achieved almost the highest score. Central to this is the Sustainability Steering Committee, which brings together both operational managers and strategic decision-makers and ensures that environmental issues are systematically negotiated at management level (cf. VAUDE, 2024e).

In addition, the 'Sustainability & CSR' department acts as an institutionalised proxy agent for ecological interests - a direct example of the application of agency theory. This role is reinforced by external advisory boards such as the Green Shape Advisory Board, which is

made up of experts from environmental sciences and NGOs (e.g. WWF). VAUDE thus actively incorporates external environmental voices into internal decision-making processes (cf. VAUDE, 2024p).

However, it is particularly important to emphasise that VAUDE goes beyond these institutional mechanisms and establishes a strong cultural anchoring of nature as a stakeholder. The positioning as a 'co-creator of a world worth living in' (cf. VAUDE, 2024h) demonstrates that sustainability is not just a compliance issue, but part of the corporate identity. As a result, environmental concerns are intrinsically motivated to flow into strategic decisions - a living implementation of the biocracy approach (cf. Whiteman et. al, 2013, p.19, p. 27). VAUDE literally 'embodies' nature in the governance system and thus overcomes the classic separation between external environmental requirements and internal corporate goals.

Nevertheless, it should be critically noted that although VAUDE has established a stable governance basis, the flexibility of these structures in dynamic risk scenarios remains limited. For example, it remains unclear to what extent biodiversity risks or geopolitical scarcity of resources are proactively anticipated. The matrix reflects this by deducting points in the 'Ecological risk analyses' section. Especially in a world of increasing ecological uncertainties, a more dynamic adaptability would be necessary (cf. Steffen et al., 2015, p.1). VAUDE succeeds in anchoring ecological governance beyond formal structures and culturally and giving nature a real voice in the company. This positions VAUDE as a pioneer of an understanding of governance that not only takes nature into account, but also actively integrates it into decision-making processes. Nevertheless, there is potential for optimisation in the dynamic further development of risk governance.

Interface Inc. analysis: governance with strengths but blind spots

Interface also has solid governance structures, albeit with a different focus. The analysis of the matrix shows a solid result of 4.0 points in 'Internal control mechanisms & KPIs' (cf. Interface ESG Report, 2024, p.14f). The systematic monitoring is particularly positive here: Interface collects detailed environmental indicators, which are transparently reported in externally audited EPDs. This reduces information asymmetries and institutionally safeguards environmental interests - a clear implementation of agency theory principles.

In addition, environmental issues are addressed at board level: The 2025 Proxy Statement explicitly assigns oversight of environmental issues to the Nominating and Corporate Governance Committee (cf. Interface Proxy Statement, 2025, p.18). This can be seen as a positive governance signal, as environmental issues thus formally fall under the responsibility of the highest decision-making body.

In contrast to VAUDE, however, cultural penetration remains limited. Interface integrates environmental aspects primarily as a component of its ESG system and performance metrics, but less as a normative-ethical maxim for action. The matrix therefore rates the dimension 'Anchoring in corporate guidelines & visions' with 4 out of 5 points, as Interface defines ambitious environmental goals, but treats them primarily as economic and technical success factors (cf. Interface ESG Report, 2024, p.46). This makes it clear that nature is viewed here as a factor to be managed rather than as an equal stakeholder.

A significant deficit is also evident in the link between environmental targets and performance-related remuneration. Although environmental targets are strategically anchored, according to the proxy statement there is no specific reference in management remuneration (cf. Interface Proxy Statement, 2025, pp.20-22). This weakens the internal control pressure and falls short of agency-theoretical requirements, according to which incentive systems should be geared towards goal congruence (cf. Jensen & Meckling, 1976, p.308f).

It is also particularly striking that Interface has not established a clearly institutionalised 'proxy agent' for ecological interests despite its professional control and reporting mechanisms. While VAUDE has explicitly created representative roles for nature with its Sustainability & CSR Department and external advisory boards, this direct representative perspective remains open at Interface. External verifications such as CDP or EPDs provide transparency but cannot compensate for the lack of an internal representative function for ecological concerns. Interface therefore lacks a central element of agency theory logic: the active internal representation of the interests of the 'headmaster nature', which could systematically help shape corporate decisions.

Interface impresses with a clearly structured ESG framework and transparent control mechanisms, but lags behind VAUDE in the cultural and incentivised anchoring of ecological goals. The lack of a proxy agent for nature is particularly significant, which means that the

interests of nature are primarily addressed externally but are not explicitly represented internally. Nature is seen here as an environmental factor, but not as an active, dynamic contributor to the company's understanding.

Theoretical categorisation - Agency theory and biocracy put to the test in practice

The company analyses show a clear differentiation between the theoretical approaches. VAUDE lives biocratic principles impressively: decision-making processes are orientated towards ecological principles of life, internal governance structures actively represent environmental interests and external expert committees contribute additional environmental expertise (cf. Capra & Luisi, 2014, pp.17-19).

Interface, on the other hand, primarily embodies agency-theoretical elements: External audit mechanisms, regular reporting and clear control processes strengthen accountability and reduce information asymmetries. However, Interface's agency-theoretical logic remains focussed on risk- and performance-oriented management without positioning nature as an independent actor. In particular, the lack of an internal proxy role to represent ecological interests reveals a central gap: without a clearly defined internal representative, nature remains primarily an externally controlled object, but not an actively involved decision-maker within corporate management.

A clear insight emerges for the research question: governance is a necessary but not sufficient condition for the integration of nature as a dynamic stakeholder. Without clear structures, environmental responsibility remains toothless. VAUDE demonstrates how governance can also be culturally charged and developed into a genuine representation of natural interests. Interface, on the other hand, despite its high level of professionalism, remains more firmly rooted in the formal control mode.

Governance lays the foundations, but only when it is combined with culture and dynamic adaptability does a system emerge in which nature becomes a co-decision-maker.

5.2.2 Resource dependence and ecological risk management

Dependence on natural resources and the associated ecological risks are key elements when it comes to understanding nature as a dynamic, active stakeholder. Companies that view nature merely as a resource donor or regulatory risk remain stuck in a one-dimensional understanding. Only when ecological resources are strategically recognised as co-shapers of corporate decisions does dependence also give rise to responsibility. The analysis of the

case companies VAUDE and Interface Inc. not only shows how both companies manage their ecological dependencies but also reveals the extent to which nature is given an active role in this management - or remains reduced to a passive object.

VAUDE analysis: From resource management to ecological co-evolution

VAUDE pursues a remarkably holistic perspective in resource management. With a strong score of 5.0 around 'Natural capital valuation as part of the corporate strategy', the integration of natural resources is not only framed economically, but also ethically and morally. VAUDE recognises natural resources not only as a production factor, but also as the systemic basis of the company's existence. This brings VAUDE closer to the ideal of taking nature seriously as a dynamic stakeholder.

Assessments of ecological impacts such as water consumption, carbon footprint and chemical pollution are incorporated directly into the material strategy. With the help of the Higg MSI Index, materials are assessed for their environmental impact and decisions on substitution are made (cf. VAUDE, 2024j). This practice shows that VAUDE not only develops strategies to minimise risk but also acts with foresight in terms of long-term ecological resilience. Nature is not addressed here as a cost block to be avoided, but as valuable capital that must be actively managed and regenerated.

The consistent focus on circularity and regenerative approaches is also noteworthy. By investing in take-back and recycling systems for outdoor products, VAUDE is strengthening the active return of biological and technical resources to the cycle (cf. VAUDE, 2024i). This understanding indicates that VAUDE not only reactively manages nature but proactively understands it as a partner in an ecological co-development path. Damage is not merely minimised, but ecological added value is created - a key aspect if companies want to elevate nature to a 'co-decision-maker'.

However, the analysis in 'Ecological risk analyses & long-term sustainability planning' with a score of 3.0 shows that VAUDE also has weaknesses in forward-looking risk management. While operational measures and material strategies appear mature, it remains unclear whether systematic risk analyses for biodiversity loss or geopolitical resource scarcity exist (cf. VAUDE, 2024m). Nature is still viewed too strongly as a current production factor, rather than as a complex, changing risk factor with its own dynamics. There is a lack of a

comprehensive early warning system that views nature not just as the status quo, but as a changing system that requires entrepreneurial flexibility.

Nevertheless, it can be stated: VAUDE's resource management is clearly moving towards a partnership-based relationship with nature. Integration into the corporate strategy lends weight to ecological concerns, even if the systematic anticipation of external ecological dynamics can still be optimised.

Interface analysis: Highly professional resource management, but limited perspective on nature

Interface also shows a solid performance in this area, with 4.0 points in 'Natural capital valuation as part of the corporate strategy' and 4.0 in 'Ecological risk analyses & long-term sustainability planning'. The company has recognised that its dependence on fossil fuels and energy-intensive materials represents a significant business risk. Accordingly, Interface pursues clear strategies to reduce these dependencies, including through the increased use of recycled and bio-based materials and precise Scope 3 emissions surveys (cf. Interface ESG Report, 2024, p.14f).

The company is thus positioning itself as a pioneer of data-based, professional environmental management. The use of Environmental Product Declarations (EPDs) and cooperation with partners such as the Carbon Trust underline this systematic approach (cf. Interface ESG Report, 2024, p.24). However, this is precisely where the central analytical weakness becomes apparent: Interface quantifies nature and its risks highly efficiently but remains in the role of an observer. Nature is measured, evaluated and categorised - but not understood as an active shaping factor in corporate decisions.

The Climate Take Back™ initiative, which aims to remove CO₂ from the atmosphere and regenerate natural systems, also remains predominantly technocratically motivated. Although the objectives are ambitious, implementation is primarily focussed on climate-related KPIs without establishing a more comprehensive ecological risk perspective that systematically includes biodiversity or water stress, for example (cf. Interface, 2025c). At Interface, nature remains an economically calculated variable, but not an intrinsically valued actor.

In addition, although Interface is already being introduced to the requirements of the upcoming CSRD, no explicit link between external environmental developments and internal management is recognisable in the current reporting system (cf. Interface ESG Report, 2024, p.5). To a certain extent, nature remains an external risk factor, but not an integral part of the strategy process.

To summarise, Interface demonstrates a high level of professionalism in risk management but remains stuck in the perspective of viewing nature as something to be measured and controlled. Nature is not given a proactive voice here but is treated as a risk to be managed.

Theoretical categorisation - Resource Dependence Theory in a practical test

The results of the analysis can be clearly categorised in the theoretical foundations of this work. The Resource Dependence Theory is particularly striking: both companies recognise that they are structurally dependent on nature and develop corresponding control instruments. Interface is a classic representative of this theory in that it attempts to manage external dependencies through precise monitoring and standardisation (cf. Pfeffer & Salancik, 1978, p.43). The company collects comprehensive environmental data, analyses it as part of its ESG framework and relies on partners such as the Carbon Trust to create external validity.

VAUDE, on the other hand, goes one step further: beyond pure resource dependency, nature is understood here as a resilient co-system that must not only be controlled, but actively regenerated. VAUDE is thus approaching an expanded understanding of the Resource Dependence Theory, which focuses not only on minimising dependencies, but also on the mutual strengthening of corporate and ecosystem resilience.

An agency-theoretical aspect is also evident: strong control mechanisms that reduce information asymmetries and thus help to better manage environmental responsibility internally are particularly recognisable in the case of interfaces (cf. Jensen & Meckling, 1976, p.308f). However, this agency-theoretical characteristic remains technocratically limited and prevents a dynamic, transformative integration of nature as an actor.

VAUDE, on the other hand, integrates agency-theoretical principles more closely with ecological objectives: Internal control systems are in place, but they are supplemented by

cultural anchoring and proactive partnerships. In this way, nature is not only monitored as a stakeholder but also integrated.

The theory-practice link clearly shows that both companies reflect resource dependence theory principles, but VAUDE does so in a more mature and holistic form. Interface uses the theory to minimise risk, VAUDE to actively develop resilience. Agency theory elements are visible in both but are more strongly integrated in Interface and more dynamically integrated in VAUDE. This means for the research question: Those who take nature seriously as a dynamic stakeholder must not limit themselves to controlling dependencies but must strive for an active partnership with the ecosystem.

About the research question, we can deduct from this: The transformation from nature as a resource risk to nature as a dynamic stakeholder requires more than precise measurements and targets. It requires a change of perspective in which nature is not only controlled but also recognised as an active co-creator. VAUDE has made progress on this path, while Interface still must take the next evolutionary step.

5.2.3 Planetary boundaries and systemic corporate resilience

Planetary boundaries offer companies much more than a scientific framework for orientation. They open the perspective to understand nature no longer just as an external risk, but as a dynamic, co-creative stakeholder (cf. Rockström et al., 2009, p.472). Only if companies understand planetary boundaries systemically can they actively integrate environmental factors into their decision-making logic. The analysis of VAUDE and Interface clearly shows that both companies make use of scientific instruments, but only VAUDE succeeds in developing a deeper partnership with nature.

VAUDE analysis: Nature as an active compass for corporate strategy

VAUDE achieves the top score of 5.0 in the 'Application of scientific frameworks' category - and with good reason. At VAUDE, planetary boundaries are not just reference frames, but strategic control parameters that permeate all areas of the company (cf. VAUDE, 2024i). The Higg MSI, for example, not only evaluates CO₂ emissions, but also comprehensively analyses water consumption and chemical pollution to derive targeted material substitutions (cf. VAUDE, 2024j).

However, the decisive factor is that VAUDE does not use these findings in isolation but links them to its own corporate vision. Nature is not viewed here as a supplier of resources, but as a co-designer of entrepreneurial freedom of action. This change of perspective takes VAUDE beyond purely reactive environmental management and allows a co-evolution between business model and ecological resilience. Investments in circularity such as take-back and recycling systems (cf. VAUDE, 2024l) underline this claim: VAUDE not only tries to minimise environmental impacts, but also to create ecological added value. In this way, nature becomes a partner at eye level and its limits become the 'inner guardrail' of strategic decisions.

Another positive aspect is that VAUDE understands planetary boundaries holistically. Climate change is addressed in the same way as biodiversity loss or resource scarcity - a sign of deep ecological understanding (cf. Rockström et al., 2009, p.472f). VAUDE recognises the interconnectedness of these challenges and thus avoids the often-observed narrow focus on CO₂ reduction.

Nevertheless, there is still room for improvement: the integration of dynamic scientific findings into corporate management can still be improved. The analysis shows a small point deduction here (cf. VAUDE, 2024m). A truly adaptive resilience would require a systematic early warning system that translates new planetary findings directly into the strategy. VAUDE clearly stands out as a company that actively integrates nature into its strategy. Planetary boundaries are not seen as an external restriction, but as a common navigation aid. VAUDE thus gives nature a real voice in the corporate decision-making process.

Interface analysis: Strong methodology, but linear perspective

Interface achieves a solid score of 4.0 points, due to its close alignment with the Science Based Targets Initiative (SBTi) and clear reduction pathways in line with the 1.5-degree target (cf. Interface Climate Ambition Summary, 2024, p.7). The use of LCAs and cooperation with institutions such as the Carbon Trust (cf. Interface ESG Report, 2024, p.18f) demonstrates Interface's professionalism in dealing with environmental data.

However, this methodological excellence remains one-dimensional. Interface focusses almost exclusively on climate risks, while other planetary boundaries such as biodiversity or biogeochemical cycles are hardly considered (cf. Whiteman et al., 2013, pp.25-28). Even

ambitious programmes such as Climate Take Back™ (cf. Interface, 2025c) remain strongly technocratic: Nature is measured and controlled, but not integrated as a dynamic partner.

In the interview with Heitbrink (2025), it became clear that Interface conducts comprehensive data collection but lacks a consistent link between environmental changes and strategy. Preparation for IFRS standards (cf. IFRS, 2025) is also primarily compliance-driven and does not yet reflect a profound, adaptive understanding of the environment.

Interface has mastered the precise measurement of ecological parameters but remains stuck in a risk management paradigm. Nature is seen as an external risk factor, not as a proactive system actor.

Theoretical categorisation - Planetary boundaries as a litmus test for stakeholder integration

The results clearly fit in with the theoretical foundations of the work. VAUDE demonstrates an extended interpretation of the Resource Dependence Theory: The company sees its ecological dependence not only as a risk, but also as an opportunity for co-evolution with natural systems. Nature becomes an active partner, not just an external factor that needs to be controlled.

Interface, on the other hand, remains more strongly rooted in agency-theoretical patterns of thought: External validation and clear control mechanisms reduce information asymmetries (cf. Jensen & Meckling, 1976, p.309), but nature remains an external compliance factor. The transformative potential of the Planetary Boundaries Framework is only utilised to a limited extent.

This is revealing for the research question: Planetary Boundaries are an effective lever to free nature from the role of a passive risk object. VAUDE consistently utilises this potential and establishes nature as a dynamic co-decision-maker. Interface stops halfway - professional, but not transformative. Ultimately, VAUDE shows how Planetary Boundaries as an integrative management tool can turn nature into an active corporate partner. Despite its methodological excellence, Interface remains in a measuring, observational mode. This means for the research question: Linking planetary boundaries with strategic decisions is crucial to anchor nature as a genuine stakeholder.

5.2.4 Communication, transparency and external legitimacy

Communication plays a key role in determining whether nature is only considered internally as a stakeholder in the company or whether it is also visible in public perception. It not only serves to pass on information but also links internal governance structures with external legitimacy (cf. Cornelissen, 2017, p.67). Companies that communicate ecological concerns transparently and credibly to the outside world give nature a voice in public discourse - and thus extend their impact far beyond internal management processes. The analysis of VAUDE and Interface Inc. shows two different approaches: While VAUDE uses communication to actively represent nature, Interface remains more in a reporting role.

VAUDE analysis: Communication as a strategic bridge to nature representation

VAUDE pursues a dialogue-oriented approach to communication that goes beyond the mere provision of information. With a score of 4.0 in 'Narratives & lines of argumentation' and 5.0 in 'Transparency & reporting standards', communication is an integral part of the corporate identity. Formats such as the GRI-compliant sustainability report, the common good balance sheet or the transparent presentation of environmental goals on the website make ecological concerns comprehensible (cf. VAUDE, 2024v; 2024x).

Particularly noteworthy is the VAUDE Academy, which not only informs external stakeholders, but also enables them to actively participate in the transformation. A central biocratic idea becomes visible here: Nature is not only addressed but also recognised as a legitimate partner in the discourse. This participatory format gives nature a stronger voice in public discourse that goes beyond mere environmental indicators (cf. VAUDE Academy, n.d.).

VAUDE also sets standards in dealing with greenwashing risks. With recognised standards such as bluesign® and the Fair Wear Foundation as well as the external review of the Green Shape Standard by an independent advisory board, transparency is used as an active strategy to build trust (cf. VAUDE, 2024b). External validation not only serves as a safeguard but is also used specifically to strengthen ecological credibility.

However, it should be critically noted that VAUDE could further develop its communication by more actively addressing progressive narratives such as the legal recognition of nature or rights-of-nature concepts. There is potential here to position the role of nature even more clearly as an equal stakeholder. VAUDE uses communication as a strategic link between

governance and external legitimacy. Nature is not only mentioned but actively integrated into dialogue formats and publicly represented. Greenwashing is addressed transparently, and the diversity of communication channels strengthens the position of nature as an active stakeholder.

Interface analysis: High level of professionalism, but communicative restraint

Interface demonstrates a high level of professionalism in its environmental communication but does not achieve the depth of dialogue of VAUDE. With scores of 4.0 in the areas of 'Narratives & lines of argumentation' and 'Transparency & reporting standards', Interface is in a solid position. In particular, the integration of external standards such as CDP, the use of Environmental Product Declarations (EPDs) and the preparation for IFRS Sustainability Disclosure Standards underline the claim to methodical transparency (cf. Interface ESG Report, 2024, p.24; CDP, 2025).

However, Interface understands transparency primarily as a reporting obligation to investors and business partners. Communication is primarily aimed at risk hedging and regulatory compliance - rather than an open dialogue with broader stakeholder groups. Nature thus remains primarily a reporting object in communication: measured, documented, but not perceived as an actor.

Interface does use external verification mechanisms such as the Carbon Trust to strengthen its credibility (cf. Carbon Trust, 2025). However, these instruments are mainly used to provide assurance to investors rather than to actively involve environmental voices. In the interview with Heitbrink (2025), it becomes clear that Interface is strongly orientated towards regulatory requirements but has not yet established any formats for the participation of external environmental stakeholders. Interface masters the technical side of environmental communication but remains in a purely reporting mode. Nature is treated here as a risk to be documented, not as an equal partner in the dialogue. This clearly limits the role of nature as an active stakeholder.

Theoretical categorisation: agency theory and biocracy in communication practice

The analysis reveals the different theoretical foundations of the communication strategies. VAUDE clearly follows biocratic principles by understanding nature not only as a topic of communication, but also as an active participant in the public discourse (cf. Capra & Luisi, 2014, pp.13-15). Formats such as the VAUDE Academy or the Common Good Balance Sheet offer platforms where ecological concerns become visible and can be actively shaped.

Interface, on the other hand, remains more strongly rooted in an agency-theoretical understanding of communication: Information asymmetries are reduced through external audits, accountability obligations are fulfilled - but nature remains a report content, not a dialogue partner (cf. Jensen & Meckling, 1976, p.309f). This understanding of communication is primarily aimed at investor and compliance expectations.

This difference is particularly evident in the use of external audit mechanisms: VAUDE uses them specifically to establish legitimacy, whereas Interface uses them primarily to fulfil external expectations.

VAUDE impressively demonstrates how communication can become a bridge to strengthen nature as a stakeholder. Through active dialogue, transparent sustainability data and a participatory approach, nature is transformed from a pure risk into a visible co-creator of corporate responsibility.

Interface, on the other hand, remains in a technocratic communication mode: Transparency is high, but nature remains a passive reporting content. The research question can be clearly derived from this: Nature can only become a co-decision-maker in the corporate narrative through dialogue-based, participatory communication. VAUDE has largely taken this step, whereas Interface still has considerable potential for development.

5.3 Cross-case findings

The previous individual analysis of VAUDE and Interface has shown how differently companies can organise the integration of nature as a dynamic stakeholder. Both case studies offer valuable insights into the diversity of corporate approaches - from culturally characterised governance structures to technocratically anchored control mechanisms. Nevertheless, the crucial question remains as to which common patterns, best practices and structural weaknesses can be derived from these individual analyses.

Before going into more detail on the qualitative comparison of best practices and potential gaps, it is helpful to briefly reflect on the quantitative evaluation of the matrix analysis. VAUDE achieves a higher overall score in almost all categories, with the assessment of natural capital, internal control mechanisms and the application of scientific frameworks performing particularly well. The company consistently scores 4.3 to 5.0 in critical areas,

indicating a deeply integrated approach that combines governance, culture and communication.

Interface, on the other hand, shows a solid performance in structural aspects such as internal control mechanisms and transparency standards, consistently scoring around 4.0. However, the lower scores in top management accountability and environmental risk analysis show significant room for improvement. Overall, VAUDE is ahead with an average lead of around 0.5 points per criterion, which emphasises the more advanced integration of nature as an active stakeholder.

This quantifiable difference forms the framework for the following qualitative analysis and shows where best practices can be identified and gaps closed.

In this chapter, the two companies analysed are systematically compared with each other to gain overarching insights. The aim is to show which elements of corporate governance and sustainability architecture are particularly effective in giving nature an effective voice in the corporate context. At the same time, it will analyse where both companies have not yet succeeded in establishing nature as an active, co-designing player despite ambitious approaches.

This involves not only a direct comparison of the matrix results, but also an in-depth interpretation of these results in the context of the research question. In the following subchapter, important best practices and remaining gaps are first identified before the evaluation results of the two companies are interpreted comparatively. In this way, this chapter forms the bridge between the detailed individual analysis and the overarching discussion in chapter 6 and creates the necessary synthesis to derive overarching recommendations for action and implications for business and research from the individual case analyses.

5.3.1 Best practices and potential gaps in amplifying nature's voice

The analysis of the two case companies VAUDE and Interface Inc. clearly shows that companies have different ways of amplifying the voice of nature in the corporate context. There is no one-size-fits-all solution, but there is a clear lesson: where governance, culture and communication work together, nature is not only managed as an environmental factor

but institutionalised as an active stakeholder. At the same time, there are gaps that prevent nature from being consistently recognised as an independent actor. For the research question of this paper, this means that concrete best practices can be identified that make the voice of nature audible - and typical weaknesses that slow down this development.

VAUDE provides a very clear and tangible example of how nature is not only managed but actively represented. It is particularly striking how VAUDE brings nature into the company on several levels:

Firstly, through clear governance structures. The Sustainability Steering Committee and the 'Sustainability & CSR' department are more than just supervisory bodies - they act as 'representatives of nature' within the company. These committees ensure that ecological concerns are systematically translated into strategic decisions (cf. VAUDE, 2024e). Here, nature is not only considered but is given a real voice in the management process through internal institutions.

Secondly, through external perspectives. Formats such as the Green Shape Advisory Board specifically involve environmental scientists and NGO representatives (cf. VAUDE, 2024p). This integration of external voices gives nature legitimacy and weight not only within the company, but also externally. This is a very concrete mechanism for 'amplifying the voice of nature' because environmental interests are actively incorporated into decision-making.

Thirdly, through participatory communication. The VAUDE Academy offers training and dialogue formats that promote ecological education and empower stakeholders to participate in the transformation (cf. VAUDE Academy, n.d.). In this way, nature is also positioned as a relevant actor in the public discourse - a step that goes beyond mere reporting.

Fourthly, through the methodological integration of ecological assessment tools. Instruments such as the Higg MSI Index and the Common Good Balance Sheet allow environmental impacts to be made measurable and strategically managed (cf. VAUDE, 2024j; 2024v). In contrast to purely technocratic applications, this methodology at VAUDE is not only used for monitoring purposes, but also as a basis for decision-making to actively protect nature.

Together, these measures show impressively that VAUDE manages to make nature an active co-creator of the company's reality in various ways. This goes far beyond the passive representation of nature as an external factor.

Interface, on the other hand, convinces through methodological excellence and structured governance mechanisms that formally anchor ecological issues within the company:

Firstly, through professional external validation. Collaboration with the Carbon Trust and the use of EPDs create transparency and strengthen the credibility of environmental communication (cf. Interface ESG Report, 2024, p.24). Environmental goals are thus documented in a comprehensible manner, even if the dialogue with nature as an actor is largely absent.

Secondly, through consistent data collection. Interface collects precise environmental indicators, such as Scope 3 emissions, and thus creates a reliable database for environmental decisions (cf. Interface ESG Report, 2024, p.14f). Even if nature remains the object of analysis here, at least transparency is created that can serve as a foundation for further steps.

Thirdly, by integrating environmental concerns into the top management level. Assigning responsibility to the Nominating and Corporate Governance Committee ensures a clear anchoring in the management body (cf. Interface Proxy Statement, 2025, p.18). Even if the focus here is primarily on control rather than co-determination, it should be noted: Interface establishes the environment as a management issue.

Interface therefore shows that a clear ESG infrastructure can create valuable foundations for nature issues - even if nature is still predominantly treated as a risk object.

Despite these strengths, both companies reveal gaps that hinder the transformation of nature into an active voice.

VAUDE's greatest weakness lies in the limited dynamics of risk management. While governance and methodology are strong, a systematic mechanism to address emerging environmental risks such as biodiversity loss or geopolitical resource scarcity at an early

stage is lacking (cf. VAUDE, 2024m). In addition, progressive narratives such as 'Rights of Nature' have so far been underrepresented.

Interface, on the other hand, shows more serious deficits: The lack of linking ecological indicators to management incentives weakens the assertiveness of ecological goals (cf. Interface Proxy Statement, 2025, p.20). Furthermore, Interface remains trapped in a sectoral view that focuses primarily on climate issues, while little attention is paid to other planetary boundaries such as biodiversity or nutrient cycles (cf. Whiteman et al., 2013, p.25f).

And above all: At Interface, nature remains largely an external reporting object, while VAUDE gives it a real voice, at least in part, through participatory formats.

The analysis makes it clear that the two companies can also be clearly categorised theoretically. VAUDE consistently follows the biocracy approach. Through participatory structures such as the Green Shape Advisory Board, the VAUDE Academy and transparent stakeholder formats, nature is integrated into decision-making processes as an independent actor. At the same time, VAUDE also takes up agency-theoretical mechanisms by establishing internal institutions such as the Sustainability Steering Committee as proxy agents that represent the interests of nature and systematically feed them into strategic decisions (cf. Jensen & Meckling, 1976, pp.308-310). The Planetary Boundaries Framework is also used at VAUDE far beyond CO₂ to anchor systemic environmental goals and consider the interactions between climate, biodiversity and resource scarcity. Interface, on the other hand, remains more strongly rooted in the logic of agency theory. External audit mechanisms, reporting obligations and technocratic control dominate here to manage risks and reduce information asymmetries. Elements of resource dependency theory are also visible, particularly in the endeavour to address external risks through extensive data collection and management systems. However, at Interface, nature remains primarily a management object - not a co-designer of business decisions.

It is precisely this difference that explains why VAUDE comes closer to the research question 'How to amplify nature's voice?' than Interface. Only when governance structures, cultural commitment and dialogue-based communication work together nature can be heard and effectively integrated into the company.

The best practices of both companies offer valuable blueprints for the integration of nature as a stakeholder. VAUDE impresses with its value-driven overall integration, interface through methodological excellence in data collection and external validation. However, the remaining gaps make it clear: without cultural anchoring and without the active further development of dynamic risk management, the voice of nature remains weak. Transformative integration will only succeed if both companies consistently close the identified gaps.

6. Discussion and Implications

6.1 *Reflection on findings considering stakeholder theory*

The central research question of this thesis - How can companies effectively engage nature as a stakeholder and amplify its voice to make business truly sustainable? - requires a critical examination of classic stakeholder theory. While Freeman (1984) emphasises that companies should act in accordance with the interests of all stakeholders, it remains unclear how non-human actors such as nature can be integrated into this logic. The case analyses of VAUDE and Interface Inc. have shown that the theory in its original form is not sufficient to give nature an independent, institutional voice. Only by combining it with other theoretical perspectives can a viable foundation for genuine stakeholder inclusion of nature be created.

Agency theory offers helpful mechanisms for representing silent or absent actors - such as nature - through so-called proxy agents. This delegation logic can be observed in both companies: VAUDE implements external advisory boards such as the Green Shape Advisory Board, which brings environmental voices into the decision-making processes. Interface, on the other hand, relies heavily on external validation (EPDs, Carbon Trust) to reduce information asymmetries. Both implementations show that agency theory approaches are certainly helpful in institutionalising responsibility and operationalising accountability. However, the analysis also makes clear where the theoretical limits lie: Nature is represented, but not active itself. It remains the object of control, not the subject of communication. This proxy logic risks reducing environmental concerns to a technical compliance problem. Agency theory thus enables accountability and control - but it does not automatically strengthen the voice of nature and can even undermine its autonomy if no other forms of involvement are added.

Resource Dependence Theory helps to explain why companies take ecological risks seriously: Because they are structurally dependent on natural resources. This theory is particularly strong at Interface, which is strategically trying to reduce fossil dependencies, manage Scope 3 emissions and precisely record environmental indicators. VAUDE also utilises this thinking in its material strategy and the evaluation of environmental impacts. However, in this logic, nature remains a factor to be managed - a bottleneck, a risk, a production limit. It is not seen as a stakeholder group with its own rights but remains trapped in a functionalist perspective. As sensible as thinking in terms of resource dynamics is, it

fails to give nature an active role in the entrepreneurial design process. The voice of nature is not heard here, but at best considered - in a risk framework, not in a dialogue framework.

Only the biocracy approach (cf. Capra & Luisi, 2014) breaks with this limitation. It sees nature not as a risk to be controlled, but as an active co-designer of the company. VAUDE comes particularly close to this ideal: through participatory formats such as the VAUDE Academy, the Common Good Balance Sheet, external environmental advisory boards and a corporate culture that understands nature as a normative foundation. Here, nature is not only integrated - it is taken seriously. Governance, communication and culture work together to make nature heard structurally, discursively and strategically. Biocracy not only complements stakeholder theory, but it also transforms it. We no longer talk about nature, but with it. It is institutionally recognised as a co-actor and not just treated as a calculation variable.

The Planetary Boundaries Framework complements this further development. While Interface focuses primarily on CO₂ targets, VAUDE uses planetary guard rails to promote systemic resilience. What makes it special: This concept forces companies to think about nature not just from an operational perspective, but in the context of global ecological tipping points. It shifts the perspective from individual risks to an integrated understanding of ecological boundaries - and thus to a way of thinking that views nature not just as a risk, but as a system partner. This framework therefore also represents a significant further development of the classic stakeholder logic.

To summarise, the analysis shows that none of the existing theories alone is sufficient to give nature a fully-fledged voice in the company. Agency theory and resource dependence theory are necessary but not sufficient - they provide structure but not depth. Stakeholder theory remains a normative umbrella, but it is only through the biocracy approach that a model emerges in which nature is institutionally represented, communicatively integrated and culturally anchored. This combination is the key to a new governance logic that not only depicts ecological system intelligence but also integrates it. The Planetary Boundaries Framework provides the systemic depth of focus that many business management theories have so far lacked.

This theoretical synthesis indicates which forms of governance and communication are necessary to not only take nature into account, but also to integrate it institutionally as an active stakeholder. This lays an essential foundation for deriving specific enablers and recommendations for action in the following chapters - and for approaching the research question analytically and practically.

6.2 *Practical enablers and limitations for integrating nature into governance*

The analysis of the two case studies VAUDE and Interface shows that the integration of nature as a dynamic stakeholder does not depend on a single element, but on the interplay of several factors. Governance, corporate culture, communication and external legitimisation must be interlinked so that nature is heard within the company. This chapter summarises the key enablers that were identified as particularly effective in the analysis - as well as structural limitations that make deeper integration more difficult.

A first decisive factor is the anchoring of ecological responsibility at the highest management level. At both VAUDE and Interface, environmental issues are formally part of governance bodies - such as the Nominating and Corporate Governance Committee at Interface or the Sustainability Steering Committee at VAUDE. While Interface relies more on a formal allocation, VAUDE uses its committees actively. They meet regularly, have decision-making powers and work closely with operational units. The analysis suggests that top-down structures are important, but their impact depends on how actively and strategically they are utilised. Without proactive utilisation, the voice of nature remains institutionally weak.

A second effective enabler is the establishment of proxy agents - people or structures that act on behalf of nature. This principle, which goes back to agency theory, is clearly implemented at VAUDE: The CSR department represents ecological interests internally, supported by external bodies such as the Green Shape Advisory Board. This dual representation - internal and external - creates permanent channels through which environmental concerns are systematically channelled. Interface, on the other hand, relies primarily on external auditing bodies such as the Carbon Trust or the CDP, without clearly defining its own proxy roles within the company. The analysis shows that without active proxy agents, there is a risk that environmental concerns will only be perceived as an external benchmark - but not as an integral part of internal decision-making processes.

Furthermore, strategic coherence is crucial: VAUDE shows that ecological principles are not just treated as compliance points, but are integrated into vision, material strategy, communication and reporting. In this way, nature is not only described, but actively embodied. Interface pursues a more data-driven approach that maps environmental aspects via KPIs and reports - methodologically sound, but often technocratic and not very transformative. This leads to one key conclusion: Data alone is not enough. A comprehensive strategic embedding of ecological guidelines in all management levels is required.

Another important point is communicative participation. VAUDE sets a good example here: Nature is brought into the public discourse through educational formats such as the VAUDE Academy or open stakeholder dialogues. Communication serves not only to inform, but also to legitimise - in line with the biocracy approach. Nature is not just mentioned but taken seriously as a dialogue partner. Interface's communication remains more focused on investors and regulatory requirements - transparent, but not dialogue-based. The analysis shows that without participatory communication, the voice of nature remains quiet - it is presented but not heard.

Despite these positive elements, there are also limitations. A central deficit concerns the lack of dynamic adaptation to new ecological risks. In both companies, it is unclear to what extent current scientific findings - for example on biodiversity, planetary boundaries or water stress - are systematically fed back into the strategy. Management is often based on established indicators rather than forward-looking analyses. Interface in particular focuses heavily on CO₂ targets, while little attention is paid to other planetary boundaries. VAUDE is further ahead here, but it also lacks a documented mechanism for continuous strategy updates. In terms of the Planetary Boundaries Framework, however, this is key - it is the only way to give nature a truly dynamic role in the company.

Another structural deficit concerns incentive systems: At both companies, it is unclear whether environmental targets are linked to variable remuneration systems for management. At Interface in particular, the available documents show no explicit link between environmental indicators and bonus payments. VAUDE formulates ambitious targets, but here too the link to incentive mechanisms is not transparent. Conclusion:

Without clear incentives, ecological responsibility remains symbolic - nature is mentioned, but not effectively translated into decisions.

To summarise, Chapter 6.2 shows that the effective integration of nature into corporate management requires more than good intentions. It requires proxy agents, strategic coherence, participatory communication and dynamic steering mechanisms. Where these elements interact - as at VAUDE - nature becomes visible and integrated. Where they are missing - as in parts of Interface - it remains a passive object. For further discussion, this means that governance must be thought of as an adaptive, ecologically sensitive structure. Only then can nature be transformed from a mute resource into an active co-creator of entrepreneurial action.

6.3 Recommendations for businesses

The previous chapters have shown that the integration of nature as an active, dynamic stakeholder requires more than environmental management and reporting obligations. Companies must create structures in which ecological concerns are not only considered, but also institutionalised, represented and embedded in decision-making logics. The requirements and development paths differ depending on the company's level of maturity. Accordingly, the following recommendations for action can be divided into two categories - for companies in the early phase of transformation and for companies that already have a strong sustainability profile.

1. Recommendations for action for companies in the initial phase: laying the foundations for nature integration

Many companies have formulated initial sustainability goals, regularly report on environmental indicators and are subject to regulatory requirements. However, to establish nature as a legitimate co-decision-maker, fundamental systemic decisions need to be made:

a) Institutionalisation at management level

Sustainability must not be isolated in separate CSR departments. Instead, ecological responsibility should be anchored in fixed committees at board level - for example in the form of an 'Environmental Governance Committee' with clearly defined decision-making powers. Here Interface shows a first step with the formal integration into the Nominating

and Corporate Governance Committee, which must, however, be supported by regular activity and resources.

b) Definition and empowerment of proxy agents

According to agency theory, there is a need for representatives who argue in the interests of nature. Companies should specifically create internal roles that act as ecological proxies - e.g. sustainability officers with a direct link to top management. External environmental experts can also be involved in advisory roles to make the voice of nature heard within the company. Without this representation, nature remains in a voiceless role.

c) Establishing credible environmental communication

Transparency is the basis for legitimacy. Early orientation towards international standards such as GRI, CDP or SBTi helps to establish credibility and generate comparable data. However, communication must not just be 'output' - it should be strategically designed to incorporate environmental interests into the public dialogue.

d) Utilisation of scientific frameworks

Ecological governance needs guidelines. The application of recognised concepts such as the Science Based Targets Initiative or Planetary Boundaries creates a systemic overview and helps to set priorities. Smaller companies can also benefit from this, for example through cooperation with scientific institutions or industry initiatives.

e) Cultural development as a long-term process

In parallel to structural measures, companies should take initial steps to establish an ecological corporate culture. This can be done through internal training, narratives, communication campaigns or leadership role models. The aim is to integrate ecological issues into the 'DNA' of the organisation.

2. Recommendations for action for advanced companies: Anchoring the voice of nature institutionally

Companies with a high level of sustainability - such as VAUDE - face a different challenge: they must deepen, professionalise and systemically secure existing efforts in order to permanently strengthen the voice of nature.

a) Integration of biocratic governance principles

The case analysis shows: Nature is effectively represented when it is represented by pluralistic bodies with ecological expertise. VAUDE's Green Shape Advisory Board is a model for such formats. Companies should consider how external environmental interests can be systematically integrated - for example through stakeholder panels, scientific boards or NGO co-operations. This creates a permanent interface between ecological expertise and corporate decisions.

b) Holistic strategic management according to planetary guard rails

Climate targets alone are not enough. Companies should develop their sustainability strategy in such a way that it takes multiple ecological dimensions into account: Biodiversity, land use, nitrogen cycles, water consumption, etc. The Planetary Boundaries Framework offers a robust frame of reference for this. The use of tools such as the Higg MSI (at VAUDE) shows how these principles can be translated into concrete material and product decisions.

c) Establish dynamic risk management

Sustainability is not a static state. Companies need systems that can react to new scientific findings and ecological tipping points. Early warning systems, regular environmental analyses and adaptive steering committees should be part of the standard repertoire. Companies with a high degree of maturity should take a proactive approach here and develop their own instruments for environmental resilience.

d) Communication as an active dialogue with nature

VAUDE shows how communication can become a platform for environmental interests - for example through the VAUDE Academy or transparent reports that not only inform but also empower. Companies should not only report, but actively involve stakeholders - through surveys, consultations, participation processes or educational partnerships. This creates a governance culture in which nature is not only described, but also co-designed.

e) Linking with incentive systems

One point that is often overlooked is the linking of environmental targets with management remuneration. Companies should explicitly integrate environmental KPIs into their bonus systems, such as CO₂ reduction, resource efficiency or biodiversity indicators. This

creates target congruence in the sense of agency theory and increases accountability. A true 'representative of nature' also needs structural assertiveness.

3. Cross-cutting recommendations for all companies: Think structurally, communicatively and strategically

Three overarching fields of action emerge from the case analysis that are central to all companies - regardless of their level of maturity:

- **Structural representation:** Without institutions, roles and processes, the voice of nature remains diffuse. Governance needs concrete channels for environmental concerns.
- **Communicative openness:** Credibility is created through transparency and dialogue. Companies should organise their communication formats in such a way that environmental stakeholders are involved.
- **Strategic integration:** Nature must not only be considered, but also co-managed - through systemic guard rails, dynamic analyses and resilience-oriented management.

The integration of nature as a dynamic stakeholder requires differentiated, context-appropriate strategies. Companies in the early phase must establish structures and clearly localise responsibility. Sustainability pioneers must institutionally secure their ecological ambitions, expand them systemically and open them up in terms of communication. The analysis has shown: The voice of nature is not amplified by good intentions, but by governance that listens - and structures that allow action. This is the only way to turn nature into an active part of shaping the future of business.

7. Conclusion and outlook

7.1 Summary of the results & answering the research question

This thesis has addressed the central question of how companies can effectively integrate nature as a stakeholder and strengthen its voice to enable truly sustainable corporate practice. As a starting point, a comprehensive theoretical framework was developed in Chapter 2. It demonstrated that classical stakeholder models need to be expanded to adequately represent non-human actors such as nature. Only through the integration of different theoretical approaches – including Agency Theory, Resource Dependence Theory, the Planetary Boundaries Framework, and the concept of Biocracy – can nature be understood as a legitimate, systemically embedded stakeholder.

On this theoretical foundation, the study proceeded with an in-depth empirical analysis based on two case studies: VAUDE and Interface Inc. These companies served as contrasting examples to explore how nature can – or cannot – be embedded into corporate structures, strategy, and culture. The analysis showed that giving nature a voice cannot be achieved through a single management tool or a purely data-driven sustainability strategy. Instead, what emerged is a complex interplay of governance structures, cultural embedding, strategic decision-making, and communicative openness – factors that together create the necessary conditions for the ‘voice of nature’ to be heard within companies.

In direct comparison, VAUDE emerged as the company most consistently giving nature a seat at the table – both in governance and in strategy. The combination of a values-driven corporate identity, the implementation of formal environmental committees, the inclusion of external advisory boards, and a dialogue-oriented communication style has led to a structural and cultural integration of ecological concerns. From the perspective of this thesis, VAUDE serves as a prime example of a company that not only behaves in an ecologically responsible manner but also recognises nature as an active co-creator of its organisational development.

Interface Inc., by contrast, demonstrates how sustainability can be implemented with a high degree of professionalism. Its ESG framework includes clear KPIs, independent verification, and robust reporting structures. However, nature here remains largely an externalised management object: monitored, measured, and documented, but not genuinely represented or involved in a participatory way. The company’s primary focus is on CO₂ reduction and

regulatory compliance, rather than on cultivating a holistic ecological understanding. This limits the transformative potential of its sustainability approach and illustrates that methodological excellence alone is insufficient to truly give nature a voice.

From a theoretical perspective, the thesis confirms that no single concept is adequate to fully meet the complexity of the research question. Agency Theory helps conceptualise formal representation through proxy agents but falls short when it comes to co-creation. Resource Dependence Theory explains why firms must account for environmental risks but still reduces nature to something to be controlled. Only when these are combined with the biocracy approach – with its emphasis on participatory, embedded governance – do practical pathways emerge for recognising nature as a legitimate actor. This is further supported by the Planetary Boundaries Framework, which encourages companies to consider ecological issues systemically and long-term, rather than in isolated metrics.

Synthesising the results, four interdependent success factors can be identified that enable companies to transform nature from a passive externality into an active stakeholder:

1. **Institutionalisation of ecological representation** – The creation of both internal and external bodies representing environmental interests is essential. Structural relevance arises only when ecological perspectives are formally embedded in decision-making processes.
2. **Cultural anchoring and strategic coherence** – Companies that consider environmental responsibility as an integral part of their identity, rather than just a CSR activity, tend to implement sustainability with greater consistency and impact. This promotes intrinsic motivation instead of reactive compliance.
3. **Systemic perspective and long-term orientation** – The use of holistic frameworks like Planetary Boundaries encourages organisations to view nature not as a set of isolated environmental indicators, but as a dynamic system that underpins all life and business continuity.
4. **Participatory communication and societal openness** – Nature only become visible and audible as a social actor when it is also represented in public discourse – through dialogue, education, and transparent reporting.

These dimensions do not operate in isolation. Their true transformative potential only unfolds when they are aligned and mutually reinforcing. Whether a company merely reports on nature or genuinely gives it a voice depends on how these elements are combined. The findings show that VAUDE is significantly further along this path than Interface – particularly due to its biocratic approach to governance and communication. Nevertheless, Interface’s robust ESG infrastructure offers a strong foundation upon which participatory integration could be developed further.

In conclusion, this thesis answers the research question as follows: Companies can give nature a genuine voice when they harmonise governance, culture, communication, and control in such a way that ecological interests are not merely acknowledged, but are strategically, institutionally, and normatively embedded. This requires a paradigm shift – away from viewing nature as a risk object, toward seeing it as an active co-creator of business futures.

Or, as Goethe aptly put it: *“Nature is not governed, it governs.”* This quote encapsulates the essence of this work: it is not about fitting nature into corporate logic, but about companies learning to understand themselves as part of a natural system that sets its own limits and principles. Only when this mindset is integrated into strategic corporate management can the voice of nature not only be heard – but truly respected.

Nevertheless, no study is without limits and the findings of this paper must be understood in the context of two exemplary cases. The question of how these findings can be applied to other industries, contexts and governance systems remains open - and points the way to further research, which is explored in the following section.

7.2 Recommendations for future research

This thesis analysed how companies can give nature a voice and integrate it as a legitimate stakeholder in corporate governance, strategy and culture. A theoretical framework combining action-orientated, environmental and governance perspectives was developed, and this framework was applied to two empirical case studies. While the findings offer clear insights and pathways, they also highlight important gaps and challenges that point to a comprehensive and urgent research agenda.

Firstly, there is a need to test the transferability and scalability of the proposed framework. This study focussed on two relatively small to medium-sized enterprises in sectors that are already closely associated with environmental issues. It remains to be seen whether the same mechanisms - such as internal environmental committees, cultural integration or participatory communication - can be applied in larger companies with more complex hierarchies and less mission-centred identities. Furthermore, sectors such as finance, logistics, pharmaceuticals or digital services may face very different obstacles and opportunities when it comes to recognising nature as a stakeholder. Comparative studies across sectors, company sizes and national contexts could help to identify which conditions favour or hinder the institutionalisation of the voice of nature.

Second, future research should more systematically examine the interplay between internal corporate structures and external governance systems. This work has focused on internal organisational mechanisms, but these never develop in a vacuum. Political institutions, legal frameworks, public expectations and even pressure from activists have a significant impact on the room for manoeuvre that companies must innovate or reform their sustainability governance. Research could examine the extent to which national sustainability policies, international regulations (such as the EU Directive on Corporate Sustainability Reporting) or soft law mechanisms (such as science-based targets or net zero commitments) play a role. This could help to clarify how external governance can support companies to go beyond compliance and achieve true environmental integration.

Thirdly, the question of ecological representation is still largely unresolved and deserves in-depth interdisciplinary investigation. Since nature is not a speaking subject, its representation must always be mediated. But who speaks for nature, and with what legitimisation? The use of scientific experts, environmental NGOs, community representatives or institutional representatives (such as nature conservation organisations) raises important questions about power, bias and credibility. Ethical, legal and philosophical studies could complement organisational research to develop clearer principles and practices for fair and effective environmental representation.

Fourthly, there is considerable scope for longitudinal and process-orientated studies. While this work has identified success factors at a particular point in time, the durability and transformative power of biocratic governance structures remain uncertain. Do companies

that formally integrate nature maintain this commitment over time, or do such structures become symbolic or marginalised when economic pressures increase? How do leadership changes, market dynamics or crises (such as pandemics or geopolitical tensions) affect environmental governance? Multi-year studies, ideally combining qualitative and quantitative methods, could provide crucial insights into the organisational resilience and adaptability of nature-centred sustainability strategies.

Fifth, the development and testing of practical tools, roles and methods for ecological integration should become a central task for future research. While this work provides conceptual criteria and case studies, there is a need for further applied work. What organisational formats best represent the interests of nature - advisory boards, designated roles (e.g. 'Chief Nature Officer'), AI-enabled scenario modelling or decision-making frameworks based on planetary boundaries? What skills and knowledge are required for environmental representation in organisations? What training, institutional partnerships or governance innovations are needed to structurally and meaningfully integrate nature into business processes?

Finally, research should not be limited to business alone. The question of how nature can become a recognised actor in human governance has implications far beyond corporate sustainability. It touches on law, politics, economics, education and democratic theory. Interdisciplinary collaboration is therefore essential - not only to expand the knowledge base, but also to create new models of governance in which ecological systems are not externalities to be managed but co-determining forces in shaping our common future.

To summarise, this thesis opens a rich field of research at the intersection of sustainability, governance and ecological ethics. The idea that nature can - and must - be treated as a stakeholder is still in its infancy. However, as planetary crises intensify, it is becoming increasingly urgent to move from theory to action and from symbolic gestures to institutional innovation. Future research must play a crucial role in transforming the voice of nature from a metaphor to a lived organisational reality.

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Appendix

Appendix A1 - Goods criteria table

1. Governance & Sustainability Strategies

How is nature anchored internally as a stakeholder?

Criteria	Description	Linked Theory & Explanation	Additional Question for Evaluating Influence	Score	Justification & Sources
1.1 Formal processes & structures	Existence of committees & responsibilities for environmental issues	Biocracy Approach → Nature as a stakeholder requires institutional mechanisms that represent its interests. Without fixed structures, it remains a passive entity.	Is there a formal institution (e.g. environmental board) that is explicitly responsible for nature interests?		
	Integration of ecological aspects into decision-making processes. This includes the establishment of a proxy agent or a nature advocacy role within governance structures	Agency Theory → If nature cannot exert any direct influence, it needs an 'advocate' or a representative within the company management.	Can environmental committees or external environmental representatives block or influence decisions?		
	Anchoring in corporate guidelines & visions	Biocracy Approach → When nature is taken seriously as a stakeholder, it is not only visible in reports but also anchored in the company's core values.	Are ecological principles firmly anchored in the corporate mission or only part of CSR reports?		
1.2 Utilisation of ecological decision bases	Application of scientific frameworks (e.g. Planetary Boundaries)	Planetary Boundaries → Companies must recognise that environmental boundaries are hard business factors, not just soft CSR criteria.	Are environmental limits used as hard criteria for investment decisions?		

	Natural capital valuation as part of the corporate strategy	Resource Dependence Theory → Companies depend on natural resources. They must not only protect them but also integrate them economically into their planning.	Is there an internal model for monetising environmental services and ecological risks?		
	Ecological risk analyses & long-term sustainability planning	Planetary Boundaries & Resource Dependence Theory → Strategic decisions must assess environmental impacts because environmental risks are long-term economic risks.	Are strategic decisions actively made based on environmental impact studies?		
1.3 Internal control mechanisms & KPIs	Use of ESG criteria to manage environmental responsibility	Resource Dependence Theory → ESG criteria show how companies include nature as a decisive influencing factor in their management system.	Is nature as a stakeholder also measured in internal performance indicators or only presented in external reports?		
	Sustainability reporting & monitoring	Agency Theory → Environmental performance must be monitored by independent actors in order to avoid misinformation.	Is there external monitoring of environmental performance to avoid misinformation and greenwashing?		
	Integrating the supply chain into environmental strategies	Resource Dependence Theory → Companies that are dependent on environmental resources in the long term must implement sustainable supply chain strategies.	Have environmental factors ever led to supplier changes or radical process changes?		

1.4 Influence on top management & remuneration	Does the remuneration of top management depend on environmental KPIs?	Biocracy Approach → If nature is truly considered a stakeholder, managers must also take responsibility for environmental goals.	Are there variable salary components that are linked to ecological success?		
	Are ecological successes evaluated in the business strategy?	Resource Dependence Theory → Companies that treat nature as a stakeholder must demonstrate that they pursue financial and environmental goals on an equal footing.	Is there a measurable link between environmental performance and long-term corporate strategy?		

2. Sustainability communication & CSR

How is nature represented externally as a stakeholder?

Criteria	Description	Linked theory & explanation	Additional supplement for stronger influence on decisions	Score	Justification & Sources
2.1 Narratives & lines of argumentation	Representation of nature as an actor with legitimate rights. Concepts like the nature advocacy role strengthen the external communication of ecological legitimacy and stakeholder equivalence.	Biocracy Approach → Is nature actively communicated as a stakeholder or only presented as a resource?	Are there clear statements or concepts that treat nature as an equal stakeholder?		
2.2 Transparency & reporting standards	Use of recognised reporting standards (GRI, DNK, TCFD)	Resource Dependence Theory → Companies that are dependent on environmental resources must make their sustainability strategies transparent.	Are there publicly accessible, detailed environmental reports or only minimum information?		

<p>2.3 Risk of greenwashing</p>	<p>Verifiability of sustainability statements through external certifications</p>	<p>Agency Theory → Are environmental measures audited and certified by independent actors?</p>	<p>Are environmental measures audited and certified by independent organisations?</p>		
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Appendix A2 - Goods criteria table VAUDE

1. Governance & Sustainability Strategies

How is nature anchored internally as a stakeholder?

Criteria	Description & Linked Theory	Score	Justification & Sources
1.1 Formal processes & structures	Existence of committees & responsibilities for environmental issues → Biocracy Approach	5	VAUDE has a special Sustainability Steering Committee that includes both management and operational stakeholders and meets regularly to coordinate strategic environmental goals (cf. VAUDE, 2024e). This internal committee ensures that environmental concerns are embedded in company-wide processes. VAUDE has also been EMAS-certified since 2008, which requires systematic environmental audits and an external review and thus strengthens structural accountability (cf. EMAS, n.d.,b). The VAUDE Academy further supports this integration by offering training and further education on sustainable practices aimed not only at employees, but also at external partners and the general public (cf. VAUDE Academy, n.d.). This combination of formal structures, independent validation and organisational learning mechanisms demonstrates a high degree of institutional anchoring.
	Integration of ecological aspects into decision-making processes. This includes the establishment of a proxy agent or a nature advocacy role within governance structures → Agency Theory	4	VAUDE systematically integrates ecological aspects into its decision-making processes, including through the strategic role of the 'Sustainability & CSR' department, which is directly integrated into management (cf. VAUDE, 2024f). The sustainability officers act as internal representatives of ecological interests and thus effectively take on the role of a proxy agent for nature. In addition, VAUDE is a signatory to the UN Global Compact and aligns its strategy with the SDGs - which indicates a stronger institutional consideration of planetary boundaries and ecological responsibility. The sustainability topics are anchored in the overarching corporate strategy and are regularly reflected and adjusted in the Sustainability Steering Committee (cf. VAUDE, 2024g). Further reinforcement comes from the independent Green Shape Advisory Board, which includes environmental experts (e.g. WWF, environmental law, circular economy) and provides critical input on the ecological integrity of product standards – thereby institutionalising external ecological representation within corporate processes (cf. VAUDE, 2024p). A fully formalised 'Nature Advocacy Role' such as an external 'Chief Nature Officer' does not (yet) exist, but the structures described show a strong internal anchoring of ecological interests at a high strategic level.

	<p>Anchoring in corporate guidelines & visions</p> <p>→ Biocracy Approach</p>	5	<p>VAUDE deeply embeds ecological values in its corporate vision and strategic guidelines. The central guiding principle 'We assume responsibility' has formed the foundation of the entire corporate orientation for years and emphasises a value-oriented, ecological governance structure (cf. VAUDE, 2024h). Managing Director Antje von Dewitz regularly states publicly that nature conservation and environmental protection are considered the 'identity-forming core' of the company (cf. Zinn, 2025). These values are not only communicated externally but are also anchored operationally: Sustainability is not a secondary aspect of VAUDE's corporate strategy but is integrated across all areas of the company - from product development and supply chain management to personnel development. The company is explicitly committed to designing in accordance with ecological principles, which corresponds to the biocracy approach: governance should be based on the 'rules of life' (cf. Capra & Luisi, 2014, pp.13-15). VAUDE is also certified for the common good (ECG balance sheet since 2014), which indicates an explicit orientation towards systemic, ecological and social values. The ECG is based on principles such as ecological sustainability, co-determination and human dignity - central building blocks of biocratic corporate governance (cf. Heidbrink et. al, 2018, p.32-34). The company sees itself as a 'co-creator of a world worth living in', as formulated in its vision statements - a positioning that goes beyond traditional CSR and points to a deep systemic understanding of responsibility. This comprehensive self-image shows that ecological principles are not only considered but are structurally and culturally embedded - a strong example of biocratic anchoring.</p>
<p>1.2 Utilisation of ecological decision bases</p>	<p>Application of scientific frameworks (e.g. Planetary Boundaries)</p> <p>→ Planetary Boundaries</p>	5	<p>VAUDE uses scientific environmental frameworks such as the Planetary Boundaries as a strategic basis for decision-making to systematically evaluate ecological impacts and derive measures from them. The theoretical principles are not only known in the abstract but are also applied in everyday management - particularly in materials policy, product development and supply chain management. A key tool for implementation is the Higg Materials Sustainability Index (MSI), which VAUDE uses to quantify the environmental impact of various materials and correlate them with overarching resilience limits (cf. VAUDE, 2024i; VAUDE 2024j). This data-based approach allows the company to make informed decisions about the substitution of critical materials - for example by specifically prioritising recycled or renewable raw materials. Ecological decision-making principles are also considered in strategic sustainability management: Among other things, VAUDE analyses in which areas there is a particularly urgent need for action about planetary boundaries, for example in the areas of climate change, biodiversity and resource consumption. Measurable sustainability goals are derived from this - in close connection with the SDGs (cf. Eidse, n.d.; VAUDE, 2024k) CEO Antje von Dewitz regularly emphasises in interviews that this orientation towards scientific models is not only a reputational tool for VAUDE but also acts as an internal decision-making logic - for example in the development of CO₂-neutral products and the evaluation of business models with regard to their ecological sustainability (cf. Zinn, 2025).</p>
	<p>Natural capital valuation as part of</p>		<p>VAUDE clearly recognises its ecological dependency and consistently integrates the evaluation and protection of natural resources into its strategic corporate planning. This is evident at both a financial and operational level. In the annual corporate planning, funds are explicitly</p>

	<p>the corporate strategy</p> <p>→ Resource Dependence Theory</p>	5	<p>earmarked for sustainability initiatives - for example, for the development of circular products, climate-neutral manufacturing processes or for supply chain projects with a focus on resource efficiency (cf. VAUDE, 2024l). These measures make it clear that ecological resources are not treated as an external marginal factor, but as a central strategic control factor. VAUDE's materials strategy is also based on the evaluation of ecological effects along the entire life cycle. Materials are prioritised based on their environmental impact (water consumption, carbon footprint, chemical impact) using the Higg MSI, among other things. Natural capital is thus integrated into operational decision-making processes - for example through the targeted substitution of conventional materials or by investing in take-back and recycling systems (cf. VAUDE, 2024j). In addition, VAUDE is committed to long-term goals such as an emission-free supply chain or a net-zero model along the entire value chain - with a focus on the reduction and regeneration of ecological resources (cf. VAUDE, n.d. c). Such measures show that natural capital is not only recognised in the balance sheet, but also strategically considered as a success-critical corporate factor.</p>
	<p>Ecological risk analyses & long-term sustainability planning</p> <p>→ Resource Dependence Theory</p>	3	<p>VAUDE addresses ecological risks in the supply chain and the procurement of raw materials with targeted measures - for example through deforestation guidelines, risk assessments for materials and internally defined sustainability standards for strategic suppliers (cf. VAUDE, 2024m). These are considered as part of regulatory requirements such as the CSR reporting obligation and the EU Supply Chain Act. In its sustainability strategy, the company also refers to the need for resilient, circular and resource-conserving systems. Long-term goals - such as reducing the carbon footprint along the value chain or transforming procurement processes - are defined (cf. VAUDE, 2024n). Nevertheless, it remains unclear whether VAUDE conducts systematic ecological risk or scenario planning at a strategic level that goes beyond individual operational measures. Aspects such as raw material availability risks, biodiversity-related threats or strategic resilience measures against ecological crises have not yet been explicitly addressed in the accessible documents. There is also no documentation of publicly verifiable resource or risk monitoring. The rating is therefore 3 out of 5 points - solid individual elements are in place, but in-depth systematic management in the sense of the Resource Dependence Theory remains unclear.</p>
<p>1.3 Internal control mechanisms & KPIs</p>	<p>Use of ESG criteria to manage environmental responsibility</p> <p>→ Resource Dependence Theory</p>	4	<p>VAUDE relies on an indicator-based management system to make ecological objectives measurable and to anchor strategic environmental responsibility in the company. Environmental performance is recorded at various levels, such as the carbon footprint per product group, the proportion of recycled materials and consumption figures for energy, water and packaging (cf. VAUDE, 2024a). These indicators are an integral part of the company's internal controlling, are regularly audited externally (EMAS, ISO 14001) and are publicly accessible. They are also incorporated into operational processes - e.g. to identify hotspots in production or to monitor the target path as part of the climate strategy up to 2024 (cf. VAUDE, 2024o). It is particularly noteworthy that VAUDE not only balances sustainability indicators but also uses them for strategic prioritisation: Areas with high ecological relevance are identified and further developed through targeted investments in innovation or process optimisation. This makes it clear that ecological dependencies are not only recognised, but actively managed - a core idea of the Resource Dependence Theory. However, it is not entirely clear to what extent this</p>

			management is dynamically adapted to risks, linked to incentive systems or integrated into the company's overall performance management. Here, the assessment deliberately remains below the maximum value.
	Sustainability reporting & monitoring → Agency Theory	4	VAUDE has an established monitoring system for monitoring the achievement of ecological goals. Key sustainability indicators - including CO ₂ reductions, use of resources, quantities taken back and recycling rates - are systematically collected, documented and published in standardised reporting formats, including as part of the EMAS-validated environmental management system and the common good balance sheet (cf. VAUDE, 2024o). In line with agency theory, this reporting acts as a control instrument for internal decision-makers. The regularly externally audited sustainability reports increase transparency and reduce potential conflicts of interest between environmental stakeholder groups (e.g. NGOs, consumers) and internal company stakeholders. The high level of detail in the publicly available reports supports continuous accountability. In addition, there is a clear reporting rhythm that goes beyond the purely legal minimum requirement. The integration of the Economy for the Common Good as a supplementary evaluation framework also strengthens the governance effect and emphasises the claim to structurally safeguard ecological interests internally (cf. VAUDE, 2021). One point is deducted because a direct link between environmental performance indicators and individual incentive mechanisms (e.g. management remuneration) has not yet been proven. It also remains unclear whether the environmental control mechanisms are regularly evaluated or further developed internally.
	Integrating the supply chain into environmental strategies → Resource Dependence Theory	5	VAUDE systematically includes its supply chain in the implementation and control of ecological strategies - not only operationally, but also structurally and strategically. As part of the company-wide climate strategy, Scope 3 (upstream emissions) is identified as a central lever, particularly in the areas of material procurement, production and logistics (cf. VAUDE, 2024q). Integration does not take place purely via environmental requirements, but through specific cooperation formats with suppliers: These include projects for CO ₂ reduction, pollutant-free materials (e.g. Green Shape Core Collection), traceability of raw materials and the development of circular material systems (cf. VAUDE, 2024r). Suppliers are also involved in VAUDE's monitoring - e.g. through self-assessments, regular sustainability assessments and training programmes. In terms of the Resource Dependence Theory, it is crucial that VAUDE not only enforces ecological standards 'externally', but also specifically manages its own dependence on limited resources via the supply chain: This includes, for example, securing recyclable materials, the strategic diversification of sustainable upstream suppliers and investments in regional procurement partnerships to minimise risk. This long-term perspective on ecological resilience through supply chain integration goes beyond mere compliance and shows that VAUDE has established sustainability as a central management logic in external resource access (cf. VAUDE, 2024s).

<p>1.4 Influence on top management & remuneration</p>	<p>Does the remuneration of top management depend on environmental KPIs?</p> <p>→ Biocracy Approach</p>	<p>2</p>	<p>VAUDE pursues a holistic approach to sustainability in its corporate management that is strongly value-based and strategically takes ecological principles into account. The management, under the leadership of Antje von Dewitz, positions itself publicly in favour of a sustainable transformation and anchors ecological objectives in the corporate strategy (cf. VAUDE, 2024u). Sustainability is therefore a central component of the management understanding and fundamentally characterises the corporate culture - in line with the biocracy approach, which calls for an orientation towards ecological principles. However, it remains unclear to what extent specific ecological indicators are integrated into individual remuneration or target agreement systems for top management. Neither the sustainability report nor the common good balance sheet or other official sources provide information on whether management bonuses or remuneration components are explicitly linked to environmental indicators such as CO₂ reduction, resource efficiency or circular economy (cf. VAUDE, 2024d). The strong intrinsic motivation of the management level and the clear ecological orientation of the company's goals indicate a value-based integration of sustainability. However, without a verifiable link between ecological performance and personal management remuneration, implementation falls short of the possibilities that the biocracy approach envisages as ideal-typical governance. Therefore, the rating is 2 out of 5 points - recognition of the value-based management approach, but a clear gap in formal incentive systems for the consistent management of ecological goals.</p>
	<p>Are ecological successes evaluated in the business strategy?</p> <p>→ Resource Dependence Theory</p>	<p>4</p>	<p>VAUDE systematically measures and evaluates ecological success as part of its overarching corporate strategy. In particular, CO₂ reduction, material cycles and energy efficiency are not just operational key figures, but strategic control variables that are directly integrated into the overall corporate goals (cf. VAUDE, 2024t). As part of its strategic planning, VAUDE pursues clear roadmaps, for example to achieve climate neutrality throughout the supply chain and to increase the proportion of recycled materials (cf. VAUDE, 2024u). Progress is regularly reviewed internally and publicly documented in the Sustainability Report and in the Common Good Balance Sheet (cf. VAUDE, 2024d). This not only involves a retrospective review, but also the targeted inclusion of environmental performance indicators in target planning, for example by monitoring resource efficiency projects or measures to promote the circular economy. From the perspective of Resource Dependence Theory, this shows that VAUDE not only recognises ecological resource dependencies, but also proactively manages its dependence on natural resources as a critical success factor in its strategy. Environmental performance is understood as part of corporate resilience, whereby progress along ecological target paths is regarded as strategic business success. The assessment is slightly limited by the fact that there is a systematic evaluation of success at management level, but no clear linkage with dynamic, external factors such as the availability of raw materials or biodiversity trends is recognisable. The integration of ecological success into financial management instruments also remains limited.</p>

2. Sustainability communication & CSR

How is nature represented externally as a stakeholder?

Criteria	Description & Linked Theory	Score	Justification & Sources
<p>2.1 Narratives & lines of argumentation</p>	<p>Representation of nature as an actor with legitimate rights. Concepts like the nature advocacy role strengthen the external communication of ecological legitimacy and stakeholder equivalence.</p> <p>→ Biocracy Approach</p>	<p>4</p>	<p>In its public-facing communication, VAUDE consistently presents nature not merely as a resource, but as an active stakeholder with intrinsic value and legitimate rights. The company's brand message "Creating awareness through sustainable communication" underlines that nature is regarded as a partner in sustainable development, not just a passive backdrop for economic activities (cf. VAUDE, 2024v). VAUDE emphasizes transparent, honest, and stakeholder-oriented communication as an essential part of its sustainability strategy. By applying multiple communication channels — including the dedicated sustainability report, the CSR-focused website, participation in industry events, and educational initiatives through the VAUDE Academy — the company ensures that ecological narratives reach diverse audiences and stakeholders (cf. VAUDE, 2024w). This narrative is further reinforced in VAUDE's commitment to co-creating a "liveable world", as expressed across its external communication platforms. VAUDE's communications deliberately promote the understanding of nature not only as an operational necessity but as a valued partner whose wellbeing is intrinsically linked to the company's success (cf. VAUDE, 2024v; VAUDE, 2024w). A particularly impactful element of VAUDE's external outreach is the work of the VAUDE Academy, which extends beyond product education to actively raise awareness about ecological interdependencies and the inherent rights of nature (cf. VAUDE Academy, n.d.). Through this educational initiative, VAUDE effectively strengthens the biocratic principle of recognizing nature as an essential, rights-bearing stakeholder. Nonetheless, while VAUDE's communication strongly emphasizes nature's moral value and its role as an active partner, it does not yet extend to formal advocacy narratives, such as explicit "Rights of Nature" frameworks or juridical personhood for nature. The absence of these advanced concepts slightly limits the depth of VAUDE's external representation of nature as a fully autonomous stakeholder.</p>
<p>2.2 Transparency & reporting standards</p>	<p>Use of recognised reporting standards (GRI, DNK)</p> <p>→ Resource Dependence Theory</p>	<p>5</p>	<p>VAUDE demonstrates a high level of transparency and credibility in its external sustainability reporting by consistently applying recognised international standards. The company uses the Global Reporting Initiative (GRI) as its primary framework for sustainability disclosure, ensuring that ecological dependencies and impacts — such as resource use and emissions — are reported in a globally comparable manner (cf. VAUDE, 2024v). In addition to GRI, VAUDE aligns its reporting structure with the principles of the German Sustainability Code (DNK), which further reinforces its commitment to transparent, stakeholder-oriented communication regarding resource consumption and environmental impact. The company's clearly defined sustainability goals — publicly accessible and measurable — cover key areas such as climate neutrality, circular economy initiatives, and responsible supply chain management (cf. VAUDE, 2024x). These goals reflect VAUDE's strategic approach to mitigating risks arising from resource scarcity and environmental degradation. By utilising multiple recognised reporting standards and by setting transparent, measurable goals, VAUDE not only meets external expectations for accountability but also strengthens</p>

			its internal capacity to manage resource dependencies effectively. The transparent reporting of resource flows and environmental performance enables informed decision-making and reinforces stakeholder trust.
2.3 Risk of green washing	Verifiability of sustainability statements through external certifications → Agency Theory	5	VAUDE systematically minimises the risk of greenwashing by relying on independent, externally validated certifications specifically for its products and material claims. One of the cornerstones is the company's Green Shape Standard, an in-house environmental benchmark that has been strengthened through the establishment of the Green Shape Advisory Board. This board consists of six independent experts from environmental sciences, industry, civil society, and NGOs (including WWF), ensuring that the standard remains ambitious, transparent, and aligned with the latest ecological best practices (cf. VAUDE, 2024b). Moreover, VAUDE complements its internal standards with internationally recognised product-level certifications, such as bluesign®, which guarantees environmentally friendly production processes and chemical safety, and the Fair Wear Foundation certification, which verifies social responsibility and labour standards in the supply chain (cf. VAUDE, 2024x). These third-party verifications provide an essential layer of credibility and reduce information asymmetry between the company and its external stakeholders — a central concern addressed by the Agency Theory. By embedding these independent certifications into its product communication, VAUDE enhances the verifiability of its environmental claims, mitigates the risk of reputational damage, and builds a high level of trust among consumers, partners, and the broader public. The company's approach demonstrates that it does not rely solely on internal monitoring structures but actively seeks external validation to substantiate its sustainability narratives. This significantly lowers the risk of perceived or actual greenwashing and strengthens its position as a credible actor in the sustainable outdoor industry.

Appendix A3 - Goods criteria table Interface Inc.

1. Governance & Sustainability Strategies

How is nature anchored internally as a stakeholder?

Criteria	Description & Linked Theory	Score	Justification & Sources
<p>1.1 Formal processes & structures</p>	<p>Existence of committees & responsibilities for environmental issues</p> <p>→ Biocracy Approach</p>	<p>4</p>	<p>Interface Inc. has created clear internal structures to systematically embed environmental and sustainability issues within the company. The sustainability team is the central player and is divided into two teams at global level: Firstly, the Global Market Sustainability Team, which acts as a bridge between market requirements and ecological corporate goals, and secondly, the strategic-technical team, which deals with topics such as reporting, CSRD, CO₂ accounting and supplier development (cf. interview with Heitbrink, 2025). It is worth noting that the sustainability team is anchored in the Innovation department. This integration ensures that ecological considerations are not dealt with in isolation, but in close connection with product development and process innovation. The positioning within this central unit promotes a biocratic governance structure in which ecological principles are systematically integrated into business decisions (cf. interview with Heitbrink, 2025). Interface is also pursuing ambitious environmental goals, such as the corporate goal of becoming CO₂-negative by 2040. This goal clearly demonstrates the company-wide relevance of the topic and actively involves other areas of the company, such as R&D and Procurement, in achieving the sustainability goals (c.f. Interface ESG Report, 2024, p.13). At the same time, however, it should be noted that beyond the teams described, there is no independent, formalised body such as an externally appointed Sustainability Advisory Board. Operational responsibility is clearly assigned, but an additional strategic monitoring or external advisory body could further strengthen the governance system.</p>
	<p>Integration of ecological aspects into decision-making processes. This includes the establishment of a proxy agent or a nature advocacy role within governance structures</p> <p>→ Agency Theory</p>	<p>4</p>	<p>Interface systematically integrates environmental aspects into its decision-making processes, through a close link between corporate management, sustainability strategy and operational objectives. A key management tool here is the annual, externally verified impact reporting, which makes key environmental figures transparent and forms a direct basis for strategic decisions (cf. Interface ESG Report, 2024). The Sustainability Council plays a key role within the organisation: it is made up of managers from a wide range of corporate divisions and serves as an internal body for managing and monitoring the sustainability agenda (cf. Interface ESG Report, 2024, p.50). This fulfils the function of a 'proxy agent' for ecological interests, even if there is no explicit nature representation in the sense of a 'Chief Nature Officer'. In addition, ecological goals are firmly anchored in global corporate visions and strategic programmes such as Climate Take Back™. This strategic programme explicitly pursues the role of nature as an actor and partner in the transformation of the company towards a climate-positive business model (cf. Interface Climate Ambition Summary, 2024, p.2f). The</p>

			<p>sustainability strategy is based on scientific principles (including Johan Rockström's 'Carbon Law') and involves decision-makers at the highest level, which emphasises the internal allocation of responsibility for environmental issues (cf. Interface Mission Zero, 2019, p.16f). Integration is also supported by external standards: Interface is part of the Science Based Targets initiative (SBTi) and is guided by the Greenhouse Gas Protocol, which strengthens governance based on science-based criteria (cf. Interface Climate Ambition Summary, 2024, p.7; Interface Greenhouse Gas Protocol, 2022). However, there is one small limitation: even though ecological criteria form a central part of the decision-making process, an explicitly institutionalised representation of nature as an independent role has not yet been implemented. Integration takes place across various management and specialist departments, without a formal 'nature representation' body. The score is therefore slightly below the maximum number of points.</p>
	<p>Anchoring in corporate guidelines & visions</p> <p>→ Biocracy Approach</p>	4	<p>Interface has firmly anchored environmental responsibility in its corporate principles. Since the launch of the 'Mission Zero®' initiative in 1994, Interface has pursued a clear vision of eliminating its negative environmental impact. Building on this mission, the company has expanded its goal with 'Climate Take Back™' to go beyond neutrality and actively contribute to the regeneration of the environment (cf. Interface Mission Zero, 2019, p.4). The company's purpose is explicit: 'To lead industry to love the world.' This clearly positions Interface as a player that not only protects the environment but also sees it as an integral part of its business success (cf. Interface, 2024, p.3f). The commitment to the regenerative economy is emphasised again in the Climate Ambition Summary: Interface sees a future in which business models function in harmony with natural systems. This goes beyond pure climate targets and explicitly includes biodiversity, circular economy and social responsibility (cf. Interface Climate Ambition Summary, 2024, p.4f). The interview with Sustainability Manager Gritli Heitbrink confirms this systemic approach: 'Sustainability is an integral part of our business model.' She emphasises that all functions and departments - from logistics to product development - are part of the sustainability vision (cf. Interview with Heitbrink, 2025). This vision is also emphasised in corporate communications: in its sustainability reports and communication materials, Interface clearly positions itself as a pioneer for climate-positive business models and emphasises its goal of leading the industry into a more sustainable future (cf. Interface ESG Report, 2024, p.22). The value orientation is anchored in operations: the ESG Impact Report 2023 explains how environmental goals are integrated into specific roadmaps and target systems. The company systematically measures progress in the areas of CO₂ neutrality, material cycles and resource efficiency, among others (Interface ESG Report, 2024, p.46). One point is deducted because Interface, despite its ambitious visions and strong cultural roots, does not show any formal recognition of nature as an independent legal entity or explicit constitutional character of the corporate guidelines. The term 'Rights of Nature' is also not included in official documents - in contrast to an ideal biocracy that systematically incorporates such approaches.</p>
1.2 Utilisation of ecological	Application of scientific frameworks (e.g. Planetary Boundaries)		<p>Interface is clearly orientated towards the scientific principles of planetary boundaries, even if the concept of 'planetary boundaries' is not mentioned by name in the strategic vocabulary. Nevertheless, central elements of this framework are anchored in corporate practice. The Science Based Targets initiative (SBTi) is a central foundation of</p>

<p>decision bases</p>	<p>→ Planetary Boundaries</p>	<p>4</p>	<p>Interface's environmental strategy. It commits the company to reducing greenhouse gas emissions in line with the 1.5-degree target of the Paris Climate Agreement - a key point of the Planetary Boundaries, especially in climate change (cf. Science Based Targets, 2025; Interface, Climate Ambition Summary, 2024, p.7f). In addition, Interface uses Life Cycle Assessments (LCA), which are carried out in collaboration with external partners and independent auditors. These assessments relate to various ecological indicators such as CO₂ emissions, water consumption and acidification potential - all environmental factors that are highly relevant from the perspective of Planetary Boundaries (cf. Interface ESG Report 2024, p.19). Interface also incorporates findings from external environmental research: In partnerships with organisations such as the Carbon Neutral Floors™ programme or the Carbon Trust, overarching environmental objectives are operationalised and integrated into product design and supply chain strategies (cf. Interface, Mission Zero, p.31; Carbon Trust, 2025). Interface pursues a systematic measurement of its Scope 1, 2 and 3 emissions and particularly emphasises the focus on Scope 3, which comprises around 74% of total emissions - especially through raw material procurement and supply chain processes. In this way, the company is addressing one of the biggest levers for avoiding planetary boundaries being exceeded. The methodology is flanked by EPDs (Environmental Product Declarations), which are verified in accordance with ISO 14025 and transparently disclose the life cycle assessment (cf. Interface ESG Report, 2024, p.24). One point is deducted because although Interface addresses the concept of planetary boundaries in terms of content, it is not explicitly anchored in its reports or corporate strategy. A systematic, comprehensive mapping of all company activities along the nine defined planetary boundaries is still missing.</p>
	<p>Natural capital valuation as part of the corporate strategy</p> <p>→ Resource Dependence Theory</p>	<p>4</p>	<p>Interface clearly recognises the value of natural resources and consistently integrates their evaluation into the corporate strategy. This is evident at both an operational and strategic level. The supply chain is used specifically as an ecological lever: In the expert interview, it was emphasised that Interface not only selects its suppliers based on environmental aspects, but also actively works with them to promote innovation in sustainable materials and CO₂ reduction. Purchasing thus becomes a strategic management tool for resource conservation and environmental impact ('Our suppliers are [...] an important point of contact in terms of new developments, innovations [...]') (Interview with Heitbrink, 2025). Product selection also follows a clear natural capital-oriented logic: Interface relies heavily on recycled and bio-based materials, with the durability and recyclability of raw materials being key decision parameters (cf. Interface ESG Report, 2024, p.22; Interface Mission Zero, 2019, p.26). While the Carbon Neutral Floors™ programme is already established as an operational measure to reduce emissions, its role in monetising and safeguarding natural capital - by internalising ecological costs - deserves special attention in the context of resource valuation (cf. Interface Mission Zero, 2019, p.31). This model not only leads to a balance sheet revaluation of natural resources but also raises awareness of their finite nature and the need for active regeneration. This approach is also externally validated by independent expert reports: For example, the Carbon Trust (2025) highlights Interface as a pioneer in circular business models, particularly in the active return of materials to production cycles and the avoidance of dependence on primary raw materials. One point is deducted as there is currently no comprehensive, systematic natural capital accounting in accordance with external frameworks such as the Natural Capital Protocol. A detailed quantification of all ecological resource consumption over the entire life</p>

			cycle is also not yet available. Nevertheless, Interface's diverse measures show that natural capital is recognised as a critical resource for success and is managed strategically.
	<p>Ecological risk analyses & long-term sustainability planning</p> <p>→ Resource Dependence Theory</p>	4	<p>Interface takes a proactive approach to recognising and mitigating environmental risks as part of its long-term sustainability strategy. In line with the theory of resource dependency, the company aims to minimise its dependence on finite resources and build resilient material cycles. A key element in this context is the Climate Take Back™ programme, which focuses not only on reducing emissions, but also explicitly on restoring natural ecosystems and integrating regenerative principles into the corporate strategy (cf. Interface, 2025c). In contrast to the previous points, the focus here is on ecological risk minimisation through regenerative approaches, whereby natural regeneration is positioned as a proactive risk buffer. In addition, Interface carries out targeted life cycle assessments to systematically identify ecological hotspots and risk areas in the supply chain and product portfolio. These analyses cover important ecological risks such as greenhouse gas emissions, water scarcity and acidification potential and help to proactively identify weak points in the supply chain and environmental impacts (cf. Interface ESG Report, 2024, p.81). Interface thus operationalises the findings of the LCA specifically for risk management purposes and integrates them into early warning systems and decision-making processes. To further strengthen its risk-oriented approach, Interface is also preparing for upcoming regulatory frameworks such as the Corporate Sustainability Reporting Directive (CSRD). Although not yet mandatory, the company recognises that future compliance with the CSRD will require a systematic risk assessment and scenario analysis for environmental risks and impacts on natural capital (cf. European Commission, n.d.; Interview with Heitbrink, 2025). This preparation emphasises Interface's future-oriented corporate culture and the strategic anchoring of ecological risk management at company level. One point is deducted because, although Interface has robust individual mechanisms for recognising and reducing risk, it does not have a publicly visible, overarching ecological risk monitoring system or a strategic scenario analysis that is fully aligned with all relevant ecological crisis scenarios (e.g. loss of biodiversity, shortage of raw materials). A fully integrated, company-wide ecological risk management system that brings these elements together holistically is still under development.</p>
<p>1.3 Internal control mechanisms & KPIs</p>	<p>Use of ESG criteria to manage environmental responsibility</p> <p>→ Resource Dependence Theory</p>		<p>Interface uses a multi-level ESG management system to track and control its environmental performance, reflecting the principles of Resource Dependence Theory. The company closely monitors environmental indicators such as greenhouse gas emissions (Scope 1, 2, and 3), energy consumption, water usage, and material composition across its entire product portfolio (cf. Interface ESG Report, 2024, p.14f). Emphasis is placed on operational monitoring of resource consumption and production processes: Interface reports a 76% reduction in carbon footprint intensity of its carpet tile products since 1996 and continues to increase the proportion of recycled and bio-based materials in its products (cf. Interface, 2025b). Interface relies on third-party verified Environmental Product Declarations (EPDs) that provide transparent and comparable data on the impact of its products throughout their life cycle (cf. Interface ESG Report, 2024, p. 24). These declarations enable Interface to holistically assess environmental impacts and ensure robust benchmarking across all environmental indicators, supporting evidence-</p>

		4	<p>based decision-making in line with resource dependency theory. The experts at Interface underline in the expert interview that internal KPIs for sustainability are systematically collected and play an essential role in reporting processes and strategic discussions (cf. Interview with Heitbrink, 2025). While these internal mechanisms are well established, a point deduction is made because it remains unclear to what extent the ESG criteria are dynamically linked to evolving external ecological risks (e.g., biodiversity loss, resource scarcity) and whether they are continuously adapted to changing environmental conditions. Furthermore, the connection between ESG KPIs and a comprehensive company-wide performance management system is not transparently documented.</p>
	<p>Sustainability reporting & monitoring → Agency Theory</p>	4	<p>Interface utilises a robust sustainability reporting and monitoring framework that closely aligns with agency theory principles by increasing transparency, reducing information asymmetries and ensuring accountability to internal and external stakeholders. The company publishes an annual ESG impact report detailing environmental targets, performance indicators and progress on decarbonisation, providing clear insights for external scrutiny (cf. Interface ESG Report, 2024, p.16f). To further strengthen its external governance structures, Interface is aligning its reporting practices with the emerging IFRS Sustainability Disclosure Standards, which are set to become the global foundation for reliable and comparable sustainability data (cf. IFRS, 2025). This alignment increases the credibility of Interface's environmental disclosures and reduces the risk of opportunistic behaviour by internal decision-makers. One particularly important aspect is the use of independently verified environmental product declarations (EPDs). These serve as externally validated life cycle assessments that enable third parties - such as customers, non-governmental organisations and supervisory authorities - to objectively verify the company's sustainability statements and ensure accountability beyond internal processes (cf. Interface ESG Report, 2024, p.24). In addition, Interface participates in the CDP (formerly the Carbon Disclosure Project) and publicly discloses detailed environmental data, which promotes external scrutiny and strengthens stakeholder confidence (cf. Interface ESG Report, 2024, p.82f; CDP, 2025). Moreover, the company's latest Proxy Statement underscores Interface's commitment to transparent oversight: Environmental accountability is embedded at board level, with the Nominating and Corporate Governance Committee explicitly tasked with overseeing sustainability risks and opportunities (cf. Interface Proxy Statement, 2025, p.18). The Proxy Statement further confirms that sustainability-related risks are discussed quarterly at board meetings, ensuring that climate- and environment-related topics are part of ongoing executive discussions (cf. Interface Proxy Statement, 2025, p. 20). This reflects a clear integration of ESG monitoring into top-level governance mechanisms. Furthermore, although Interface provides detailed and externally audited reporting, it is only partially apparent to what extent the sustainability indicators are fully embedded in the operational control loops and are dynamically adjusted in response to emerging environmental risks such as resource scarcity or biodiversity loss (cf. Interview with Heitbrink, 2025). This insight from the interview makes it clear that although there is systematic monitoring, the deeper dynamic integration of external risks into day-to-day management processes is not yet fully transparent. One point is deducted because it is not entirely clear whether Interface's sustainability monitoring dynamically reflects the evolving risk landscape or comprehensively integrates sustainability indicators into all operational management levels. Furthermore, while accountability is established at board level, the implementation of this</p>

			oversight into day-to-day operational decision-making is not sufficiently detailed in the available information.
	<p>Integrating the supply chain into environmental strategies</p> <p>→ Resource Dependence Theory</p>	4	<p>Interface systematically integrates its supply chain into its environmental strategies to manage resource dependency and improve environmental resilience, in line with the principles of resource dependency theory. Interface's supply chain management goes far beyond regulatory compliance and is a key part of the company's long-term decarbonisation strategy. The company explicitly acknowledges in its Climate Ambition Summary that Scope 3 emissions — particularly from raw material sourcing and logistics — constitute the largest share of its total carbon footprint, which is why supplier engagement is critical (cf. Interface Climate Ambition Summary, 2024, p.7). Interface therefore actively works with its suppliers to identify and reduce the carbon and environmental impacts embedded in the supply chain. Supplier environmental assessments and life cycle assessments (LCAs) play a key role in this, as they provide data-driven insights that enable targeted measures such as the replacement of materials and optimised transport solutions (cf. Interface ESG Report, 2024, p. 18f). In addition to collecting data, Interface also implements partnership initiatives: For example, the company supports its suppliers in switching to renewable energy and environmentally friendly manufacturing processes, thus helping to decouple production from dependence on fossil resources (cf. Interface, Mission Zero, 2019, p.14). A notable governance mechanism that underpins this approach is the Supplier Code of Conduct, which sets out environmental responsibility as a contractual obligation and includes requirements for sustainable material sourcing, waste reduction and energy efficiency improvements (cf. Interface, 2025c, p.20f). These standards are monitored through regular audits and assessments of suppliers to ensure compliance with Interface's overall sustainability goals. To further strengthen its approach, Interface is expanding its take-back and recycling systems to close material loops and reduce reliance on virgin resources. Initiatives such as ReEntry®, Interface's carpet recycling programme, enable used products to be returned to the production cycle, thereby reducing both dependence on resources and risks in the supply chain (cf. Interface ESG Report, 2024, p.20f). The expert interview also emphasised that cooperation with suppliers is not only operational, but also strategically integrated: Interface actively involves its suppliers in innovation dialogues to jointly develop sustainable solutions, as the company has recognised that supply chain resilience is a critical success factor for its climate goals (cf. interview with Heitbrink, 2025). Engaging supply chain partners in environmental strategies is deeply embedded in Interface's corporate practice and clearly reflects the logic of resource dependency theory. Supply chain initiatives go beyond compliance to include proactive risk management and resilience building measures. However, one point is deducted as there is limited transparency regarding the dynamic adaptation of supply chain strategies to emerging external environmental risks such as biodiversity loss or scarcity of raw materials. Although the foundations are sound, a more explicit integration of forward-looking scenario planning into supply chain management would further strengthen the approach.</p>

<p>1.4 Influence on top management & remuneration</p>	<p>Does the remuneration of top management depend on environmental KPIs?</p> <p>→ Biocracy Approach</p>	<p>2</p>	<p>Interface demonstrates a clear, values-based commitment to sustainability at senior management level, aligned with key aspects of the biocracy approach, which emphasises executive accountability to environmental principles. The leadership team, particularly through the role of the Chief Sustainability Officer and oversight by the Nominating and Corporate Governance Committee, demonstrates strategic commitment to embedding sustainability into business decisions (cf. Interface, 2025c, p.18f). However, when it comes to the specific link between environmental KPIs and executive compensation, the results are limited. While the proxy statement outlines broader corporate governance structures and confirms that ESG issues are the responsibility of the board, there is no explicit evidence that environmental indicators - such as carbon footprint reduction, renewable materials targets or supply chain decarbonisation - directly influence the variable remuneration of top executives (cf. Interface, 2025c, pp.39-43). The expert survey supports this observation: although sustainability is seen as a core element of corporate strategy and cultural identity, no specific incentive mechanisms were mentioned in connection with environmental performance indicators (cf. interview with Heitbrink, 2025). This suggests that environmental goals are prioritised internally at a strategic level, but without binding remuneration components that would promote accountability in line with the biocracy ideal of systemic ecological integration. The point deduction is made because, despite a strong sustainability culture at management level, the lack of transparent, performance-related remuneration structures linked to environmental outcomes is a significant gap. From the perspective of biocracy theory, which argues in favour of formally embedding environmental accountability in governance mechanisms, this lack of financial alignment weakens the transformative potential of executive-level sustainability commitments.</p>
	<p>Are ecological successes evaluated in the business strategy?</p> <p>→ Resource Dependence Theory</p>	<p>4</p>	<p>Interface systematically anchors environmental success in its strategic corporate management and visibly incorporates it into the overarching business strategy - a central principle of the Resource Dependence Theory, which emphasises the proactive management of external resource dependencies. The integration of quantifiable environmental targets into medium to long-term corporate planning is central to this. Interface formulates clear decarbonisation roadmaps and actively pursues them, particularly regarding Scope 3 emissions and the switch to recycled and bio-based materials (cf. Interface Climate Ambition Summary, 2024, pp.4-6; Interface ESG Report, 2024, p.15f). Progress on this path is regularly evaluated at management level, with environmental performance indicators such as emission reduction rates, material efficiency and energy consumption playing a key role (cf. Interface ESG Report, 2024, p.16). The systematic anchoring is also demonstrated by the fact that Interface has published clear strategic sustainability targets that are publicly verifiable and whose achievement is regularly documented in the annual Impact Report (cf. Interface ESG Report, 2024). The Proxy Statement 2025 also emphasises that environmental aspects are discussed at board level and included in strategic considerations, for example through the responsibility of the Nominating and Corporate Governance Committee (cf. Interface, 2025c, p.18f). In addition, the interview with Heitbrink (2025) emphasises that environmental successes such as CO₂ reductions, material cycles and circular economy initiatives are regularly reflected on in internal company strategy reviews to review target achievement and adjust. Despite this strategic integration, points are still deducted because the assessment of success has so far been based primarily on internally defined key</p>

			figures and no explicit link to dynamic external factors such as the availability of raw materials or biodiversity trends is recognisable. In addition, the extent to which environmental performance measurement is an integral part of financial performance management or is explicitly translated into variable remuneration structures at Management Board level is not transparently presented.
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2. Sustainability communication & CSR

How is nature represented externally as a stakeholder?

Criteria	Description & Linked Theory	Score	Justification & Sources
2.1 Narratives & lines of argumentation	Representation of nature as an actor with legitimate rights. Concepts like the nature advocacy role strengthen the external communication of ecological legitimacy and stakeholder equivalence. → Biocracy Approach	4	In its external communications, Interface presents nature not just as a passive resource, but increasingly as an active contributor and solution partner within its regenerative design philosophy. At the centre of this narrative is the company's ambition to 'reverse global warming' and position natural systems as integral players in Interface's journey towards a positive climate (cf. Interface ESG Report, 2024, p.50f). In line with the biocratic approach, this communication recognises nature as an essential stakeholder, particularly through initiatives such as the Climate Take Back™ programme, which emphasises the restoration of ecological systems and not just the minimisation of damage (Interface, 2022, p. 5). In addition to formal sustainability reports, Interface actively uses various communication channels to disseminate its environmental messages and engage stakeholders. Beyond the company website, Interface regularly shares sustainability milestones and regenerative design concepts via LinkedIn and industry platforms to share its message with a wider audience (cf. Interface LinkedIn, 2025). Independent publications such as Greenbiz have also reported on Interface's innovative approach to carbon-negative flooring and regenerative thinking, emphasising the company's desire to view nature as an active solution partner rather than just a resource (cf. Makower, 2016). These different communication channels complement the more traditional ESG Impact Report and provide multidimensional visibility of Interface's environmental endeavours. The expert survey confirms this external framing: Interface actively seeks to engage its customer base in the sustainability discourse, aiming not only for transparency but also for education and behavioural change among its B2B clientele (Interview with Heitbrink, 2025). Despite these strengths, however, Interface does not yet operate any special educational platforms for ecological education - comparable to VAUDE's VAUDE Academy, for example. Furthermore, Interface's external communication does not explicitly adopt legal or ethical frameworks that grant formalised rights to nature, such as declarations on the 'rights of nature' or legal personality rights for ecosystems. This limits the depth of external stakeholder representation according to the ideal biocracy approach.

<p>2.2</p> <p>Tran- sparency & reporting standards</p>	<p>Use of recognised reporting standards (GRI, DNK)</p> <p>→ Resource Dependence Theory</p>	<p>4</p>	<p>Interface demonstrates a high degree of transparency in its sustainability reporting, which directly supports the effective management of resource dependency. The company applies internationally recognised standards such as the Global Reporting Initiative (GRI) to ensure the comparability and clarity of its disclosures (cf. Interface ESG Report, 2024, p.5, p.66f). In its annual ESG Impact Report, Interface provides transparent data on key environmental indicators, including greenhouse gas emissions, resource consumption and progress towards climate neutrality, taking account of resource dependency within the supply chain. In addition, Interface actively participates in the CDP (formerly the Carbon Disclosure Project) and discloses detailed environmental data that is publicly accessible and analysed by external experts to support transparent reporting on environmental risks and dependencies (cf. Interface ESG Report, 2024, p.82f; CDP, 2025). In addition to this information, the company relies on Environmental Product Declarations (EPDs), which are verified by independent third parties to provide transparent life cycle data on its products (cf. Interface ESG Report, 2024, p.81). These measures enable stakeholders to independently assess Interface's environmental performance and progress in reducing its dependence on natural resources. In addition, Interface strengthens the credibility of its reporting through recognised certifications and external partnerships, such as with the Carbon Trust, which confirms progress in reducing emissions and validates environmental claims (cf. Carbon Trust, 2025). Taken together, these tools increase stakeholder confidence and provide a solid foundation for managing environmental dependencies in line with the principles of resource dependency theory. One point is deducted because Interface does not currently offer integrated reporting that fully links environmental performance to financial metrics, nor does it explicitly integrate dynamic external factors such as biodiversity risks or critical trends in resource availability into its reporting structure.</p>
<p>2.3</p> <p>Risk of green washing</p>	<p>Verifiability of sustainability statements through external certifications</p> <p>→ Agency Theory</p>	<p>4</p>	<p>Interface takes comprehensive measures to minimise the risk of greenwashing by relying on independent, externally validated certifications and transparent verification mechanisms that comply with the principles of Agency Theory. The company recognises that credible, verifiable communication is essential to maintain stakeholder trust and reduce information asymmetry between internal decision-makers and external audiences. Interface's Mission Zero programme embodies a commitment to transparency by actively engaging external auditors and experts to review climate targets, emissions reduction strategies and material selection. This collaborative approach ensures that sustainability claims are based not only on internal assessments but also on independent verification, which strengthens the credibility of the company's external communications (cf. Interface Mission Zero Booklet, 2019, p.25). At the governance level, Interface's proxy statement confirms that the Nominating and Corporate Governance Committee has responsibility for overseeing sustainability disclosures, ensuring that communication strategies and claims are regularly reviewed at board level (cf. Interface, 2025c, pp.18-21). This structural anchoring reduces the risk of misleading sustainability disclosures and ensures that the statements are consistent with verifiable performance data. In addition, Interface participates in recognised disclosure programmes such as the CDP (Carbon Disclosure Project), where the company publishes detailed environmental key figures, which enables independent third-party verification of its climate and environmental statements (cf. Interface ESG Report, 2024, p.82f; CDP, 2025). This participation helps to close the information gap between the company and external stakeholders, further reducing the risk of opportunistic behaviour as described in</p>

			<p>agency theory. Despite these robust measures, a point deduction is warranted. Interface does not explicitly reference compliance with the EU Green Claims Directive or comparable frameworks that directly regulate environmental marketing claims. Additionally, while product-level certifications are well established, there is no clear evidence of a systematic, ongoing audit of broader environmental communications such as marketing materials, social media, or PR campaigns. As such, the approach remains strong at the product verification level but shows potential for further improvement in comprehensive communication monitoring.</p>
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Appendix B1 – Expert interview Guideline

Interviewleitfaden – Masterarbeit „Nature as a Stakeholder“

Einleitung

Vielen Dank, dass Sie sich Zeit für dieses Interview nehmen. Ich schreibe meine Masterarbeit im Masterstudiengang International Corporate Communication and Media Management an der Hochschule Neu-Ulm.

In meiner Arbeit beschäftige ich mich mit der Frage:

Wie können Unternehmen die Natur wirksam als Stakeholder einbeziehen und ihrer Stimme Gehör verschaffen, um wirklich nachhaltige Unternehmenspraktiken zu gewährleisten?

Ziel ist es, zu untersuchen, **welche Governance-Strukturen, Entscheidungsmechanismen und Kommunikationsstrategien** Unternehmen wie Ihres nutzen, um ökologische Anliegen systematisch in das Kerngeschäft zu integrieren.

Dieses Gespräch soll mir helfen, Ihr Vorgehen besser zu verstehen – aus erster Hand. Das Interview dauert ca. 30-40 Minuten und kann auf Wunsch anonymisiert werden. Die Aussagen werden ausschließlich für wissenschaftliche Zwecke genutzt und im Anhang der Arbeit dokumentiert.

Zum Einstieg – könnten Sie sich bitte kurz vorstellen und Ihre Rolle im Unternehmen erläutern, insbesondere im Hinblick auf Nachhaltigkeit und Umweltverantwortung? Und seit wann arbeiten Sie bei Interface?

1. Governance & Nachhaltigkeitsstrategien

1.1 Formale Prozesse & Strukturen / (Biocracy, Agency)

1. Gibt es in Ihrem Unternehmen Gremien oder Verantwortlichkeiten, die speziell für Umwelt- oder Naturthemen zuständig sind?
2. Inwiefern können diese Akteure strategische Entscheidungen beeinflussen?

1.2 Entscheidungsgrundlagen / (Planetary Boundaries, RDT)

3. Arbeiten Sie mit wissenschaftlichen Rahmenwerken wie Planetary Boundaries, Natural Capital Protocol oder Ähnlichem?
4. Fließen ökologische Risiken systematisch in Ihre langfristige Strategieplanung ein?

1.3 Steuerungsmechanismen & KPIs / (Agency, RDT)

5. Welche Umweltkennzahlen nutzen Sie intern zur Steuerung? Gibt es externe Prüfungen oder Audits?
6. Spielt die Umweltleistung in Ihrer Lieferkette eine Rolle – z. B. bei Partnerauswahl oder Produktionsumstellungen?

1.4 Einfluss auf das Management / (Biocracy, RDT)

7. Ist die Vergütung oder Zielbewertung des Top-Managements an Umweltziele geknüpft?
-

2. Nachhaltigkeitskommunikation & CSR

2.1 Narrative & Stakeholderverständnis / (Biocracy)

8. Wie wird die Natur in Ihrer externen Kommunikation dargestellt – eher als Ressource oder als gleichwertiger Akteur?

2.2 Transparenz / (RDT)

9. Welche Nachhaltigkeitsstandards nutzen Sie für Ihre Berichterstattung?

2.3 Greenwashing-Prävention / (Agency)

10. Gibt es externe Prüfungen oder Zertifizierungen, die Ihre Umweltmaßnahmen absichern?

- Reflexion & Ausblick

11. Was sind die größten Herausforderungen bei der Integration von Natur?

12. Welche Entwicklungen oder Innovationen wünschen Sie sich in den nächsten Jahren in diesem Bereich – innerhalb Ihres Unternehmens oder branchenweit?

Appendix B2 – Expert interview Interface Inc.

Datum: 02.04.2025

Zeit: 14:30 – 15:05

Ort: Online – Zoom Meeting

Interviewpartnerin: Gritli Heitbrink, Sustainability Managerin Region DACH, Interface Inc.

Transkriptionsstil: Leicht geglättete wörtliche Transkription (in Anlehnung an Dresing & Pehl, 2018)

Sprecher*innen:

I = Interviewer

E = Expertin (Gritli Heitbrink)

I: Dann würde ich sagen, wir starten direkt. Zum Einstieg: Könnten Sie sich bitte kurz vorstellen – Ihre Rolle im Unternehmen und seit wann Sie bei Interface arbeiten?

E: Mein Titel ist Sustainability Managerin für die Region DACH – also Deutschland, Österreich und Schweiz. Ich bin seit August letzten Jahres bei Interface. Zu meinen Aufgaben gehört es, den Vertrieb und das Marketing zu unterstützen, indem ich kommuniziere, was wir im Bereich Nachhaltigkeit tun, und dies unseren Kund*innen vermittele. Gleichzeitig bringe ich Kundenfragen und Markttrends zurück ins Unternehmen.

Interface ist ein amerikanisches Unternehmen. Ein großer Teil unseres Nachhaltigkeitsteams sitzt in den USA. Wir haben zwei Teams: Ich gehöre zum „Global Market Sustainability Team“, das die Brücke zwischen Markt und Nachhaltigkeit schlägt. Das andere Team ist stärker strategisch und technisch ausgerichtet, etwa im Bereich Reporting, CSRD, CO₂-Bilanzierung und Zusammenarbeit mit Lieferanten zur Weiterentwicklung von Inhaltsstoffen.

Unser Team ist in der Innovationsabteilung angesiedelt. Mein übergeordneter Vorgesetzter ist Chief Officer Innovation in Sustainability. Das passt sehr gut, weil so Produktentwicklung und Nachhaltigkeit Hand in Hand gehen.

I: Gibt es in Ihrem Unternehmen Gremien oder Verantwortliche, die speziell für Umwelt- und Naturthemen zuständig sind?

E: Im Prinzip ist das unser Nachhaltigkeitsteam. Auf unserer Website – unter Investor Relations – findet man auch die Governance-Strukturen dazu. Unsere Nachhaltigkeitsstrategie ist sehr umfassend. Unser Unternehmensziel ist es, bis 2040 CO₂-negativ zu werden. Das betrifft alle Unternehmensbereiche, insbesondere R&D und Production. Nachhaltigkeit ist integraler Bestandteil unseres Geschäftsmodells.

I: Arbeiten Sie mit wissenschaftlichen Rahmenwerken wie den Planetary Boundaries oder dem Natural Capital Protocol?

E: Wir arbeiten mit dem Greenhouse Gas Protocol und haben Science-Based Targets. Außerdem bereiten wir uns auf die CSRD vor. Bisher waren wir nicht berichtspflichtig, aber da der europäische Anteil groß ist, wird sich das bald ändern – vermutlich ab nächstem Jahr.

I: Fließen ökologische Risiken systematisch in Ihre langfristige Strategieplanung ein?

E: Ja, auf jeden Fall. Zum einen erfordern gesetzliche Rahmenwerke wie die CSRD oder das Lieferkettengesetz Risikoanalysen, die systematisch durchgeführt werden müssen. Auch unser Impact Report enthält eine Chancen- und Risikoanalyse.

Darüber hinaus ist es Teil unserer Unternehmensvision, durch Recycling unsere eigenen Rohstoffe wiederverwerten zu können. Das würde uns unabhängiger von Marktschwankungen machen – da sind wir zwar noch nicht, aber das ist eine klare Zielrichtung. Ein wichtiger Aspekt ist auch die Governance: Nachhaltigkeit muss vom Management unterstützt und gelebt werden. Wenn das Topmanagement nicht hinter dem Thema steht, ist es sehr schwer, als einzelnes Nachhaltigkeitsteam Veränderungen durchzusetzen. Bei Interface war das anders – unser Gründer Ray Anderson hat frühzeitig erkannt, dass sich das Geschäftsmodell ändern muss, und hat sein Team aktiv eingebunden. Er hat Berater*innen hinzugezogen und auch die Mitarbeitenden stark einbezogen.

Ein Beispiel: Bereits 1990 gab es einen Biomimicry-Workshop, bei dem Mitarbeitende ermutigt wurden, Produktentwicklung aus ganz neuen, naturinspirierten Perspektiven zu

betrachten. Es gab viel Trial and Error, etwa mit pflanzenbasierten Materialien – nicht alles funktionierte, aber es war ein wichtiger Innovationsimpuls.

I: Welche Umweltkennzahlen nutzen Sie intern zur Steuerung? Gibt es externe Prüfungen?

E: Unser Impact Report wird extern geprüft. Interface berichtet bereits seit 1996/97. Unsere „Ecometrics“ sind eine Sammlung von KPIs, die heute auch im ESG-Kontext genutzt werden. Transparenz ist uns sehr wichtig – um Vertrauen aufzubauen und zu zeigen, wo wir stehen und was wir erreichen wollen.

I: Spielt die Umweltleistung eine Rolle bei der Auswahl von Lieferanten oder bei Produktionsumstellungen?

E: Ja, auf jeden Fall. Unsere Lieferanten sind Teil unseres Scope 3 – wir sind also direkt daran interessiert, dass sie ihren CO₂-Fußabdruck senken. Außerdem sind sie wichtige Partner bei der Produktentwicklung und Innovationen.

I: Ist die Vergütung oder Zielbewertung des Top-Managements an Umweltziele geknüpft?

E: Das kann ich leider nicht genau sagen. Meine persönlichen Ziele sind stark auf Nachhaltigkeit ausgerichtet, aber über die Vergütung des Top-Managements habe ich keine Informationen.

Block 2: Nachhaltigkeitskommunikation

I: Wie wird die Natur in Ihrer externen Kommunikation dargestellt – eher als Ressource oder als gleichwertiger Akteur?

E: Ich würde sagen, eher als Lösung – also eine Mischung aus Ressource und Inspiration. Besonders beim Thema Kohlenstoff versuchen wir, ihn als integralen Bestandteil und Lösung zu begreifen. Wir verwenden Materialien, die Kohlenstoff speichern, und nutzen ihn damit als Baustein zur CO₂-Reduktion.

Viele unserer Produkte sind direkt von der Natur inspiriert. Zum Beispiel: Unsere Teppichfliesen sind richtungsfrei designt – das heißt, sie können in beliebiger Richtung

verlegt werden, ähnlich wie ein Waldboden aus Blättern. Dadurch entsteht weniger Verschnitt und die Verlegung ist einfacher. Auch unsere Klebesysteme orientieren sich an der Natur. Statt Flüssigkleber nutzen wir „Tektiles“ – kleine Klebepunkte, die vier Fliesen miteinander verbinden und durch ihr Eigengewicht auf dem Boden halten. Das reduziert Schadstoffe und ermöglicht ein leichteres Recycling, weil keine Rückstände wie Spachtelmasse entstehen.

Insgesamt verstehen wir uns als „regeneratives Unternehmen“. Unser Ziel ist nicht nur, der Natur keinen Schaden zuzufügen, sondern ihr aktiv etwas zurückzugeben.

I: Welche Standards nutzen Sie für die Nachhaltigkeitsberichterstattung?

E: In unserem Impact Report finden Sie alle relevanten Standards: GRI, SASB, TCFD usw. Dort ist alles transparent aufgeführt.

I: Gibt es Zertifizierungen oder Prüfungen, die Greenwashing vorbeugen?

E: Wir arbeiten nach etablierten Standards. Wenn wir beispielsweise Aussagen über unseren CO₂-Fußabdruck treffen, basieren diese auf Umweltprodukt-Deklarationen (EPDs). Diese decken die Umwelteinwirkungen eines Produkts über den gesamten Lebenszyklus ab – von der Rohstoffgewinnung bis zur Entsorgung – und sind extern verifiziert.

Auch unsere Recyclingprozesse sind zertifiziert. Wir haben beispielsweise in den Niederlanden eine Recyclinganlage, deren Output durch ein offizielles Zertifikat bestätigt wird. Das heißt: Die Materialien, die wir aus dem Recycling zurückgewinnen, sind tatsächlich nachweisbar und wiederverwendbar. Unsere Aussagen basieren also auf überprüfbaren Zahlen – das ist für uns essenziell, auch unabhängig von der Greenwashing-Richtlinie.

Block 3: Ausblick

I: Was sind die größten Herausforderungen bei der Integration von Natur in Ihre Prozesse?

E: Eine der größten Herausforderungen ist die Technologie – also Materialien zu finden, die natürlich oder recycelt sind, aber trotzdem leistungsfähig genug. Es gibt Zielkonflikte zwischen Langlebigkeit, Recyclingfähigkeit und Performance. Viele Lösungen müssen erst noch entwickelt oder optimiert werden. Natürliche oder recycelte Materialien erfüllen nicht automatisch alle Anforderungen – besonders bei Produkten wie Teppichfliesen, die sehr langlebig und belastbar sein müssen.

Hinzu kommen Zielkonflikte. Ein Beispiel: Wir nutzen langlebige Kautschukböden, die 50 Jahre halten können. Aber sind wir in 50 Jahren überhaupt in der Lage, diese Böden problemlos zu recyceln? Eventuell noch nicht. Und andere Böden müssen in dieser Zeit mehrfach ersetzt werden. Was ist also nachhaltiger?

Diese Fragen zeigen: Nicht jede Lösung ist eindeutig. Wir müssen differenziert betrachten, was wirklich nachhaltig oder zirkulär ist. Ob es besser ist, mein eigenes Produkt zurückzubekommen oder ein anderes langlebiges Produkt zu recyceln – solche Abwägungen begleiten uns ständig. Deshalb ist es wichtig, das große Ziel nicht aus den Augen zu verlieren: Wir haben ein CO₂- und Ressourcenproblem, und dafür müssen wir praktikable und wirksame Lösungen entwickeln.

I: Welche Entwicklungen oder Innovationen wünschen Sie sich für die Zukunft – in Ihrem Unternehmen und in der Branche?

E: Ich wünsche mir, dass wir unseren Weg konsequent weitergehen – also Dekarbonisierung und Zirkularität in allem, was wir tun, verankern. Innerhalb unseres Unternehmens wollen wir weiter an Materialien arbeiten, die nachhaltig sind und gleichzeitig unsere Anforderungen erfüllen.

Für die gesamte Industrie wünsche ich mir mehr Eigenverantwortung und ein Umdenken – also nicht darauf zu warten, dass Gesetze Nachhaltigkeit vorschreiben, sondern proaktiv zu handeln. Die Industrie ist für einen großen Teil der CO₂-Emissionen verantwortlich. Anstatt auf Gesetze zu warten, sollten Unternehmen selbst aktiv werden. Unternehmen sollten verstehen, dass Nachhaltigkeit nicht im Widerspruch zur Profitabilität steht – im Gegenteil: Ressourcenschonung, Energieeffizienz und Recycling sparen langfristig Kosten und sichern das Geschäftsmodell.

Dieser Wandel im Mindset ist essenziell. Denn jedes Jahr, das wir mit Warten verbringen, ist verlorene Zeit. Unternehmen sollten sich ihrer Verantwortung bewusst sein und proaktiv handeln – auch im eigenen wirtschaftlichen Interesse.

Appendix C1 – Final Evaluation Tables

The following tables show the final weighted evaluation results for each case study company. Each criterion was scored on a scale from 1 to 5 and multiplied by its assigned weight to calculate a weighted performance value.

Individual criterion (from product criteria matrix)	Weighting (%)	Superordinate category (from graphic)
1.1 Formal processes & structures	16%	Environmental governance structures
1.2 Utilisation of ecological decision bases	16%	Use of ecological decision bases
1.3 Internal control mechanisms & KPIs	16%	Internal sustainability KPIs and monitoring
1.4 Influence on top management & remuneration	12%	Top management accountability
2.1 Narratives & lines of argumentation	12%	Narratives and stakeholder framing
2.2 Transparency & reporting standards	16%	Transparency and reporting standards
2.3 Risk of green washing	12%	Independent certification and external verification

Appendix C2

Evaluation Table – VAUDE

Criterion	Score (1–5)	Weight (%)	Score × Weight
1.1 Formal processes & structures	4,6	16%	$0.16 \times 4.6 = 0.736$
1.2 Utilisation of ecological decision bases	4,3	16%	$0.16 \times 5 = 0.80$
1.3 Internal control mechanisms & KPIs	4,3	16%	$0.16 \times 4.3 = 0.688$
1.4 Influence on top management & remuneration	3	12%	$0.12 \times 3 = 0.36$
2.1 Narratives & lines of argument-tation	4	12%	$0.12 \times 4 = 0.48$
2.2 Transparency & reporting standards	5	16%	$0.16 \times 5 = 0.80$
2.3 Risk of greenwashing	5	12%	$0.12 \times 5 = 0.60$
Total			4.46

Evaluation Table – Interface Inc.

Criterion	Score (1–5)	Weight (%)	Score × Weight
1.1 Formal processes & structures	4	16%	$0.16 \times 4 = 0.64$
1.2 Utilisation of ecological decision bases	4	16%	$0.16 \times 4 = 0.64$
1.3 Internal control mechanisms & KPIs	4	16%	$0.16 \times 4 = 0.64$
1.4 Influence on top management & remuneration	3	12%	$0.12 \times 3 = 0.36$
2.1 Narratives & lines of argument-tation	4	12%	$0.12 \times 4 = 0.48$
2.2 Transparency & reporting standards	4	16%	$0.16 \times 4 = 0.64$
2.3 Risk of greenwashing	4	12%	$0.12 \times 4 = 0.48$
Total			3.88

Appendix D – Overview of tools used

The AI-supported writing tool ChatGPT (version GPT-4, OpenAI) was used to support the creation of this master's thesis. It was used within the scope of formal permissibility and served the following purposes:

- Linguistic optimisation (e.g. grammar and style)
- Structuring assistance (e.g. in the formulation of bullet points and the title)
- Checking the citation style (APA 7th Edition)

All content-related decisions, evaluations, analyses and conclusions were made independently by the author. The responsibility for the content, validity and scientific methodology lies entirely with the author of this work.

