Introducing a systems perspective on the development of a green organisational climate: Interactions and dynamics within sustainable organisations

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Summary

Background/aims. The purpose of this dissertation was (a) to enhance organisational greening research by exploring the social interaction processes involved in constructing a green organisational climate (GOC); and (b) to analyse how dynamics within organisations may impact organisational greening—specifically, the role of the interaction between leaders and employees in constructing shared perceptions of the GOC, and the role of green founders in establishing and developing the GOC. Further, how environmental certification may drive organisational greening was also analysed in this dissertation. Finally, as part of this dissertation, a systems perspective on green changes in organisations was developed. Three empirical studies were conducted to analyse these processes in Norwegian small-scale production companies.

Methods. The methodological approach in these studies was mainly qualitative and longitudinal, combined with quantitative elements. Twenty-eight informants in seven green small-scale companies were selected. The main methodological approach was focus group interviews, which enabled exploration of the construction of a GOC as a social phenomenon. In addition, a questionnaire was administered to analyse individual-level perceptions of the GOC, pro-environmental behaviour (PEB) and environmental initiative. The interviews were conducted in the field and included observations. One and a half years later, follow-up interviews with the leaders were conducted, enabling the examination of evolving aspects of the GOC. The interview material was analysed using thematic analysis, and was compared with the quantitative material.

Results. The findings revealed that shared perceptions of the GOC were established in face-to-face encounters between leaders and employees. The construction of the GOC was based on a genuine environmental commitment and was closely interwoven with green practice. Furthermore, the findings indicated that the founders' drive to go green had different origins, and four motivational categories were identified: (a) opposition, (b) frugality, (c) activism and (d) idealism. This formed the basis for a strong drive to develop and improve organisational greening. Finally, working within environmental certification schemes gave rise to conflicting emotions, a back-and-forth process between drivers and hindrances that resulted in certification dissonance. Environmental certification contributed to raising environmental awareness, but the link to drive organisational greening was either weak or missing.

Conclusion. This dissertation establishes that GOCs are constructed through interaction between leaders and employees and are strongly linked to green practice and the founder's environmental commitment. Furthermore, environmental certification does not necessarily become embedded in the GOC. Organisational greening is a nascent and multidisciplinary field. This dissertation contributes to connecting disciplines and advancing the field by developing a systems perspective of green changes in organisations, emphasising how GOCs are constructed through interaction in the microsystem. The systems perspective also provides a way to understand how elements at different system levels are connected, thereby bridging the micro–macro gap.

List of papers

Paper I

Flagstad, I., Johnsen, S. Å. K., & Rydstedt, L. (2021). The process of establishing a green climate: Face-to-face interaction between leaders and employees in the microsystem. *Journal of Values-Based Leadership*, *14*(1), 5. https://doi.org/10.22543/0733.141.1343

Paper II

Flagstad, I., & Johnsen, S. Å. K. (2022). The psychology of green entrepreneurship: Founder-driven development of green climate in small-scale companies. *Cogent Business & Management*, *9*(1). https://doi.org/10.1080/23311975.2022.2079245

Paper III

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1 Introduction

Organisations are amongst the main contributors to climate changes, and therefore play a key role in the transition towards a sustainable future (De Matos & Clegg, 2013; Robertson & Barling, 2015; Russell & McIntosh, 2011). Yet, the field of environmental psychology has traditionally concerned itself with promoting green behaviour at the level of the individual (Steg & Vlek, 2009), and the psychological aspects of green changes in organisations have remained under-researched (Boiral, Paillé, et al., 2015). In the field of organisational greening, studies have analysed *factors* associated with different environmental outputs, and the focus of research has been driven by the availability of quantitative measures (Ozbilir & Kelloway, 2015). Although this research provides interesting snapshots of the status quo regarding environmental measures, the *processes* that shape the environmental focus remain unexplored, and knowledge is limited on how these processes unfold and develop (Aguinis & Glavas, 2012; Glavas, 2016; Johnsen, 2016; Ozbilir & Kelloway, 2015; Russell & McIntosh, 2011). Consequently, this doctoral dissertation investigates the social interaction processes involved in green organisational changes.

There are numerous empirical studies in the field of organisational greening, approaching the topic from diverse traditions, ranging from business and organisational science to environmental and organisational psychology (Boiral, Paillé, et al., 2015). While the diversity allows for interesting angles, the lack of shared traditions and consensual definitions of constructs is challenging—leading some authors to conclude that there is a need for a theoretical foundation (Boiral, Paillé, et al., 2015). Furthermore, studies have primarily focused on large companies, while the greening processes in small-scale companies have

received limited attention (Del Giudice et al., 2017; O'Donohue & Torugsa, 2015; Ozbilir & Kelloway, 2015; Roxas & Coetzer, 2012). Moreover, the success of creating lasting change is often linked to organisational culture and climate (Buchanan et al., 2005; Harris & Crane, 2002; Russell & McIntosh, 2011). Compared to organisational culture, the organisational climate concept is often considered more closely associated with behaviour and therefore easier to operationalise—the focus of this doctoral dissertation is thus on organisational climate. With this in mind, this dissertation set out to explore the process of constructing a green organisational climate (GOC) in small-scale companies. Moreover, it studied how GOCs evolve, and finally, a superordinate theoretical perspective was developed.

1.1 Design

The studies were conducted in small-scale Norwegian companies, which were selected because they enabled the study of the formation of climates from a nascent stage. Moreover, they allowed the study of unitary organisational climates in a less-complex setting than large companies, which often comprise subunits and competing climates (Schneider et al., 2013). A longitudinal design was considered necessary in order to uncover the developmental aspects of a GOC. Conducting focus group interviews enabled the exploration of the social interaction processes involved. A questionnaire was included to explore individual perceptions of the organisational climate. Finally, follow-up interviews with leaders enabled the elaboration of topics that emerged in the focus groups and the study of change over time, and offered a way to tap into the perspective of the founder.

2 Green organisations

Given that the purpose of the papers included in this dissertation was to examine processes involved in organisational greening—a field drawing on knowledge from several disciplines—this section will address some of the challenges related to this multifaceted foundation. Central concepts and theories will be outlined and discussed.

2.1 Organisational greening

The field of organisational greening leans on knowledge on organisational changes in general. Several aspects of green changes seem to overlap with what is known from promoting organisational change: (1) engaging employees is a way of motivating change and avoiding resistance (Bartunek & Woodman, 2015; Burnes, 2015; Desmond & Wilson, 2018; Lozano, 2013); (2) leaders and change agents stimulate the change process (Burnes, 2015; Schneider et al., 2017); and (3) self-sustaining change needs to be embedded in the underlying organisational climate (Davis & Coan, 2015; Russell & McIntosh, 2011). Yet, there are differences to change in general; green changes seem to have a strong value basis, and often spur intrinsic motivation among employees (Aguinis & Glavas, 2013; Davis & Coan, 2015; Florea et al., 2013).

Since greening behaviour involves behaviour at the level of the individual, work group, organisation and the wider context, it must be analysed as a multilevel phenomenon (Kim et al., 2017; Norton, Parker, et al., 2015; Walls & Hoffman, 2013). Because of the complexity of organisational greening processes, some researchers call for research that examines the interrelatedness of different elements and the need for adopting a systems perspective (Andersson et al., 2013). The term ‘organisational greening’ is used to condense

the meaning of moving towards environmental sustainability (Harris & Crane, 2002; Walley & Taylor, 2003). It describes *the process* of 'going green', and includes a wide range of approaches to environmental sustainability (Forbes & Jermier, 2002).

Environmental certification is an external factor that may impact greening processes within the company. The certification schemes aim to promote greening by measuring progress and providing clear standards, and is a signal to customers that a company is environmentally sustainable. Furthermore, the certification schemes aim to promote a GOC within the companies (Eco-Lighthouse, 2021).

2.2 Operationalisation of being green in an organisational context

One approach to operationalisation is to focus on employee practices and everyday routines, and to analyse the extent to which environmental concerns are reflected in these practices. Another approach is to focus on the organisational level: on strategies, goals, and organisational green performance. Yet another approach is to measure the carbon footprint of the organisation—to calculate a value based on energy consumption, transport, and the use of natural resources. It may also be argued that values and attitudes towards the environment should be included (Florea et al., 2013; Harris & Crane, 2002). Howard-Grenville et al. (2014) suggest that there is no climate for sustainability unless the employees hold pro-environmental values. Green is a highly value-laden concept; it is related to deeply held values, such as connection to nature (Larsen & Madsen, 2018; Schwartz, 1992, 1994). Furthermore, asking questions about the environment evokes people's moral emotions, such as pride and guilt (Bissing-Olson et al., 2016). Participants in the studies informing this dissertation reported both shame and guilt that their behaviour contributed to environmental

problems. Being green is seen as desirable—conversely, not caring about the environment is considered politically incorrect. Therefore, these studies needed to consider social desirability and the values attached to environmental issues. The operationalisation in the present studies included several aspects of being a green organisation. The focus group interviews included questions about environmental values and philosophies as well as practices, while the questionnaire included questions regarding environmental initiative, GOC and pro-environmental behaviour (PEB) related to the organisational setting.

At the individual level, the concept of pro-environmental behaviour is often used, defined as environmentally significant individual behaviours that contribute to sustainability (Mesmer-Magnus et al., 2012). Related to an organisational setting, Boiral, Paillé, et al. (2015) define employees' PEB as individual behaviours at work that contribute to protect the natural environment or improve organisational sustainability.

2.2.1 Different shades of green

Norton, Parker, et al. (2015) have argued that employee PEB may come in different shades of green. Similarly, this dissertation proposes thinking of green as a continuum, instead of an inclusive or exclusive category. Pandey et al. (2013) suggest that environmental sustainability in an organisational setting varies along a continuum ranging from peripheral to embedded approaches (Pandey et al., 2013; Russell & McIntosh, 2011). Organisations characterised by a peripheral approach to greening are driven mainly by external factors, such as governmental requirements and legislation. Organisations driven by an embedded approach to greening are hypothesised to integrate the environmental measures into their climate and values as well as the actual strategy and performance. Often they have a green core, meaning

that their environmental concerns were defining elements from the start (Pandey et al., 2013). Empirically, it is interesting to examine the drive to go green, to see whether green embeddedness stems from another type of motivation compared to the companies with a peripheral approach. Furthermore, it is possible that conceptualising with categories hinders people from going green from a non-green starting point; and, in contrast, that framing greening as a continuum open a possibility in people's minds that facilitates green movement.

Accompanying the increasing demand for green products, companies attempt to promote a green image; as a result, it can be difficult to distinguish green from greenwashing. Greenwashing is defined as a misleading communication practice regarding an organisation's environmental performance, originally labelled 'eco-pornography' (de Jong et al., 2019; Torelli et al., 2020). Greenwashing is more likely in large companies (Kassinis & Panayiotou, 2017; Wickert et al., 2016), whereas in small-scale companies the main focus is on making a living and most lack resources for marketing.

2.3 Environmental sustainability in organisations

The term 'sustainable development' was coined by the World Commission on Environment and Development (Brundtland, 1987), and entails meeting 'the needs of the present without compromising the ability of future generations to meet their own needs' (p. 41); furthermore, it 'aims to promote harmony among human beings and between humanity and nature' (p. 57). The Brundtland report points to challenges related to economic growth and established a broad view of sustainable development, including economic, social and environmental spheres (Brundtland, 1987). It sparked the interest of researchers and companies around the world on issues related to sustainability and business responsibility

(Kramar, 2014). In line with the elements of sustainability introduced by Brundtland (1987), Elkington (1998) coined the term ‘sustainability’s triple bottom line’, which refers to organisations’ financial performance, social performance and environmental impact (sometimes also referred to as ‘the three Ps’: profit, planet and people). The management of these domains in an organisational context is critical to contribute to the trajectory of a sustainable future (Dilchert & Ones, 2012).

Environmental sustainability in an organisational context involves balancing environmental concerns and business needs (to remain viable over time), and aims to reduce harm and promote benefits for the natural environment (Mesmer-Magnus et al., 2012; Norton, Zacher, et al., 2015; Ones & Dilchert, 2012; see Table 1). Ones and Dilchert (2012) suggest that environmental sustainability efforts tend to follow three stages: (a) compliance with environmental legislation; (b) preventing harm to the environment and finally (c) proactive initiatives and change directed to reach long-term sustainability. Organisations may be classified along a proactive–reactive continuum regarding sustainability efforts, and organisations at the proactive end of the continuum tend to coincide with a successful establishment of a green organisational culture (Russell & McIntosh, 2011). Environmental sustainability at an organisational level is supported by PEB at the level of the individual (Norton, Zacher, et al., 2015; Ones & Dilchert, 2012). Sometimes, the term ‘corporate environmental sustainability’ is used, to emphasise the work setting (Campbell & Campbell, 2013).

A more specific concept directed towards environmental sustainability outcomes is environmental performance (sometimes labelled ‘corporate environmental performance’),

which concerns how the organisation manages natural resources in the production, distribution and subsequent disposal of products and services (Ones & Dilchert, 2013). Green human resource management (green HRM, sometimes labelled 'sustainable HRM') represents a separate stream of research that overlaps with environmental sustainability research. Green HRM is defined as the HRM aspects of environmental management (Renwick et al., 2013), and includes human resource (HR) strategies and practices that promote sustainability (Kramar, 2014). In general, research and theoretical development regarding environmental sustainability issues at the organisational level suffer from unclear and overlapping constructs, and there is no clear overarching paradigm (Schmit et al., 2012). Table 1 is an attempt to systematise central and overlapping concepts.

Table 1

Environmental sustainability at the level of the organisation

Concept	Related concepts
Environmental sustainability	• Corporate environmental sustainability
Environmental performance	• Corporate environmental performance
Green HRM	• Sustainable HRM

2.4 Green founders

There is wide agreement on the central role of the founder in the early phase of establishing a company (Baron, 2002, 2007), as this quote from Schein (1983) illustrates: 'In my observation, entrepreneurs are very strong-minded in what to do and how to do it' (Schein, 1983, p. 17). Some studies link the environmental engagement of the founder to sustainability in organisations (Allen & Malin, 2008; de Bruin, 2016; Del Giudice et al., 2017; Kim et al., 2017; Maak & Stoetter, 2012), but little is known about *how* founders promote

organisational greening. Some studies analyse how leadership may promote organisational sustainability practices (Boiral, Talbot, et al., 2015; Mishra, 2017; Robertson & Barling, 2013), and how managers' engagement in sustainability activities is related to organisational greening (Del Giudice et al., 2017). Green founders combine environmental values and knowledge of sustainability with the ability to create business (Allen & Malin, 2008). The role of green founders is related to green entrepreneurship—however, the latter is a wider concept (Allen & Malin, 2008; Ameer & Khan, 2022; Muo & Azeez, 2019), and is beyond the scope of this dissertation. Table 2 provides an overview of concepts that are used interchangeably.

Table 2

Green founder and related concepts

Concept	**Related concepts**
Green founder	• Green entrepreneur • Ecopreneur • Environmental entrepreneur • Sustainable entrepreneur

Green founders are mainly driven by a genuine concern for the environment, a strong personal motivation, a forward-thinking orientation and a seeming indifference towards prioritising economic gain (Allen & Malin, 2008). Different typologies of green founder motivation have been suggested (see e.g., Walley & Taylor, 2003), and some studies relate it to personality (Frese & Gielnik, 2014). Moreover, motivation is related to emotional stability, which is further related to self-efficacy—the belief that one is capable of performing an activity (Parks & Guay, 2009). Motivation and self-efficacy are important characteristics for

business founders, and are relevant to discuss in the context of green organisations. Research on green founders has grown rapidly, especially over the last decade, but there is a lack of theoretical foundation (Terán-Yépez et al., 2020). Because of the dynamic nature of this field, longitudinal studies are needed (Piwowar-Sulej et al., 2021). To date, there appear to be no studies specifically analysing the role of the founder in promoting organisational greening, nor their role in establishing a GOC.

2.5 A new facet-specific climate construct: The green organisational climate

A GOC embeds the organisation's sustainability efforts, and promotes PEB in the absence of incentives and requirements; this contributes to long-lasting environmental sustainability (Bratton, 2018; Norton, Zacher, et al., 2015; Schmit et al., 2012). Norton et al. (2014) define a GOC as employees' shared perceptions of environmental policies, procedures, and practices that the organisation values and supports. Thus, a GOC may be perceived as a socially constructed consensus regarding the environmental practices in an organisation (Chou, 2014). Research suggests that creating a green climate in organisations increases the reach of green initiatives (Chou, 2014; J. Xiao et al., 2020; Xu et al., 2022; Yue et al., 2022; Zientara & Zamojska, 2018), and some suggest that it is a necessary condition for sustaining long-term changes (Norton, Zacher, et al., 2015). Shared perceptions are constructed through social interaction (Rentsch, 1990; Schneider & Reichers, 1983), defined as situations in which people's actions and reactions are reciprocally influenced by each other (Bales, 2001; Turner, 1988). It is through social interaction that strong organisational climates—characterised by a high degree of shared perceptions (Kuenzi & Schminke, 2009)—are created (see e.g., González-Romá et al., 2002; Rentsch, 1990). The climate is considered a stable attribute in which people's behaviour is situated, and plays a central role in determining employee PEB

(see e.g., Choong et al., 2020; Hicklenton et al., 2019; Norton et al., 2014; Rubel et al., 2021; Yue et al., 2022; Zientara & Zamojska, 2018). There are few studies of environmental sustainability and the establishment of a GOC (Howard-Grenville et al., 2014), and the studies that include a focus on GOC look at it as a proxy for environmental behaviour, typically analysing how a GOC may correlate, mediate or moderate relationships with other environmental concepts (see e.g., Gao & Yang, 2022; Tian et al., 2020; Wang et al., 2020; Jincen Xiao et al., 2020; Zafar et al., 2022a; Zafar et al., 2022b).

2.5.1 The origin of the organisational climate concept

The organisational climate concept has a long history in psychological research. It was first introduced in Lewin et al.'s (1939) study of leadership, then referred to as a 'social climate'. Some studies apply the term 'psychological climate' instead of 'organisational climate', while referring to processes at a group level. In doing so, they disconnect with the original meaning of the construct that specifically places climate as a group-level construct. Psychological climate represents individual perceptions of how the work environment impacts their well-being, while organisational climate refers to shared perceptions among group members of the work environment (Kuenzi & Schminke, 2009). In the present dissertation, the term 'GOC' was applied, referring to processes at the group and organisational level. Some scholars use similar and overlapping constructs (Table 3), such as pro-environmental climate (Norton, Zacher, et al., 2015; Wang et al., 2020), green work climate (see e.g., Choong et al., 2020; Dahiya, 2020; Norton et al., 2014; Rubel et al., 2021; Tian et al., 2020), and green psychological climate (see e.g., Khan et al., 2019; Norton et al., 2017; Sabokro et al., 2021; Tahir et al., 2020; Zhou et al., 2018).

Table 3

GOC and related concepts

Concept	Sibling-concepts
Green organisational climate (GOC)	• Green work climate • Pro-environmental climate • Green psychological climate

Organisational culture is related to organisational climate, but is considered to operate on a deeper level and is the foundation of the climate (Howard-Grenville et al., 2014). While culture as a concept encompasses organisational aspects that are both conscious and unconscious, the organisational climate construct is more closely related to practices and strategies (Kuenzi & Schminke, 2009)—representing surface manifestation of culture (Schein, 1990). Furthermore, organisational culture and climate are related to social norms that—like the GOC—are constructed and upheld through social interaction, and direct behaviour through perceptions of what is considered appropriate by others (Cialdini, 2007; Flamholtz & Randle, 2014; Johnsen, 2016; McDonald & Crandall, 2015; Reynolds et al., 2015; Schultz et al., 2007). Although the two concepts overlap (Mouro & Duarte, 2021), organisational climate may be considered a wider concept that encompasses a set of social norms (Auzoult & Mazilescu, 2021).

Social interaction processes are central in the establishment and maintenance of a GOC (Dumont et al., 2017; Robertson & Carleton, 2017). The understanding of GOCs builds on studies of other facet-specific climates, such as safety climate (Howard-Grenville et al., 2014). Research on GOCs is still in its infancy (Yue et al., 2022), and more research is needed with a specific focus on environmental sustainability.

2.6 Research paradigms and traditions

The creative construction of concepts demonstrates the dynamic nature of this field, but is also a product of the lack of clearly established research traditions (Boiral, Paillé, et al., 2015). Its position at the intersection of different fields (e.g., psychology and organisational science) contributes to the 'muddiness', and the diversity of perspectives have ensured a fragmented literature (Ozbilir & Kelloway, 2015). Furthermore, because of the lack of overarching theoretical paradigms and common definitions, it can be difficult to compare findings (Boiral, Paillé, et al., 2015). As a result, several streams of research exist in parallel universes. Although the empirical research on environmental behaviour is extensive, the field needs substantial theoretical contributions that can link the knowledge in meaningful ways (Johnsen, 2016; Kuenzi & Schminke, 2009).

Studies of environmental sustainability focus mainly on the level of the individual (leaders and employees), and researchers call for studies at the group or organisational level (e.g., Francoeur et al., 2019). Bridging the micro–macro gap in the field of organisational greening may provide a promising future avenue, enabling a focus on interaction between employees as well as the context within which they operate (Strauss et al., 2017). The development of a systems perspective of organisational greening is an attempt to meet this demand: to provide a framework to analyse greening processes on several system levels.

3 A theoretical foundation

3.1 Developing a systems model: Historic lines

Half a century ago, Urie Bronfenbrenner (1979) introduced a systems perspective on human development. He based the theory on well-known building blocks from social science,

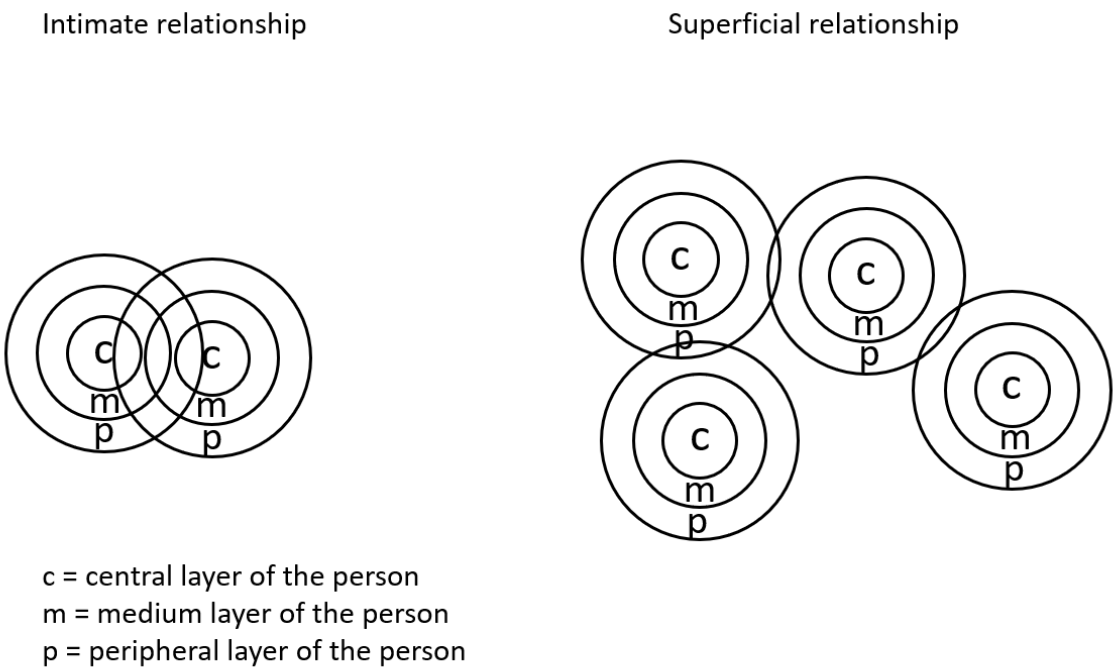
such as social relationships, roles, networks, subculture, and culture. The original contribution was mainly how different system elements were related, both to each other and to the course of development. Kurt Lewin was known to Bronfenbrenner through visits to his family house, and Bronfenbrenner elaborated on Lewin's ideas in his theorising. This section will draw some important historic lines to the new theoretical perspective that is developed in this dissertation.

Several theories in the first half of the 20th century used metaphors from nature and the natural sciences as a means to explain the forces that influenced human behaviour. Among these, Kurt Lewin was especially successful in transforming the ideas of the time into a universe of specific constructs and overarching theories. Lewin introduced ideas on how human behaviour was influenced by a field of forces: This field theory enabled analysis of the patterns of interaction between an individual and the 'field' that represented forces in the individual's environment (Lewin, 1935, 1948, 1951). Lewin introduced the concept of life space, which represented the interaction between the individual and the environment, and thus embodied the totality of forces that influences a person's behaviour. Locomotion represented an individual's behaviour that happens within the life space.

Visually, Lewin drew diagrams of an individual's personality, with circles representing a range from central to peripheral layers (Figure 1). Furthermore, when an individual interacted with another, Lewin suggested that they let some people in close, represented by a large overlap between the personality circles, while other people were kept at a distance, represented by an overlap of only the most peripheral circles (Figure 1).

Figure 1

The different degrees of intimacy in relationships



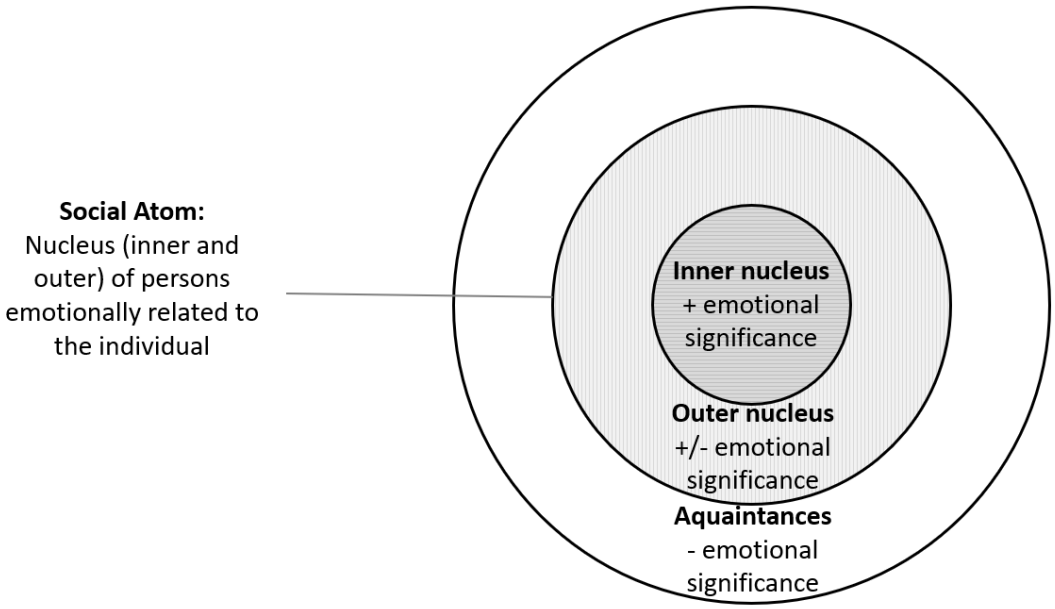
Note. Adapted from Lewin (1948, p. 90).

The figures scholars have drawn to exemplify Bronfenbrenner's theory of human development resemble Lewin's (1948) personality diagram, as do the figures developed in this dissertation to illustrate the forces influencing an individual in an organisation. Bronfenbrenner, however, took Lewin's conceptions of the force field one step further, analysing not only how the forces influenced the individual, but also how different forces were interrelated and how these interrelationships ultimately determined the course of development.

Bronfenbrenner studied Jacob Moreno's theories on sociometry and the measurement of social relationships in groups (Bronfenbrenner, 1943, 1944a, 1944b, 1945). Moreno introduced the concept of the social atom—a model of the social relationships that influence an individual—which has parallels to the present usage of the ecological systems model (Moreno, 1953/1993). The social atom encompasses all the actual relationships of an individual (e.g., an employee), and represents the pattern of attractions, repulsions and indifferences (Moreno, 1953/1993, 1960). The relationships that are central in the social atom are those that have emotional significance for the individual (Figure 2), which is analogous to the interactions in the microsystem in the systems model of organisations. Lawler's (1992, 1997) rule of proximity postulates that individuals develop stronger emotional ties to work groups rather than to the organisation as a whole. Furthermore, because of frequent interactions, these proximate groups are highly influential concerning the development and maintenance of shared referential standards (Lawler, 1992). These ideas likely derive from Lewin's field theory, which postulates that the units that are psychologically close to an individual have a strong influence (Lewin, 1943).

Figure 2

The social atom



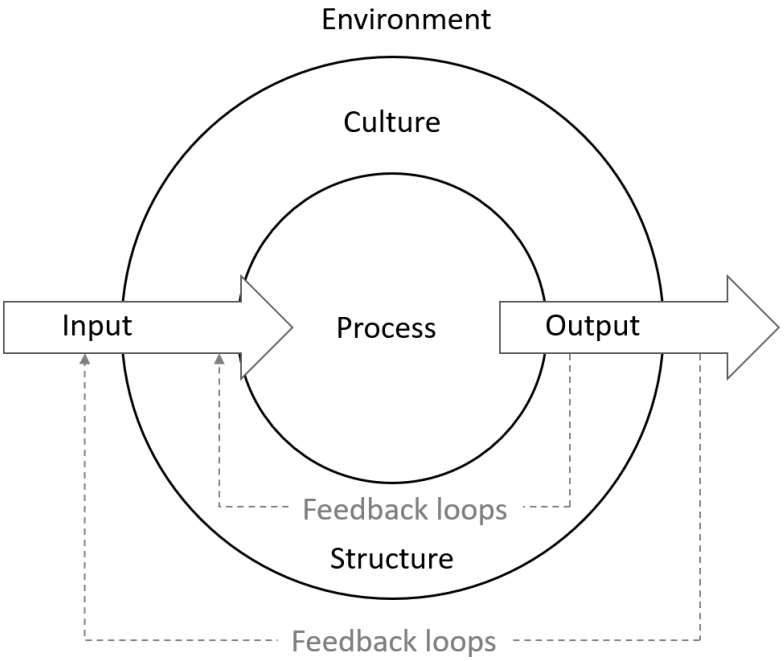
Note. Adapted from Moreno (1947, p. 298).

Another theory that grew out of Lewin's field theory was Bales' theory of social interaction systems, which also included insight from Moreno's work on sociometry (Bales, 2001; Hare, 1985). Bales developed the Systematic Multiple Level Observation of Groups (SYMLOG) method and field diagrams to display the roles of group members and the relations between them (Bales, 2001; Hare et al., 2005). Sjøvold developed Bales' ideas into Systematizing Person–Group Relations (SPGR)—an important contribution of which was the development of field diagrams that were easy to interpret (Sjøvold, 2007). While Bales' and Sjøvold's theories mainly focused on relationships at the group level, the model developed in this dissertation has a primary focus on relationships from the perspective of the individual.

Von Bertalanffy (1967) was one of the first proponents of systems theory. He defined a system as a complex of elements in interaction, thus placing the emphasis on dynamic aspects (Van Assche et al., 2019). Furthermore, Bertalanffy (1967, 1968) suggested that there are general systems laws that describe the forces of interaction between the elements of the system, and that these dynamic processes are self-regulating and characterised by a strive towards a steady state or equilibrium. In general, system models typically include some form of input–process–output, and a feedback loop (Bateson, 1972; Bertalanffy, 1967; Michael & Arie, 1999). When the system is brought out of balance, compensatory action will re-enact balance through the feedback loops. Typically, the models were homeostatic—striving to maintain equilibrium—and inspired by processes in nature, such as photosynthesis and carbon cycles. Contrary to our systems model that is illustrated by nested structures, the open-systems model is visualised as a cyclical model consisting of causal relationships (Figure 3). Although the open-systems model is applied to organisational change, it does not include an analysis of precisely *how* the processes of influence take place (Alter, 2013; Michael & Arie, 1999).

Figure 3

Open-systems model



Note. Adapted from Michael and Arie (1999).

In contrast to classical systems theory, this dissertation proposes a systems model that builds on a different foundation, consists of nested circles, and emphasises how elements at different system levels are interconnected. Using Lewin's field theory and Bronfenbrenner's ecological systems theory as a starting point, a systems perspective was developed regarding the interlinked forces that constitute the field inhabited by an individual. The result of the influence in such a force field depends on the interplay between a multitude of system elements—both independent effects and interaction effects. Building on the research on GOCs, a systems perspective was developed specific to green changes in organisations.

3.2 A new systems perspective on organisational greening

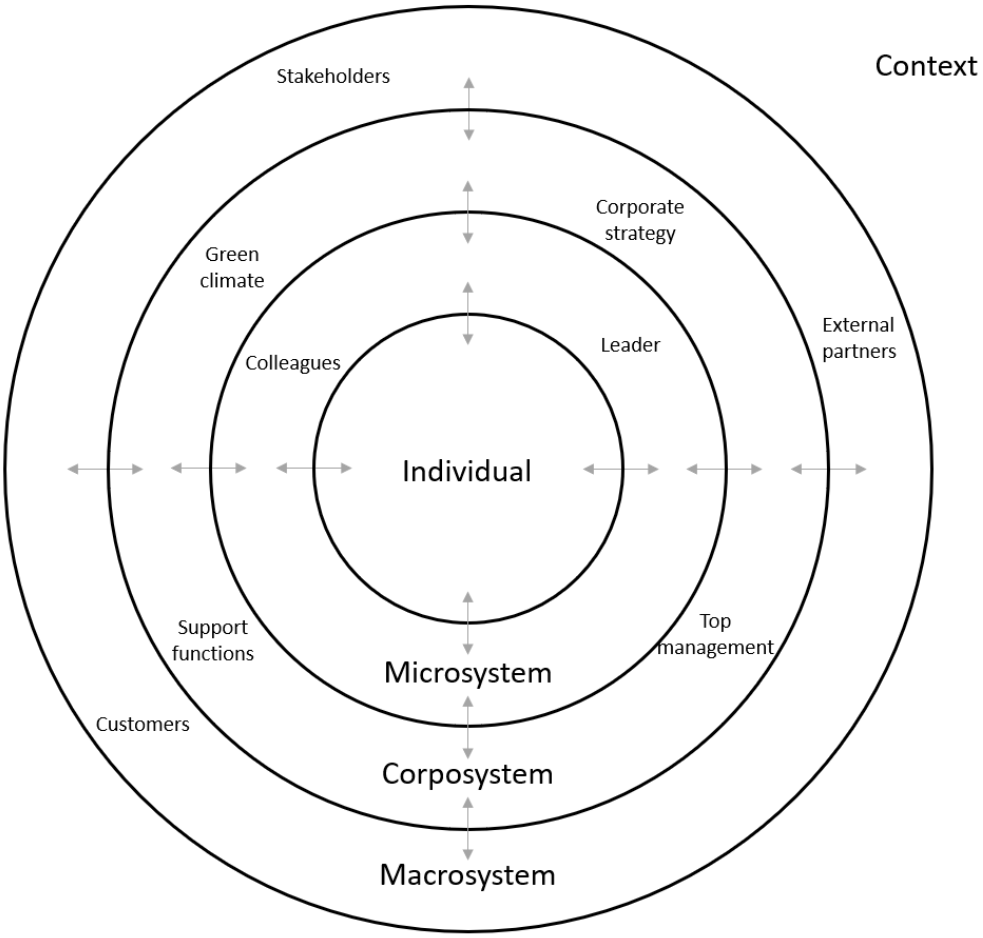
In *The Ecology of Human Development*, published in 1979, Urie Bronfenbrenner offered a new theoretical perspective on human development. In this volume, he emphasised the evolving interaction between the developing individual and the environment. Furthermore, he conceptualised the environment as a set of nested structures, similar to the composition of a Russian doll. Perhaps most importantly, he pointed to the importance of the interconnections between different settings. Thus, a developing individual is influenced both by the immediate setting (such as the family) and the relations between different settings, and is embedded in a cultural context (Bronfenbrenner, 1979, 1980). Normally, the elements closest to the individual have more impact compared to more peripheral elements, but there may be incidents that make peripheral elements highly relevant. Development takes place through a process of reciprocal interaction between a biopsychological human being and the elements in its immediate environment—referred to as proximal processes (Bronfenbrenner & Evans, 2000). Because of the emphasis on the interplay between biological and environmental factors, the theory is referred to as a bioecological model.

In a development of the original theory, Bronfenbrenner and Evans (2000) underline the importance of proximal processes as drivers for change. The proximal processes are the 'engines' of development, and involve 'a transfer of energy between the developing human being and the objects, persons, and symbols in the immediate environment' (Bronfenbrenner & Evans, 2000, p. 118). Furthermore, Bronfenbrenner and Evans (2000) introduce exposure, referring to 'the extent of contact maintained between the developing person and the proximal processes in which that person engages' (Bronfenbrenner & Evans, 2000, p. 118). Exposure occurs on several dimensions; duration, frequency, timing, and intensity of the interaction.

While Bronfenbrenner's ecological systems perspective was intended for explaining human development, the present work has transferred these ideas to an organisational setting. Bronfenbrenner presented 'a theory of environmental interconnections and their impact on the forces directly affecting psychological growth' (Bronfenbrenner, 1979, p. 8). The systems perspective on organisational greening enables analysis of how elements in an individual's environment at work influence green change (Figure 4).

Figure 4

A systems perspective on organisational greening



3.2.1 Microsystem

An individual at work interacts with elements at three system levels, which is further surrounded by the organisation's context. The individual is at the centre of the model, and brings his/her values, attitudes, and personality into the setting. The *microsystem* in the model comprises the colleagues with whom the individual interacts daily in face-to-face encounters, and includes the closest manager. This system may be a team or a department, but does not necessarily correspond to formal organisational units.

3.2.2 Corposystem

The microsystem is embedded within the *corposystem*, which corresponds to the boundaries of the organisation. This system includes different departments in the organisation that are more peripheral to the individual: the top management and the corporate strategy. In Bronfenbrenner's theorising, the system between the microsystem and macrosystem was labelled the 'mesosystem', which was an interactional level, referring to relationships between system elements in the cosmos of the developing individual (Bronfenbrenner, 1979, 1980). In the new systems perspective on green organisational change, the individual and different system elements are in constant interaction. To emphasise the difference from Bronfenbrenner's perspective, this system was labelled the 'corposystem'; the term 'corpo' in this setting refers to the corpus, or body, of the organisation.

3.2.3 Macrosystem

The *macrosystem* consists of elements that are outside the boundaries of the organisation but have ties to the organisation; it includes such system elements as customers, external partners, and stakeholders. Seen from the perspective of the individual, these macro

elements may seem peripheral—however, there may be instances that make a distant element highly relevant. The systems are situated by the organisation's *context*: other companies, the culture, economic conditions and politics, and the zeitgeist.

3.2.4 Proximal processes and dimensions of exposure

Bronfenbrenner argues that human development depends heavily on the face-to-face interaction that happens in the immediate context (Bronfenbrenner, 1979). In the model being proposed in this dissertation, it is argued that an individual in an organisation is influenced by their colleagues through face-to-face interaction—and furthermore, that the significance of the interaction depends on the frequency, duration, intensity and relevance of the encounters at work (Table 4).

Table 4

Proximal processes in face-to-face encounters

Exposure dimension	Illustration
Duration	Close colleagues who have long and ongoing dialogues influence each other
Frequency	Colleagues with frequent interaction tend to influence each other
Intensity	Colleagues who are engaged tend to succeed in influencing others
Relevance	In order to succeed in influencing colleagues, information must be considered relevant

In organisations, the enduring and reciprocal interaction between colleagues constitutes the proximal processes. Relatedly, the dimensions of exposure denote the extent of

the contact and/or the properties of the contact. Using the dimensions of exposure to proximal processes as a starting point, the following propositions were developed:

Proposition 1: The *duration* of encounters between individuals in organisations determines their reciprocal social influence.

Proposition 2: The *frequency* of encounters between individuals in organisations determines their social influence.

Proposition 3: The level of *intensity* during encounters between individuals in organisations determines their social influence.

Proposition 4: The perceived *relevance* of contributions during encounters between people in organisations determines the social influence.

Proposition 5: A *combination* of the dimensions of exposure determines the potential to influence others in an organisation. More specifically, when the various dimensions of exposure co-occur, social influence is hypothesised to be strong.

The core of the systems model is that development in organisations primarily depends on face-to-face encounters, which constitute the engines of organisational change. Thus, for an organisation to succeed in its green endeavour, attention must be focused on social influence processes in these human encounters.

4 Aims of the dissertation

The introduction has demonstrated the challenges related to the multifaceted foundation of the field of organisational greening concerning the lack of shared frameworks. Furthermore, it has detailed how the field lacks models that can shed light on underlying mechanisms (Glavas, 2016) and inform *how* green change is promoted. Several scholars also

call for multilevel models (Kim et al., 2017; Norton, Parker, et al., 2015), and point to how the rise in studies at the individual level contribute to enlarging the micro–macro divide (Glavas, 2016; Mathieu et al., 2011). Scholars argue that there is a need for a systems perspective that takes a bird's-eye view of the organisation, taking into consideration the multiple sources of influence on employee PEB, green management and overall organisational sustainability practices (Davis & Coan, 2015). The development of the systems model is an attempt to meet this request and create a theoretical framework for both the design of empirical studies and for advancing understanding around green organisational changes. The purpose of this doctoral dissertation is thus to explore the processual aspects of green changes and develop a systems model of organisational greening. To do so, three empirical studies were conducted.

Paper I set out to explore the processes involved in the establishment of a GOC. The research questions were: What is the role of interaction in the construction of a shared GOC? Which social interaction mechanisms are at play? How is the environmental focus reflected in practice and philosophy? The paper analysed face-to-face interaction between leaders and employees.

Paper II explored how environmentalist business founders can succeed in creating green organisational changes. The research question was: What is the role of the founder in the initiation and establishment of a GOC? The paper analysed the motivation of the founders, the process of communicating the environmental focus to the employees and finally, how they developed sustainable practices.

Paper III explored how environmental certification may contribute to green organisational changes. The research questions were: How do leaders and employees experience working with environmental certification schemes? Are certification processes a driver for greener organisations? The paper analysed how environmental certification gave rise to conflicting emotions, and a back-and-forth process between drivers and hindrances.

Through these research questions, this dissertation sought to analyse the processes involved in the construction of a GOC, how environmental certification may drive green change and how a systems theory can be applied in order to understand greening processes in organisations.

5 Materials and methods

Since the purpose of this dissertation was to explore the process of developing a GOC—a field without established constructs and instruments—a qualitative approach was considered advantageous. Moreover, since the purpose was to analyse the construction of a GOC, the dissertation involved examining how shared perceptions develop between the members of the organisation. Focus group interviews were preferred because they enabled the study of the social interaction processes involved in the construction of a GOC. They also allowed the level of measurement to be aligned with the level of analysis (Mathieu et al., 2011). Furthermore, conducting the focus group interviews in the field facilitated observations and ensured a close connection to the context. To study the participants' individual perceptions, a survey was also included; it mapped central concepts, such as GOCs and PEBs, and enabled comparison between the companies. Although the sample was small, this

introduced a quantitative element to the design. Finally, the follow-up phone interviews permitted an exploration of development over time and added a longitudinal element.

Table 5 provides an outline of the design used in the different papers: The main emphasis was on qualitative methods, indicated by capital letters (QUAL). The '+' indicates simultaneous use of quantitative methods (quant), and lower-case letters indicate that this method was supplementary (Yardley & Bishop, 2008).

Table 5

Outline of design and epistemology

	Paper I: Establish green climate	**Paper II: Green entrepreneurship**	**Paper III: Certification dissonance**
Design	QUAL+quant longitudinal/emergent	QUAL+quant longitudinal	QUAL emergent/evolving
Epistemological position	Post-positivist/ contextualist	Post-positivist/ contextualist	Contextualist/ constructivist
Sources of data	Interviews, self-report, observation	Interviews, self-report	Interviews
Approach to analysis	Straightforward	Straightforward	Straightforward/ underlying themes

Yardley and Bishop (2008) propose a pragmatic approach to mixing methodologies—simply selecting the method that is best suited to addressing the research questions. However, there are some pitfalls: Using this approach may produce knowledge that is diverse and difficult to integrate (Yardley & Bishop, 2008). Moreover, mixing methods challenges the dichotomous way of understanding qualitative and quantitative research that is often related to different epistemologies (Maykut & Morehouse, 1994). As an attempt to overcome some of these issues, Yardley, and Bishop (2008) suggest combining rather than mixing methods. This

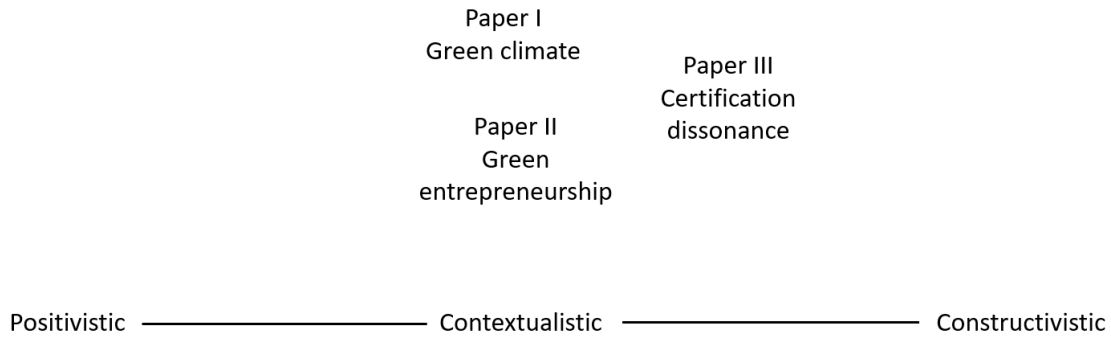
allows the preservation of integrity, upholding the unique contribution of different approaches to knowledge production; this was the approach taken in this dissertation.

5.1.1 Taking a stand: Epistemological position

Regarding epistemology—the branch of philosophy that deals with the theory of knowledge (Willig, 2001)—the studies informing this dissertation did not fit perfectly within a single epistemological position. Nevertheless, it is essential to reflect upon the philosophical stance and how it shaped the research process. The objective here was to explore the construction of a GOC. In the context, do the data from the focus group interviews represent an objective account of environmental decisions and practices, or do they represent a peek into the participants' view of these issues? In the interviews, the words 'shared experiences' and 'beliefs' were used, which may point towards a constructivist position. However, the researcher also asked concrete questions about environmental decisions and practices in everyday life. Therefore, the data represented both an exploration of the participants' experiences, but also to some extent objective accounts. This places the papers between a positivistic and constructivist approach, leaning slightly towards the latter (Figure 5). This position may be described as contextualistic, which considers the researcher and knowledge production to be intertwined, and knowledge to be context dependent and local, accessed by the reflexive researcher through co-production of meaning (Braun et al., 2022; Madill et al., 2000). Additionally, these studies were primarily question-driven and followed Morgan's (2007) pragmatic approach, focused on shared meaning and actual behaviour.

Figure 5

Epistemological positions



5.2 Participants: Selecting green organisations

In the studies informing this dissertation, ‘green’ small-scale Norwegian production companies were targeted. Objectively, it is challenging to classify organisations as green; some companies specialise in calculating a green footprint, but regardless of the complexity of the calculations, they are based on assumptions that trace back to operationalisations of the construct. Given this, scrutinising the ‘greenness’ of the selected companies was considered beyond the scope of this dissertation. A more pragmatic approach was suggested by D’Mello et al., who demonstrated that companies could be scaled according to reports of environmental initiatives on their websites (D'Mello et al., 2010; cited in Mesmer-Magnus et al., 2012). Following this approach, it was decided to use companies’ self-descriptions as an indicator of environmental sustainability, and companies that described themselves as being green on their website were selected. Indications of a green mark included (a) being certified according to environmental certifications (e.g., Miljøfyrtårn, ISO14001, or similar standards), or that the product was certified (e.g., Debio); (b) using the words ‘green’, ‘environment’,

‘sustainable’, ‘ecology’, ‘organic’ or ‘care for nature’ when describing the company—typically, this would be on the ‘about us’ section on the website, and could reflect values and identity as well as strategic communication; and (c) awareness around environmental issues, by discussing ways to reduce pollution, energy consumption and transport, or to emphasise the use of local resources, reuse and recycling. Twenty-eight participants from seven small-scale production companies agreed to participate.

A sample of 234 small- and medium-sized companies from the Inland region of Norway was used as a comparison group. This sample was not directly comparable to the participant group; they did not have a particular environmental focus, represented different industries (not solely production companies) and their size ranged from individual enterprises to medium-sized companies. In addition, there were issues related to self-selection. Nevertheless, the sample was considered adequate as a basis for constructing scales and serving as a proxy for environmental perceptions and behaviour.

Some of the selected green companies only presented weak traces of a green profile on their website. However, as the sample of green companies were found to have a higher level of GOC than the comparison group, this approach succeeded in targeting companies that had a green profile.

5.3 Procedures of conducting interviews and collecting data

The three papers in this dissertation were based on the same material, and used similar and overlapping methods (Table 6).

Table 6

Outline of methods

	Paper I: Establish green climate	Paper II: Green entrepreneurship	Paper III: Certification dissonance
Qualitative			
Interviews	Focus groups, in-depth follow-up	Focus groups, in-depth follow-up	Focus groups, in-depth follow-up
Analytic approach	Thematic analysis	Thematic analysis	Reflexive thematic analysis
Quantitative			
Questionnaire	GOC	GOC, PEB, pro-environmental initiative	
Analysis	Independent sample t-test	Independent sample t-test, one-way ANOVA combining categories derived from interviews, Tukey HSD post hoc test	
Observation	Evaluation on green scale		

The interviews were conducted by the researcher and a master's student in January and February 2017. One facilitated the interviews and focused on the content while the other observed the social interaction. In addition to the topics included in the interview guide (Appendix I), some topics that were raised by the participants were included, such as the roots of the green practices (values in upbringing) and environmental certification. The questionnaire was completed at the end of the focus group interview. Directly after finishing the field visit, observations were described in accordance with the observation scheme (Appendix III) and ranked along the green scale. A preliminary analysis was formed during

the transcription phase, and noted in a written log. The comparison group received a questionnaire in March and April 2017.

The preliminary analysis formed the basis for the follow-up interviews, and enabled in-depth exploration of some of these themes. The follow-up interviews targeted the managers, and six out of seven participated. They were conducted as phone interviews in September 2018. The topics were (a) development of the green focus, (b) motivation and (c) environmental philosophy (Appendix IV).

5.4 Measures

5.4.1 Interview guide

The questions in the interview guide covered (a) green company values and how they were expressed, (b) GOCs, reflected in shared perceptions, daily routines, decision processes and procedures, (c) development and drivers of the green focus, (d) challenges and dilemmas and (e) future prospects (Appendix I). The questions were designed to prompt participants to outline practices, to be concrete and explore how their environmental focus was reflected in action. In addition, the questions were designed to analyse the strength of their GOC by exploring shared perceptions, or the lack thereof.

5.4.2 Questionnaire and scale construction

The questionnaire covered three constructs: (a) a scale on *environmental initiative* that included five items on initiative, environmental decision making and environmental behaviour in an organisational setting; (b) a scale on *PEB* based on a scale developed by Hartig et al. (2007)—10 items that were considered relevant in an organisational setting were selected and translated into Norwegian; (c) a scale on *GOC*, adopted from Norton et al. (2014) and

translated into Norwegian (Appendix II). The questionnaire for the comparison group included the PEB and GOC scales, but the scale on environmental initiative was only distributed to the participants.

Cronbach's alpha (α) was used as a measure of internal consistency. The scale on environmental initiative had sufficient alpha value (α = .68, N = 28), considering the low number of respondents. For the comparison group, the scale on GOC (α = .83, N = 180) and the scale on PEB (α = .83, N = 134) both had fairly high alpha values (Taber, 2018), indicating that it made sense to construct a scale. The questions regarding PEB constituted the final part of the survey, and had fewer respondents because of drop-out.

5.4.3 Observation scheme and green scale

An observation scheme was constructed (Appendix III) that focused on physical aspects of the company, and how it represented environmental values and facilitated social interaction. A green scale was constructed that included the environmental aspects of the companies' product, work process, physical infrastructure, and organisational climate. The scale introduced an element of evaluation, and was based on observations during the fieldwork.

5.5 Analysis

5.5.1 From thematic analysis to reflexive thematic analysis

The qualitative interviews were analysed following thematic analysis and reflexive thematic analysis (Braun & Clarke, 2020), using MAXQDA (VERBI Software, 2019). In reflexive thematic analysis, the researchers' subjectivity is considered a resource, and the researcher is encouraged to work with reflexive engagement. Thematic analysis is

theoretically flexible but cannot be conducted in a theoretical vacuum. In reflexive thematic analysis, the researchers see science as socially constructed, and the qualitative data as examples of the multiple realities that exist. The analysis is a way to understand and interpret the different meaning participants attach to the topic (Braun & Clarke, 2020). In developing the analysis in the present studies, hypotheses were tested by proposing statements and checking whether they were supported in the data, using the constant comparative method—thus introducing an element from grounded theory (Glaser & Strauss, 1967/2017). Papers one and two utilised thematic analysis, as described by Braun and Clarke (2006); however, because of the overall qualitative approach, they also included elements of reflexivity. The third paper explicitly followed a reflexive thematic analysis approach (Braun & Clarke, 2020).

The analysis was considered an ongoing process—from conducting the interviews to transcription and throughout the stage of analysis. At the stage of analysis, the data were familiar, as prescribed by the first phase in thematic analysis (Braun & Clarke, 2006). The researcher attempted to actively engage with the data, checking and refining emerging ideas using the constant comparative method (Charmaz, 2008). The initial codes emerged in the process of defining meaning from the data. This activity corresponds to the second phase of thematic analysis—generating initial codes (Braun & Clarke, 2006). The third phase involved searching for themes (Braun & Clarke, 2006). The data from one company were compared with another, in a search for similarities and differences. The content in one category was compared with another category to evaluate whether it was best conceived of as one or two distinct categories. Phases four and five in thematic analysis involve reviewing and defining themes, and these phases were inseparable in these studies. In these phases, the different

themes were described, and they also involved a back-and-forth process between the themes and the data material. Since the material resulted in three distinct articles, this process was repeated with different aims in mind. During the analysis phase, the researcher strived to be open, to explore what was in the data and not what was expected—the ultimate goal of which was to produce findings that were grounded in the data. Reflections regarding the analysis were captured in a written log that described choices, as well as ideas, hypotheses, and considerations. This enabled backtracking and the examination of the evolving character of the studies.

5.5.2 Quantitative analysis

The data from the questionnaire were analysed and compared with the comparison group. In paper one, an independent sample t-test was conducted to compare the level of the GOC in the two groups. In paper two, an independent samples t-test was conducted to compare the level of both GOC and PEB. Furthermore, a one-way ANOVA was used to analyse the quantitative data in relation to the interview data.

5.5.3 Observation

The observational data did not provide rich and thick descriptions and thus were not included in the thematic analysis. In retrospect, more preparation would have been required to provide valuable data. The observations were ad hoc, and the data produced were relatively superficial. However, they worked as background information, facilitating staying close to the context. The observations informed the ranking of the companies. They were ranked along a green scale, comprising four environmental dimensions. The green score was calculated based on independent evaluations, which were relatively concurrent (Table 7). An inter-rater

reliability analysis was calculated using the kappa statistic (kappa = .67), which indicates substantial agreement (Landis & Koch, 1977).

Table 7

Green scale

Company A	6	4
Company B	3	3
Company C	7	7
Company D	2	2
Company E	5	5
Company F	4	6
Company G	1	1

5.6 Context and case setting

Several aspects of the cultural context are worth noting. The studies were conducted in Norway, thereby adding to the literature that is largely based on North American samples (Ozbilir & Kelloway, 2015). Norway serves as an interesting case, since environmental issues are highly relevant in this country. The Norwegian paradox denotes the stretch between striving for a position as a global leader in climate action while continuing the expansion of the oil and gas industries (Boasson & Lahn, 2017; Eckersley, 2015; Norgaard, 2006). This dissonant position creates tension, and it is likely that living in an oil nation heightens feelings of guilt and responsibility, providing a backdrop for interpreting the findings.

According to Hofstede and Hofstede's (2005) cultural dimensions, Norwegian culture demonstrates low power distance, and Norwegian work life is characterised by autonomy and a high degree of employee involvement. The Norwegian Industrial Democracy project was launched in the 1960s, promoting representation and co-operation (Thorsrud, 1978). The Nordic countries promote 'the good work'—involving freedom to take initiative, participation

in decision-making and learning. The core elements of the Nordic model is a tripartite collaboration between labour organisations, the state and businesses (Gustavsen, 2011). This close cooperation fosters both trust and good working conditions, and contributes to reducing conflicts in working life (Gustavsen, 2011). Participation is central, and this implies that employees in the Norwegian context are more involved in the construction of a GOC. On the other hand, cultural differences within the companies in these studies were hypothesised to impede the construction of a GOC, as language barriers hindered communication.

Although large companies may have a greater environmental impact individually, about 99% of Norwegian companies are small scale (less than 49 employees; Statistisk sentralbyrå, 2021). With regards to environmental greening, small-scale companies face challenges related to costs, resources and knowledge, and environmental management systems are not tailored to provide the support they need (Granly & Welo, 2014; Graafland & Smid, 2016). Since small-scale companies may constitute the core of a large company in the future, their environmental impact may potentially have a large effect.

6 How these papers contribute to understanding greening processes

The main aim of these papers was to explore the processes involved in the construction of a GOC, as well as the significance of environmental certification and how it impacts organisational greening. First, which social interaction processes are involved in the establishment and development of a GOC? Second, what motivates green founders and how do they contribute to the development of a GOC? Third, how does environmental certification contribute to organisational greening? Finally, how can a systems perspective of greening processes explain the establishment and development of a GOC?

Since organisational climate is a group-level construct, focus group interviews were considered appropriate. This enabled the examination of the social aspects of the organisational climate. Furthermore, follow-up interviews allowed the examination of the development of the GOC. The interview data were the main sources of information, and thus received most emphasis through all phases of the research process. The field observations and survey data were considered supplementary data that were mainly interpreted in relation to the interview data.

6.1 Paper I: The process of establishing a green climate: Face-to-face interaction between leaders and employees in the microsystem.

Aims. This paper focused on the interactional processes involved in constructing a GOC. More specifically, it explored how a shared GOC was established through face-to-face interaction between leaders and employees.

Methods. The paper employed a qualitative and longitudinal approach. The main emphasis was on qualitative focus group interviews with leaders and employees conducted in the field, and in-depth follow-up interviews with leaders. The results were analysed with a thematic analytical framework. In addition, a questionnaire was administered to the focus group participants.

Findings. First, the findings indicate that the construction of a GOC was tightly interwoven with green practice. Interestingly, environmental strategy and philosophy seemed less important. Second, the founders initiated the green endeavour, and invited the employees to a dialogue around the construction of the GOC. Third, close face-to-face interaction played a pivotal role in shaping a shared perception of the GOC.

Conclusion. This paper shows how GOCs evolved and were linked to green practice and social interaction processes in the microsystem. The microsystem of the participants was characterised by frequent face-to-face interaction, and had a strong impact on the construction of a shared climate. Finally, the paper shows that it is possible to succeed in greening efforts without a superordinate green strategy.

6.2 Paper II: The psychology of green entrepreneurship: Founder-driven development of green climate in small-scale companies

Aims. The starting point of this paper was to analyse how environmentalist founders succeed in their greening efforts. The paper focused on founders of small-scale companies, and analysed their role in the initiation and establishment of a GOC.

Methods. The design applied a qualitative and longitudinal approach, combining focus group interviews and questionnaires in the field, and follow-up interviews with leaders. The analytic approach was thematic analysis.

Findings. The drive to go green had different roots; the founders were categorised as mainly motivated by (a) opposition, (b) frugality, (c) activism and (d) idealism. The founders had a strong impact on their employees' PEB and directed their behaviour through behavioural instructions, and more softly through supervision. Both founders and employees emphasised the importance of green practice, while strategies and visions seemed less important. A genuine environmental commitment seemed decisive to the formation of a GOC.

Conclusion. This paper establishes the central role of the founder in developing a GOC. The founders had different motivations towards greening, which formed a strong drive to develop the green practices.

6.3 Paper III: Certification dissonance: Contradictions between environmental values and certification scheme requirements in small-scale companies

Aims. This paper explored the significance of environmental certification for greening processes. The aim was to examine the experiences of certification processes among leaders and employees in small-scale companies.

Methods. The data were collected through focus group and in-depth interviews, and analysed using reflexive thematic analysis.

Findings. Environmental certification gave rise to conflicting emotions, and the participants engaged in a back-and-forth process, alternating between drivers and hindrances, resulting in cognitive dissonance. The term ‘certification dissonance’ was introduced to describe the contradictory feelings between environmental values and the requirements from the certification scheme. Four categories of certification dissonance were found. (1) Company characteristics, especially size, impacted the value of the environmental certification. (2) The company’s relationship to the consumers/market was significant; if the relationship was close, the value of certification decreased. (3) Characteristics of the certification system mattered; when the requirements were experienced as rigid, the value of certification decreased. (4) In addition, strong emotional reactions towards the certification schemes may drive or hinder certification.

Conclusion. The participants engaged in a continuous dialogue around certification scheme requirements and environmental practices. Certification promotes environmental awareness, but may lead to different outcomes than what is expected by the scheme and is not always a driver for greener production.

7 Discussion

This section will discuss how the three articles contribute to the field, as well as the overall theoretical contribution. This is followed by a discussion of methodological aspects, future research, and practical implications.

7.1 Empirical contribution

Based on research on general organisational climate and facet-specific climates such as health and safety, it was hypothesised that enduring pro-environmental practices in organisations need to be embedded in a GOC (Pham et al., 2019). Furthermore, there is a wide literature on factors related to pro-environmental practices in organisations, but a lack of research into the *processes* of establishing a GOC. Therefore, this dissertation empirically investigated (a) the social interaction mechanisms at play in establishing a GOC, (b) the role of the founder in this process and (c) how environmental certification can contribute to driving green organisational change. Taken together, these studies show that the participants had a strong motivation to go green, reflected in a constant striving to improve their green practices.

The role of interaction in establishing a GOC. The first paper analysed how a GOC was shaped by social interaction processes. The findings indicate that leaders played a key role in establishing and developing the GOC. They promoted employee engagement and supported employee green initiatives. Furthermore, the socialisation of newcomers enabled the dispersion of the green agenda. The participants seemed to have an internal motivation to develop the green focus, constantly searching for ways to improve their green practice, illustrating that strong climates have the ability to maintain the green endeavour.

Environmental strategies and external factors seemed to be less important, underlined by the fact that they did little to advertise their greening efforts. The participants had difficulties articulating environmental values and philosophies, and mainly followed a practice-based approach to greening.

A systems model of organisational greening was developed, designed to analyse how processes at different system layers interact in the formation of a shared GOC. The most prominent finding was that frequent face-to-face interaction in the microsystem was decisive in establishing and sustaining the GOC. The close interaction that characterised these small companies enabled the founders to follow up on greening measures directly, thereby diminishing the importance of formal policies. Relating to the dimensions of exposure in the systems model, interaction was both *frequent* and of *long duration*—indicative of the development of shared perceptions. Furthermore, several of the founders and employees were highly engaged in environmental issues, resulting in mutual influence and high *intensity*. Since many of the participants had an environmental engagement, the green focus was considered *relevant*. In sum, the interaction between colleagues and their leaders—which constitutes the proximal processes—was hypothesised to create a strong GOC. While the findings point to the importance of the elements in the microsystem, more peripheral elements were also significant at times, such as the board of directors and customers. Finally, the model enabled the analysis of how different system elements were interconnected, and how they might strengthen or contradict the greening efforts in organisations.

Although several authors present models aimed at capturing the dynamic processes involved in green change, they are often in reality linear and causal (Barth et al., 2021; Belz &

Binder, 2017; Le Loarne Lemaire et al., 2022; Xu et al., 2022) and based on simple input–output frameworks (Ameer & Khan, 2022). They can illustrate how different factors correlate, but do not capture processual aspects and the complex nature of greening processes. The main contribution of this paper was to analyse social interaction within a green company, and provide a model of the dynamic processes involved in constructing a GOC.

Relating to the proactive–reactive continuum suggested by Ones and Dilchert (2012), the findings in paper one indicate that the participants were on the proactive end of the continuum, characterised by initiative and a strive for true sustainability. Russell and McIntosh (2011) suggest that companies with a proactive approach tend to be successful in establishing a GOC and culture. The findings reported in paper one support this notion: The companies seemed to have a genuine drive to go green, and generally seemed to be successful in constructing a strong GOC.

The role of the founder in developing the GOC. The second paper established the role of founders as key to the process of forming environmentally sustainable organisations. Their personal environmental engagement and green vision was crucial. The close interaction enabled the founders to monitor behaviour and give direct instructions. However, several founders emphasised the importance of promoting inner motivation and autonomy by giving feedback and explaining the rationale behind different environmental practices. Furthermore, they served as role models—thereby shaping social norms—and aimed at inspiring others to discover their own motivation. The employees underlined the importance of the environmental vision of the founder. Additionally, environmental values were strengthened through green hires: One founder even invited newcomers for a motivational walk. The

findings correspond to theory stating that founders are fundamental in the early phase of establishing a company (Baron, 2007; Schein, 1983). Through direct and indirect influence strategies, the founders in the study informing this paper succeeded in establishing a GOC—similar to Schein's description of how founders shape organisational culture through role modelling, teaching and coaching (Schein, 1983).

Previous studies have linked the significance of the founder to organisational greening (see e.g., Allen & Malin, 2008; Del Giudice et al., 2017). This paper establishes the importance of the founder in forming a GOC. To our knowledge, no previous studies have examined this connection. The systems perspective may be used as a model to explain how the founders constructed the GOC through social interaction with their employees—thus providing the theoretical advancement called for by several scholars (see e.g., Howard-Grenville et al., 2014; Terán-Yépez et al., 2020). Although interaction in the microsystem was the primary driver of the GOC, the founders were also influenced by elements outside the company, at the macro level and context (e.g., environmental certification schemes and customers).

The findings indicate that different motivational categories may precede the route to greening. Although the motivation to go green had different origins, it formed a solid drive to develop the green organisational practices. The 'opponents' were driven by frustration and represented a countermovement to mainstream society, protesting against excess consumerism and the exhaustion of natural resources. The 'frugals' aimed to utilise local resources, and valued traditions and being cautious. Their values seemed to stem from the traditional agricultural society. The 'activist' had a political agenda for his company, and the

‘ideologists’ were driven by an all-encompassing ecological understanding. The green focus was present among the founders from the outset, and the employees were included in the green endeavour, eventually forming an ownership themselves. It is possible that the categories of motivational positions are associated to broad personality traits, such as the ‘Big Five’: The activists may be related to extraversion, the frugals may be related to conscientiousness, the ideologists may be related to openness and the opponents may be inversely related to agreeableness. Previous studies have established that motivation is related to personality traits (Parks & Guay, 2009); therefore, it is probable that the motivational categories found in this paper are related to the Big Five. Furthermore, the motivational categories may be related to elements outside the company, located at the macro level and context. The ideologists (how it should be) and the frugals (it was better before) were both related to the time dimension in the context (zeitgeist). The opponents and the activists both defined their position in relation to others, elements that are located at the macro level and context (e.g., the materialistic society).

The relationship between personality and entrepreneurship is well established, and future studies should analyse how this can be linked to green founders (Cuesta et al., 2018; Frese & Gielnik, 2014; Omorede et al., 2015). Some studies connect the personality of managers specifically to organisational greening (e.g., Ameer & Khan, 2022), supporting the notion that founder personality is a key factor. Furthermore, personality shapes and affects social interaction (Lopes et al., 2005) and conceivably constitutes another piece in the puzzle of explaining the development of a GOC.

Another concept that is related to motivation is Bandura's (2000) concept of 'collective efficacy', which describes a group's commitment to its mission and resilience to adversities. Research on collective efficacy shows that perceptions of high collective efficacy are related to high motivational investment in group tasks and strong staying power in facing challenges (Bandura, 2000); it has also been shown that the belief that one's group is capable of effecting change is positively correlated with PEB (Jugert et al., 2016). The participants in the study informing paper two did report that they felt they were able to make a positive difference in the face of climate threats, corresponding to a high perception of collective efficacy. Recently, researchers have introduced the concept of 'collective environmental efficacy', related to the empowerment of environmentally friendly action (Barth et al., 2021; Fritsche et al., 2018; Sarrasin et al., 2022; Wang et al., 2021). The term is used in the context of large groups and collectives. However, it may be argued that collective environmental efficacy beliefs also are relevant in small groups, and descriptive of the greening processes that were examined in this paper.

In sum, the main contribution of the second paper was to show that different motivational categories among founders can form a strong drive to develop environmental practices, indicating that there are different routes to greening. The findings support the notion that effective organisational greening has a practice base (Le Loarne Lemaire et al., 2022).

Environmental certification and green change. In the third paper, the relationship between environmental certification and greening processes was investigated. While the literature on environmental certification has tended to focus on positive effects, the participants in the study informing this paper expressed frustration related to the certification

process. The term ‘certification dissonance’ was introduced to describe the contradictory feelings the participants experienced between environmental values and certification scheme requirements. Several drivers and hindrances related to certification were identified. Some characteristics of the companies impacted the value of certification; time, resources, and costs were a challenge to these small-scale companies—yet, flexibility related to being small was seen as an advantage. Furthermore, external factors, such as the company’s relationship with its customers, impacted certification. The participants highlighted a positive reputation as a driving force; however, personal ties with customers diminished the value of certification. Additionally, characteristics of the certification scheme, such as rigid rules and bureaucracy, were seen as a serious barrier. Finally, the participants expressed strong emotions: Pride and enthusiasm were identified as drivers, whereas anger and frustration were identified as hindrances to certification.

A process model of certification dissonance was presented, explaining how certification processes may lead to outcomes ranging from organisational greening to greenwashing. The model demonstrated the experience of being trapped within categorical thinking and the dissonance between ‘what is truly environmentally sustainable’ and ‘being certified’. Finally, the concept of the ‘eco grey zone’ was introduced to describe participants’ nuanced and contradictory understanding of the meaning of environmental sustainability. A note to certification agents and auditors is to avoid rigidity, embrace a holistic sustainability perspective, and develop implementation strategies that promote employee engagement and involvement.

Drivers and hindrances to environmental certification were analysed in relation to the systems perspective on organisational greening, which provided a theoretical frame for interpretation. The companies had a green core, which was reflected in the interaction in the microsystem. The environmental certification schemes may be considered a peripheral factor, located at the macro level. In the study informing this paper, some participants experienced that their environmental practice was truly green, but that the requirements from the certification scheme led to practice that was 'un-green'. The resulting conflict created certification dissonance and was hypothesised to hinder green development—similarly to how Bronfenbrenner (1979) imagines that harmony or tension between different system elements may promote or hinder developmental trajectories in humans. Some participants experienced that the certification scheme did not promote greening and that it deviated from their environmental values. This lack of experience of relevance may explain the cognitive dissonance, and directly links to the dimensions of exposure in the systems model. The exposure to proximal processes is hypothesised to drive the development of a GOC, mainly through interaction in the microsystem. Since the participants questioned the value of the environmental certification, it is unclear whether or how it contributed to the construction of the GOC. If the certification scheme and environmental values harmonised, the certification scheme could potentially be integrated into the corposystem, but the data in this paper do not support this. The main contribution of the third paper was to provide an employee perspective on environmental certification and demonstrate that certification does not necessarily drive greening.

7.1.1 Overall empirical contribution

The main contribution of this dissertation is the analysis of processual aspects of green organisational changes. Paper one and two investigated how a GOC was constructed, and thus brought social interaction to the centre of environmental sustainability research. The shared perceptions of a GOC emerged as a result of social interaction processes in face-to-face encounters. The dimensions of exposure shaped the formation of a GOC: that is, the frequency, duration, intensity, and relevance of encounters between people at work. It was found that a self-sustaining GOC was constructed through face-to-face encounters—people talking about environmental issues and influencing each other, while also acknowledging macro elements and the larger context.

The GOC is a promising new facet-specific climate construct (Howard-Grenville et al., 2014), and although the interest in this construct seems to be rising, there are still few studies, and moreover, among the few that exist, climate is not the main focus. Most studies have investigated how a GOC correlates with other constructs, or have treated it as a mediator or moderator (see e.g., Gao & Yang, 2022; J. Xiao et al., 2020; Xu et al., 2022; Yue et al., 2022; Zientara & Zamojska, 2018; Zientara et al., 2019), but to our knowledge there are no studies aimed at analysing the mechanisms involved in constructing a GOC. This dissertation contributes to the analysis of the social interaction mechanisms involved in the establishment and development of the climate, thus filling a gap in the literature. Choosing a focus group design enabled studying how shared perceptions of the GOC were constructed between group members, in line with considering GOC as a group-level phenomenon. This approach is distinct from much of the research on organisational climate within the field of psychology, which often uses quantitative measures at the level of the individual. Paper three analysed

how certification schemes may and may not produce a greening effect, and that the schemes mainly failed in contributing to the maintenance or establishment of a GOC. More focus on the implementation process and engaging employees might have placed environmental certification procedures within a more central system layer—the corposystem—thus becoming a part of the GOC. This provides another piece of the puzzle concerning how GOCs are established.

The studies informing this dissertation were conducted in small-scale companies, which provided a context that enabled analysis of the initial phase of establishing the climate. While previous studies have mainly focused on environmental managers and leaders, an important contribution of this dissertation is its analysis of employees' perspectives. Although the green founders played a key role, the involvement of the employees in the construction of the GOC was also a prominent feature. The systems model enabled the analysis of different perspectives within the organisations. Although outside the scope of this dissertation, it would be interesting to place the organisation as the focal point of analysis, to explore which elements impact greening beyond the level of the individual.

7.2 Theoretical contribution

As highlighted in the introduction, green organisational changes build on a cross-disciplinary foundation (Boiral, Paillé, et al., 2015). An important contribution of this dissertation was to develop a theoretical model that can bridge different fields. This field must necessarily be multidisciplinary, but in order to profit from the contribution of different traditions, the development of shared constructs and models is essential (Aguinis & Glavas, 2012; Glavas, 2016; Ones & Dilchert, 2012). Of course, developing a theoretical framework

is a long journey, the new model needs empirical testing and it is at a nascent stage. Hopefully, it may contribute to establishing a theoretical common ground for research.

The significance of social interaction is at the core of the systems model, and because of the dynamic nature of social systems it must be studied over time (see e.g., Mathieu et al., 2011; Piwowar-Sulej et al., 2021; Richardson et al., 2014). A study by Del Giudice et al. (2017) emphasises the importance of 'micro-level interaction' in promoting sustainability in organisations: 'It is through such interactions that individual-level actions enhance collective organisational-level ones such as sustainability practices' (Del Giudice et al., 2017, p. 1408). Similarly, Norton et al. (2018) view organisations as complex adaptive systems and suggest that there is a reciprocal cycle of influence between employee PEB and greening of the organisation. Of course, it is complicated to connect the individual and organisational level. Changes may happen on the individual level, but they do not operate in a vacuum—they are situated within the organisation. Organisational changes depend on the interconnected chains of individual changes. Perhaps, like Bronfenbrenner (1979) suggests, it is the interconnections, not the elements, that are central to the change process.

The system layers in the proposed model can be compared to Ameer and Khan's (2022) conceptual model of green entrepreneurship, explicating how factors at different systems layers influence greening, and to Baron's model of entrepreneurship (Baron, 2002), emphasising exposure to support and social interaction. Lüdeke-Freund (2019) proposes a model for sustainable innovation, which links contextual factors to sustainable practices. Like the systems model, Lüdeke-Freund's (2019) model explains how different factors impact sustainable development. More broadly, the systems model is in line with the multilevel

paradigm, stating that individuals in organisations operate in nested layers, and that variables from proximal layers have greater influence than those from distant layers (Glavas, 2016; Mathieu et al., 2011). Unlike most multilevel models that assume causal relationships, the systems perspective builds on a different foundation, assuming that greening is a result of the dynamic impact of different forces. It has a combined heritage from Lewin and Bronfenbrenner and enables analysis of processes beyond how different factors are correlated.

The systems theory on organisational greening does not emphasise genetic predispositions, as presented in the original bioecological theory (Bronfenbrenner, 1979; Bronfenbrenner et al., 2005). It is possible that personality is a more fruitful concept for describing the properties an employee brings into the equation at work. The bioecological model is not a perfect fit for organisational greening, and more work needs to be done in developing the framework for this new context. However, this perspective contributes to bringing the field of organisational greening one step further, both in presenting a new overarching model and as an avenue for future research.

7.3 Methodological discussion

Parallel to the data collection, a new systems perspective on greening organisations was developed. It constitutes a starting point for understanding processes in organisations, and influenced the design, research focus and interpretation of the findings. This section is devoted to a discussion of methodological aspects of the studies, important choices and how these influenced the findings.

7.3.1 Reflections regarding design

Analysing quantitative data from a small sample (N = 28) naturally poses challenges regarding statistical power, and the data were considered a mix of qualitative and quantitative character: 'Small-scale quantification' describes how the quantitative data were used in these studies. Furthermore, the self-report data from the questionnaires, the observational data from the green scale and the interview data were viewed in conjunction. However, data from different sources are not necessarily directly comparable.

In papers one and two, different sources of data were combined, while the third paper was solely qualitative. In paper one, the different approaches were treated as contributing to different pieces of knowledge. In paper two, there was a stronger integration between the qualitative and quantitative components, as the categories that were created in the qualitative analysis were compared to the data from the questionnaire and analysed using ANOVA. It is argued that combining various sources of data can be a strength, enabling analysis from different angles and potentially providing a richer material (Yardley & Bishop, 2008). However, this approach also implies increased complexity, as the data are based on different traditions and epistemological stances (Morgan, 2007; Yardley & Bishop, 2008). Notably, as comparison may not be an aim, one approach is to accept the differences and consider the data as different parts of a puzzle (Yardley & Bishop, 2008). Combining different logics in this way requires a higher level of reflection from the researcher, which took place in this research.

The researcher initially thought of the design as mixed-methods—however, as the project progressed, the design was reconsidered, and was perceived to be more a qualitative

inquiry combined with a quantitative supplement (Table 5). While the first paper started out as being rooted more in a post-positivist position, throughout the research process there was a movement along the epistemological continuum towards a constructivist position (Figure 5). The first and second paper combined qualitative and quantitative elements, and it made sense to lean more towards positivism. The third paper was fully qualitative in nature, and the analytic approach was reflexive thematic analysis. This entailed more emphasis on the subjectivity of the researcher—thus a constructivist position made sense. The development was not just one of moving along an epistemological axis, but also towards more methodological clarity.

7.3.2 The role as a researcher: Reflecting on engagement and involvement

Meaning is mediated through the researcher in qualitative inquiries. This requires reflexivity and transparency during all phases of the research process (Levitt et al., 2018). The researcher has reflected upon her preconceptions, and how they may have shaped the interpretation of the data. Green values are central to the researcher, and therefore it is possible that the participants registered an eagerness that may have prompted social desirability in a green direction. The researcher also felt naturally inclined to build close relationships with the participants, illustrated by quotes like: 'I am a farmer, too, you know'. Taken together, the green values and the sympathy for the participants contributed to an involvement and a lack of distance. There is a delicate balance in the role of researcher: On the one hand, being personal may contribute to a trusting relationship, which may prompt more honest responses from the participants. On the other hand, it may lead the participants to feel more of a personal connection, and to go further in their responses than they would otherwise. This balance touches upon ethical concerns—there is a fine line between

calibrating social distance, while ensuring that informants do not feel as though they are under a microscope (Brinkmann & Kvale, 2017).

In the studies informing this dissertation, the interviews were conducted in the field, which enabled the greening process to be experienced in a natural setting. Collecting data in the field provided an experience of being close to the phenomena and contextualised knowledge (Levitt et al., 2018); it also made it possible to stay close to the data during the analysis phase.

7.3.3 The researcher's role in shaping knowledge

The approach in these studies were to look at the researcher's role as an active constructor of knowledge—and as one who is exploring the participants' beliefs and attempting to recount their stories. The process may be considered as a dialogue between the material and the researcher, checking hypotheses in a back-and-forth manner (Glaser & Strauss, 1967/2017). The researcher played an active role in identifying themes that are related to the focus of the study, in line with a reflexive thematic analysis approach (Braun & Clarke, 2020, 2021).

Is the analysis merely a confirmation of what is already known? Epistemological reflexivity concerns how a study's design and focus may limit and shape the findings (Willig, 2001). The researcher asks questions, which shape the information that is gathered. In this process, the aim is always to stay open to the participants' experiences. However, as a leader of the focus group interview, shaping the responses is inevitable. How, then, is it possible to dig deeper than the researcher's own knowledge? In the process of analysing the data, the researcher actively pursued any surprising findings—those that contradicted her

preconceptions. The central findings in the studies were not directly related to the questions that were posed. Interestingly, the third paper was completely outside the initial scope, and the topic justified its way into the study.

7.3.4 Validity, trustworthiness, and integrity

Procedures aimed at enhancing validity involve discussing how well a study has been carried out, as well as its trustworthiness. In the papers informing this study, validity was enhanced by using *triangulation* as a strategy to access different perspectives (Yardley, 2008). A longitudinal design was used in all three papers, which enabled the collection of data at different time points. Additionally, in papers one and two, both qualitative and quantitative data sources were used. Triangulation may not provide easily interpreted overlapping findings, because data from different time points and sources may not be comparable, or sufficiently similar. However, these differences are not a weakness, as they may contribute to construct a richer description (Levitt et al., 2017).

Furthermore, the researchers' coding was discussed and compared in the research group as a way of ensuring trustworthiness (Yardley, 2008). In the construction of the green scale, inter-rater reliability was analysed. During the qualitative analysis, the researcher sought to *disconfirm cases*, as a way of ensuring validity (Yardley, 2008). This was done by constantly testing hypotheses towards the data material, using the constant comparative method (Glaser & Strauss, 1967/2017).

Yardley (2008) highlights four dimensions of validity in qualitative research: (a) sensitivity to context, (b) commitment and rigour, (c) coherence and transparency and (d) impact. In this study, *sensitivity to context* was enhanced through collecting data in the field,

which is a strength concerning access and closeness—but also a threat to validity in growing too close. *Commitment and rigour* were achieved through selecting a sample that provided depth and breadth, by using strategies for coding and analysis involving different perspectives and transparency regarding the role of the researcher. *Coherence and transparency* were ensured through detailed descriptions regarding methodological choices and reflexivity throughout the process. Finally, it is argued that the *impact* of the study justifies the effort that the participants expended by participating.

The overall methodological integrity of a study is evaluated through *fidelity* (that the procedures adhered to the research topic) and *utility* (that the procedures contribute to answering the research questions; (Levitt et al., 2018). In the papers informing this study, fidelity was enhanced by being transparent about how the role of the researcher may have influenced the results, and by ensuring that findings were grounded in—rather than forced upon—the data (Levitt et al., 2017). Regarding utility, the use of focus groups was chosen to enable exploration of the interpersonal aspect of a GOC.

7.3.5 Ethical issues

The studies were granted approval from the Norwegian Social Science Data Services (NSD) and adhered to the guidelines provided by Norway's National Committee for Research Ethics in the Social Sciences and Humanities. Participants gave their informed consent in order to participate. They were also given the opportunity to contact the researcher after the interview if they had reactions or questions; none made contact, nor withdrew from the study. The theme of this study was not considered especially sensitive, since it focused mainly on the company, and not on personal or health issues. While the interviews tended to go deep—

for instance, including personal accounts regarding upbringing and how it shaped environmental values—participation was not considered to cause the participants harm. In the process of transcribing the material, information was de-identified. Concerning anonymity, special preconditions were taken to ensure that no individuals or companies could be identified. In sum, the studies followed ethical guidelines (Brinkmann & Kvale, 2017; Traianou, 2014).

7.3.6 Concluding methodological remarks

The researcher attempted to clarify through discussion and reflection how methodological issues were handled in all phases of the research process, with the aim of transparency. The studies were conducted in restricted settings that were local, yet it attempted to construct knowledge about a phenomenon that could be transferred to other situations and settings. The aim was to connect the findings to previous studies, thus generalising them to settings outside the field of small-scale Norwegian production companies; here, the goal was ultimately to contribute to theory development.

7.4 Limitations

Several limitations apply to the studies informing this dissertation with regards to the case, setting, research topic and methods. The studies were conducted in green Norwegian small-scale companies, which poses some constraints with regards to generalisation. Considering that they were selected because they expressed some degree of environmental concern on their website, they may represent ideal cases. Although there were examples of how newcomers without a specific pro-environmental inclination were socialised into the green climate, this study mainly explored the dispersion of a green climate among participants

with environmental engagement, and must be interpreted in that context. Additionally, certain aspects of being small influence the development of a GOC. For instance, founders work closely with employees and have the possibility to influence them directly. Furthermore, Norwegian work life is characterised by democracy and involvement (Thorsrud, 1978), and employees likely take a greater role in constructing the GOC. In the companies studied in the current dissertation, employees were active in discussing and contributing to the green endeavour. In contrast, it is likely that leaders play a greater role in more hierarchical organisations. While the focus group interviews allowed the exploration of the dispersion of the green climate among employees, the follow-up only included leaders; as such, the study did not fully follow the development of a GOC from the employee perspective. Although the findings must be understood in light of aspects related to the case and setting, they reveal general aspects of greening processes that are relevant to larger organisations and across different cultural context. The purposive sampling of cases (Levitt et al., 2018) provided rich data on organisational greening, in line with the aim of the study.

The development of a theoretical perspective was necessary to provide a foundation and give meaning to the results. Working within a framework narrows the scope; this may lead to forcing data into the model rather than grounding the findings in the material. However, efforts were made to stay close to the data and the themes that were developed. As a result, the link to the theoretical model was not that strong. Furthermore, because of the social desirability bias regarding environmental issues, there is a possibility that the data may be skewed—for instance, that participants may have highlighted pro-environmental values and practices. However, the general impression during the interviews was that the participants gave naïve answers, had little awareness regarding environmental values and had difficulties

articulating their environmental philosophy. Therefore, it is assumed that social desirability did not play a major role. It must be noted that environmental values and philosophy are abstract concepts, which is another possible explanation for the participants' difficulties in expressing their beliefs.

Finally, these studies combined several methods, including both qualitative and quantitative components. Since they rest on different epistemological traditions, such combinations can require more reflexivity than merely adopting a single paradigm. In these studies, the quantitative component was minor, and a full-scale mixed methods design was not utilised. Nevertheless, combining methods led to some confusion regarding the epistemological stance, and more clarity would have improved the results. To sum up, precautions must be taken regarding generalisations to companies of different sizes and contexts and without a green focus. Considering that this study was mainly qualitative, generalisation was not an initial goal. Arguably, there are benefits to the approach taken in this study, as it enabled in-depth exploration of the interactional aspects of the construction of a GOC.

7.5 Future research

Studies of GOCs are still at a nascent stage. More research is needed on companies of different sizes and different faces of development—from entrepreneurial to established. The role of proximal processes may be more easily studied when there is more pressure towards change, one possibility is to study radical greening in established companies. Given that the field of environmental issues is value laden, researchers should consider using other methods than self-report, such as case studies, observation, and fieldwork. Moreover, cross-national

studies would enable the comparison of policies and legislation (context), and how these impact processes within firms. Finally, the systems model proposed here opens doors for future research. Studies could investigate the dispersion of GOCs, the socialisation of newcomers and how the climate is maintained when companies grow using longitudinal designs. Sociometry may be used to analyse social interaction and identify interaction groups, enabling one to study whether employees in the same groups develop shared perceptions regarding environmental issues. Additionally, the motivation of green founders may be investigated in relation to personality traits and environmental efficacy. Another idea for research is to investigate how implementation processes of environmental certification can be improved to better embed the GOC. Observation studies of interaction in the microsystem could inform the mechanisms at play in establishing and developing a GOC. Finally, investigating the connection between personality traits/efficacy beliefs and the four motivational categories found in this dissertation offers an interesting avenue for future research.

7.6 Implications for practice

Gro Harlem Brundtland (1987) introduced the term ‘sustainability’ and is also known for the quote: ‘Everything is connected to everything’ (Johnsen, 2015). This holds for environmental measures, as well—practitioners need to work on all levels and use a variety of tools. They must engage all members in the organisation and identify change agents who can promote greening from within. Furthermore, they must include leaders at all levels. Successful greening likely depends on combining forces, from leaders, change agents and employees to outside pressure from customers, certification schemes and government

incentives. Additionally, technological advancement may impact greening processes within companies.

Practitioners are advised to adjust their approach to fit the size of the company. In small-scale companies, the GOC and practice is established through leader–employee interaction. In comparison, medium-sized and large companies may depend more on procedures. For small-scale companies with a green foundation, the GOC is established from the outset and the job is merely to maintain the focus. In large companies with a green foundation, it may require more effort to ensure that all members of the organisation feel a sense of ownership and contribute to maintaining the GOC. For large companies without a green core, systematic and long-term effort to radically change the organisational climate is required. A final note—a poor starting point can be an asset, as the feeling of urgency may promote a larger effort.

7.6.1 The dark side of greening

Large corporations have the financial muscles to brand their business as green through PR departments. However, this green wrapping contributes to blurring reality, and may lead to greenwashing. Companies may ‘shop’ amongst a range of environmental certifications, to find one that has a positive cost–benefit ratio. Customers encounter a forest of environmental certification, and although the extent of a company’s greening measures may vary greatly, the companies may be perceived as being equally green from the outside.

The environmental sustainability race has some negative consequences. Winning is not necessarily about embedding sustainability, but how a company promotes their greening efforts. Real environmental sustainability may require substantially changing the core of the

business. Nevertheless, the green shift opens a range of possibilities for new green businesses. We replace fossil cars with electric, and we buy solar panels, windmills, electric bikes, textile shopping bags, beeswax wrappers and the like. Many of those who are at the forefront of green change are perhaps more aware of the fact that this swap to greener products leaves a carbon footprint. As one of the participants stated: ‘Even though we sell a sustainable product, we still produce, and all production leaves a mark’. Pushing the green shift leads to a scrapping of old products that might still have use. The benefits involved in the transition to products that are more environmentally friendly must be balanced with the production footprints these products leave.

In organisations, introducing a green strategy does not necessarily lead to green change. On the contrary, it may give companies a false belief that sustainability is taken care of. Racing to be considered a green company combined with insufficient greening measures may in fact impede real green change. Thus, there is a dark side of greening, and the route to sustainable change may require risky and radical shifts.

7.6.2 Small companies—big issues

Climate change is arguably the largest challenge of our time, and though the small-scale companies in the present dissertation mostly have a local impact, the issues are global. Knowledge from organisational psychology may be applied to create green changes in organisations, and thus contribute to a sustainable society. One way of approaching green changes is to study those who succeed in creating a green organisation, to uncover which steps they have taken and what characterises the dynamics within a green organisation. Using greening processes in small-scale companies as a starting point, this dissertation unravels the

social interaction processes involved in the establishment of a GOC. Although the footprint of these small-scale companies may not be large, the knowledge on how they succeeded in creating a green and sustainable organisational climate may have far-reaching consequences. Because of the democratic traditions in Norwegian work life, Norwegian employees are in a unique position to shape the green agenda of their organisations.

How can large organisations learn from this? Whelan and Whitla (2020) argue that the large organisations of tomorrow need to reflect the agility of small organisations. Changes are certainly easier to implement in small organisations. As this dissertation illustrates, advantages are related to the opportunities to engage and involve all employees in the change process. This promotes the experience of relevance and insight into the reasons behind the changes. Furthermore, the lack of structures and bureaucracy enables small business owners to make rapid decisions and follow them through. The spirit of green entrepreneurship that often characterises small-scale companies is the envy of larger companies that struggle in their greening efforts. However, there are also advantages related to green changes in a large organisation; the change may be anchored in the HR department, which has resources and systems in place to sustain the change process. Furthermore, the knowledge on greening of small organisations may be applied to changes of subcultures in large organisations, which may act as 'environmental champions' in promoting change in the mother organisation (Palmer et al., 2012; Russell & McIntosh, 2011). Regardless of the approach to change in large companies, it is decisive to focus on actual behaviour and avoid greenwashing.

The climate crisis requires collective action. Oskamp (2000) aligns a sustainable future with Sherif's (1958) notion of a superordinate goal—a goal that necessities cooperation in

order to be attained. Single individuals or companies may solve minor problems, but their environmental efforts may also cause ripple effects. For instance, a company that requires the environmental certification of their collaborators may enforce green changes among business partners. Large-scale problems may have small-scale solutions (Young, 2013); successful implementation of green change locally leads to empowerment, and the sum of joint efforts will impact global climate issues.

8 Conclusion

This dissertation exemplifies the central role of the founder and the role of employee involvement in the social interaction processes involved in constructing a GOC. Bronfenbrenner's (1979) systems theory was the point of departure to develop an approach to understand greening processes in organisations. In the new systems model developed as part of this doctoral work, the individual in the organisation is the focus point. The model can be constructed from the perspective of any member of the organisation, such as employees at different departments, middle managers, and leaders, and offers a way to analyse all the different forces that influence environmental measures. The approach is a whole systems perspective, incorporating employee engagement, long-term change, and the concerns of multiple stakeholders in advancing a green agenda. It enables analysis of the influence of elements at different system layers, bridging the micro–macro gap in the field of greening organisations. This perspective offers a view on the dynamic aspect of greening processes and it contributes to understanding whether greening efforts may succeed or fail. Most importantly, it is a contribution to the design of sustainable organisations.

9 References

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10 Appendix

Appendix I: Interview guide—focus groups

Intervjuguide for forskningsprosjektet «grønne bedrifter»

Introduksjon
Formålet med dette forskningsprosjektet er å undersøke hva som kjennetegner bedrifter med en grønn profil. Målet er å bruke denne kunnskapen for å utvikle praktiske framgangsmåter for bedrifter som ønsker å jobbe med grønn omstilling.

I en grønn bedrift er de ansatte opptatt av miljøspørsmål og bedriften har et lite klimafotavtrykk. De er bærekraftige, økologiske og gjør lite skade på naturen.

Problemstilling
Hvordan oppstår en grønn organisasjonskultur og felles oppfatninger om miljøspørsmål (organisasjonsklima) – er det en del av verdigrunnlaget fra starten av eller kan det utvikles underveis?

Spørsmål

1. **Grønne verdier**

   Tenk tilbake på oppstarten av bedriften. Hva var deres **kjerneverdier fra starten**?

   Var hensynet til miljø, eller det å tenke grønt, en verdi fra starten av?

   Hvis ja, på hvilken måte kom disse miljøverdiene **til uttrykk**?

2. **Grønt organisasjonsklima**

   I bedrifter som har en grønn organisasjonskultur har folk en **felles oppfatning** av kollegenes og bedriftens fokus på miljøsaker. Et eksempel er i forhold til å printe – i en bedrift med sterke felles oppfatninger om miljøsaker er det en selvfølge å tenke på miljø før du tar en utskrift, og du vet at alle de andre i bedriften også vil tenke på det.

   Har dere **felles oppfatninger** om et grønt fokus? (grønt organisasjonsklima)

   Er det grønne fokuset integrert i **daglige rutiner**?

   På hvilken måte virker det inn på **beslutninger** dere tar? Er det andre områder hvor det grønne fokuset påvirker **valg eller framgangsmåter**?

3. **Utvikling og drivere**

   Er det mulig å **utvikle eller styrke** et slikt grønt felles fokus?

   I hvilken grad er det grønne arbeidet **lederstyrt/medarbeiderdrevet**?

4. **Utfordringer**

   Har dere møtt utfordringer i miljøarbeidet?

   Har dere eksempler på **dilemmaer** der miljøhensyn har blitt utfordret av for eksempel økonomiske hensyn?

5. **Endring/framtid**

   Hva tenker dere er avgjørende for å få til **varige grønne endringer** i deres bedrift?

   Har dere noen planer framover for miljøarbeidet?

Avslutning:

Dersom du kommer på noe mer, eller har spørsmål, ta kontakt.

Appendix II: Questionnaire

SPØRRESKJEMA GREENING ORGANISATIONS

Dette er et spørreskjema som går til deltagerne i studien «Greening organisations». Formålet med dette forskningsprosjektet er å undersøke hva som kjennetegner organisasjoner med en grønn profil. Det er frivillig å delta, og alle som deltar er anonyme. Du kan trekke deg fra undersøkelsen underveis.

Ved eventuelle spørsmål ta kontakt med Ingeborg Flagstad på telefon 97532255 eller e-post: ingeborg.flagstad@hil.no

På forhånd takk!

Er du enig eller uenig i følgende påstander?

	Svært uenig	Uenig	Verken enig eller uenig	Enig	Svært enig
Jeg gjennomfører mine arbeidsoppgaver på en miljøvennlig måte	☐	☐	☐	☐	☐
Når jeg gjør noe på vegne av min organisasjon, så forsøker jeg å velge det mest miljøvennlige alternativet	☐	☐	☐	☐	☐
Jeg tar initiativ til å handle på miljøvennlige måter på arbeidsplassen	☐	☐	☐	☐	☐
Jeg tar så miljøvennlige avgjørelser som mulig på vegne av den bedriften/organisasjonen jeg arbeider for	☐	☐	☐	☐	☐
Jeg tar initiativ til at avgjørelser som blir tatt på min arbeidsplass er mest mulig miljøvennlige	☐	☐	☐	☐	☐
Vår organisasjon er bekymret for sin miljøpåvirkning	☐	☐	☐	☐	☐
Vår organisasjon er interessert i å støtte miljøsaker	☐	☐	☐	☐	☐
Vår organisasjon mener det er viktig å verne om miljøet	☐	☐	☐	☐	☐
Vår organisasjon er opptatt av å bli mer miljøvennlig	☐	☐	☐	☐	☐
I vår organisasjon er de ansatte oppmerksom på miljøspørsmål	☐	☐	☐	☐	☐
I vår organisasjon er de ansatte opptatt av å handle på måter som er miljøvennlige	☐	☐	☐	☐	☐
I vår organisasjon forsøker de ansatte å minimere skader på miljøet	☐	☐	☐	☐	☐
I vår organisasjon bryr de ansatte seg om miljøet	☐	☐	☐	☐	☐

Hvor ofte har du gjort dette det siste året?

	Aldri	Sjelden	Noen ganger	Ofte	Svært ofte
Prøvd å finne ut hva du kan gjøre for å bidra til å løse miljøproblemer	☐	☐	☐	☐	☐
Snakket med andre om miljøspørsmål	☐	☐	☐	☐	☐
Skiftet fra et merke til et annet ut ifra miljøhensyn	☐	☐	☐	☐	☐
Unngått a kjøpe produkter fra et firma som ikke tok hensyn til miljøet	☐	☐	☐	☐	☐
Spist vegetarmat	☐	☐	☐	☐	☐
Redusert din bilbruk ved å velge sykling/kollektivtransport	☐	☐	☐	☐	☐
Lest varedeklarasjonen for å sjekke om innholdet er ufarlig for miljøet	☐	☐	☐	☐	☐
Levert papir til resirkulering	☐	☐	☐	☐	☐
Tatt på deg en genser i stedet for å skru opp varmen i huset	☐	☐	☐	☐	☐
Valgt tog eller buss fremfor fly	☐	☐	☐	☐	☐

Kommentarer:

Tusen takk for hjelpen!

Appendix III: Observation scheme

Observasjonsskjema

Generelt
1. Førsteinntrykk – hjemmeside/profilering, skilting, innkjørsel og uterom.
2. Fysisk utforming av inne-rom

Verdier
3. Hva legger vi merke til av fysiske objekter/utforming og materialbruk som kan si noe om bedriftens verdier? (sjel)
4. Kan vi se grønne verdier i de fysiske omgivelsene? Eller eksempler på det motsatte?
5. Hvordan ligger det fysiske miljøet til rette for/hinder for grønne rutiner?
6. Gjenbruk

Klima
7. Finnes det arealer som legger til rette for interaksjon? (fellesarealer, pauserom, sittegrupper)
8. Er ulike typer funksjoner oppdelt eller i ett? (administrasjon, produksjon) Hvordan er forbindelsen mellom ulike arbeidsfunksjoner?
9. Store eller små områder å jobbe på, og utnyttelse av plassen man har (se arealbruk i forhold til størrelsen på produksjonen, affordances i rommet - flerbruk)

Utvikling
10. Kan vi observere muligheter for utvikling av grønne verdier?
11. I hvilken grad støtter ledere opp om initiativ fra ansatte?
12. Er det synlige tegn på initiativ fra ansatte/ledere?

Utfordringer
13. Kan vi observere utfordringer eller dilemmaer som har med miljøvalg å gjøre?
14. Hva kan vi si om emballering av produktene?

Framtid
15. Har de prosjekter gående eller uferdige prosjekter?

Appendix IV: Interview guide—follow-up

Intervjuguide for oppfølgingsintervju «grønne bedrifter»

Introduksjon
Formålet med dette forskningsprosjektet er å undersøke hva som kjennetegner bedrifter med en grønn profil. Det er en oppfølging av temaer som kom fram i gruppeintervjuet i fjor.

Problemstilling: Hvordan oppstår en grønn organisasjonskultur og felles oppfatninger om miljøspørsmål (organisasjonsklima)?

Utvikling

I denne studien ser vi på miljøfokus i bedrifter.

Har det skjedd noe på det området siden sist?

Motivasjon

Jeg tenker at dere tar hensyn til miljøet.

Hva tror du er grunnen til det? Hva er det som **motiverer** dere til å ta miljøhensyn?

- For din egen del og for de ansatte
- Er hensyn til miljøvern og klima en motivasjon? Nøysomhet? Andre?
- Er dette noe dere snakker om? (konkretisere, hvordan merker du at de ansatte er opptatt av dette?)

Hvordan var det helt **i begynnelsen**? Var du alene om miljøfokuset, eller var det noe de andre også var opptatt av?

Har du noen gang blitt sint på kolleger fordi de ikke tar miljøhensyn?

Filosofi

Jeg legger merke til at dere tar hensyn til miljøet i måten dere gjør ting i praksis.

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The psychology of green entrepreneurship: Founder-driven development of green climate in small-scale companies

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Abstract: This study explores the psychology of green entrepreneurship and the role of the founder in establishing a green climate in organisations. The study examined the process of founding an environmentally sustainable organisational climate in small-scale Norwegian manufacturing companies. Focus group interviews were conducted and questionnaires were distributed in the field; subsequently, the founders participated in an in-depth follow-up interview to explore the evolving elements of the green climate. Thematic analysis revealed that the founders' environmental focus had different origins, indicative of four motivational categories: opposition, frugality, activism and idealism. The founders played a crucial role in influencing employee green behaviour through both supervision and direct behavioural instructions. Moreover, the participants frequently mentioned the practical aspects of the environmental focus, while values and strategies were generally tacit. The findings indicate that the founders' motivational position determined the trajectory of the development of a green climate.

Subjects: Environmental Psychology; Work & Organizational Psychology; Leadership; Entrepreneurship; Small BusinessManagement; Organizational Change

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PUBLIC INTEREST STATEMENT

Organizations play a key role in creating a sustainable future. In this article we explore how business founders shape the green profile of their companies. Although motivation to go green varied, the founders had a strong influence on their employees' green behaviour. Founders employed soft tactics, such as guidance and supervision, and hard tactics, such as direct instructions. Because founders and employees work closely together in small companies, the founder's environmental commitment has a great impact. Through genuine environmental engagement, they shaped the development of a green organizational climate. "Action speaks louder than words" described the environmental approach in these companies, as they placed more importance on green practices than green strategies. Entrepreneurs can learn from this study that their environmental commitment makes a difference, which can encourage maintaining a green focus.

Keywords: green entrepreneurship; founder influence; green organisational climate; environmental sustainability; organisational psychology; entrepreneurial motivation

1. Introduction

A core issue in resolving society's environmental problems centres on how to initiate and maintain green changes in organisations. The founder plays a crucial role in the early stages of entrepreneurship (Baron, 2007), and likely exerts a strong influence on the development of a green organisational climate. Here, differences between founders may prove important. However, though founders are typically driven by convictions and purpose (Barba-Sánchez & Atienza-Sahuquillo, 2017; Murnieks et al., 2019), creating a self-sustaining organisational climate also requires the ability to engage and include employees in this endeavour. Both the founder of the company and the organisational climate created in an early phase may leave an enduring mark on the evolving organisation (Baron, 2007; Baron et al., 1999; Fauchart & Gruber, 2011; Kelly et al., 2000; Marquis & Tilcsik, 2013). As such, the initial green ambitions and the dynamics of the founding team could have long-lasting consequences on environmental practice. This study explored the role of the founder in the process of developing a green climate in small-scale Norwegian manufacturing companies.

1.1. The potential role of the founder in green entrepreneurship

The values and ideas of the founder may determine the fundamental strategic direction and provide the basis of the organisational climate (Fauchart & Gruber, 2011; Felin & Knudsen, 2012; Frese & Gielnik, 2014; Kuenzi & Schminke, 2009). In general, values—often defined as guiding principles (Schwartz, 1992; Schwartz et al., 2012)—may affect a broad spectrum of pro-environmental behaviours, because they are stable over time and across situations (Florea et al., 2013; Ruepert et al., 2017). The pro-environmental values of the founder can influence the overall approach toward environmental measures in the company (Roxas & Coetzer, 2012). The founders often lead by example, and their behaviour provides cues and produces social pressure to perform green behaviour (Kim et al., 2017). This ability to influence and persuade others has been found to be a central property of the entrepreneurial process (Baron, 2002), through which the founders shape the environmental footprint of the organisation.

While there is a broad literature on entrepreneurship in general, the field of green entrepreneurship is still in a nascent stage (Wennekers & van Stel, 2017; York et al., 2016). However, some small-scale companies are led by green entrepreneurs, sometimes labelled *ecopreneurs*, who create environmentally friendly businesses aimed at transforming society and solving environmental problems (De Bruin, 2016; Flagstad et al., 2021; Maak & Stoetter, 2012; Masurel, 2007); these green entrepreneurs are motivated by a desire to protect and preserve the natural environment (Lotfi et al., 2018). Green entrepreneurship may be defined as the process of identifying and seizing entrepreneurial opportunities that minimise the company's impact on the natural environment (Gast et al., 2017; Lotfi et al., 2018). The founders play a significant role in these small and green companies—they tend to have a sharp sense of purpose that, in turn, may engender more involvement in environmental issues (Del Giudice et al., 2017).

Recent entrepreneurship studies recognise the substantial role of interpersonal processes related to motivation, leadership and the ability to influence others (Barba-Sánchez & Atienza-Sahuquillo, 2017; Baron, 2002; Cuesta et al., 2018; Frese & Gielnik, 2014; Murnieks et al., 2019; Omorede et al., 2015); however, the role of the founder in the context of green entrepreneurship remains largely unexplored (York et al., 2016). Furthermore, the social relationships in the founding team—such as founder–employee interactions—and the dynamic processes that shape the organisational climate have received limited attention (Felin & Knudsen, 2012; Flagstad et al., 2021; Gorgievski & Stephan, 2016). Studies in established companies point to leadership as essential in creating green organisational changes (Boiral et al., 2015; Khan et al., 2019; Kim et al., 2017; Robertson & Barling, 2013; Robertson & Carleton, 2017); we therefore suggest that founders play a central role related to green entrepreneurship.

1.2. The development of a green organisational climate

Some organisational founders attempt to meet environmental demands by formulating an environmental strategy. While this might serve to signal the green focus of the entrepreneur, research suggests that the link to pro-environmental behaviour is weak (Baumgartner & Ebner, 2010; Howard-Grenville et al., 2014; Mishra, 2017; Whitmarsh, 2009). Studies indicate that founding a sustainable organisation presuppose that green intentions embed the underlying organisational culture and climate (Benn et al., 2015; Bratton, 2018; Davis & Coan, 2015; Norton, Zacher et al., 2015; Renwick et al., 2013; Tahir et al., 2020). Some studies suggest that a green climate mediates the relationship between ethical leadership and employee green behaviour (Khan et al., 2019; Robertson & Carleton, 2017; Saleem et al., 2020; Zhou et al., 2018). With regard to the current study, this provides a framework with which to link the role of the founder to the construction of a green climate.

An organisational climate may be defined as a set of shared perceptions about the policies, practices and procedures that an organisation supports (Kuenzi & Schminke, 2009; Schneider & Reichers, 1983). Co-construction of meaning is at the core, and the climate develops through interactional processes, parallel to newcomer socialisation processes (Schneider & Reichers, 1983). Uniform perceptions regarding climate are indicative of a strong climate (Kuenzi & Schminke, 2009; Schneider et al., 2017)—this, in turn, is linked to frequent interaction (González-Romá et al., 2002). A Green climate is facet-specific, as opposed to a general organizational climate, and captures the shared perceptions of environmental policies and practices within a company (Kuenzi & Schminke, 2009; Norton et al., 2012, 2014).

Existing research on organisational climate has focused on established companies (Kuenzi & Schminke, 2009; Schneider et al., 2017); however, few studies have focused on the *development* of a sustainable pro-environmental organisational climate and the process underlying the founding of environmentally sustainable organisations (Glavas, 2016; Harris & Crane, 2002; Norton, Parker et al., 2015). A recent study of the construction of a green climate emphasises face-to-face interaction, and introduces a theoretical systems model to explain influence processes that contribute to shared environmental perceptions (Flagstad et al., 2021). Here, frequency, duration, intensity and relevance (dimensions of exposure) of encounters at work are factors that are argued to produce a strong environmental climate (Flagstad et al., 2021). Entrepreneurial companies provide a specific context to explore these influence processes and to study the development of green organisational climates in the founding phase.

Environmental sustainability in organisations is frequently considered to vary along a continuum, ranging from a peripheral to an embedded approach (Aguinis & Glavas, 2013; Pandey et al., 2013). Organisations with a peripheral approach are motivated by external factors, such as policies, and the environmental activities are not integrated into daily routines. This approach is associated with superficial changes—e.g., information campaigns and recycling programmes—in the periphery of the company's endeavours. In contrast, organisations with an embedded approach build environmental concerns into their climate and core values, as well as integrate sustainability within the company strategy and practices; moreover, embedded approaches are associated with meaning and purpose (Aguinis & Glavas, 2013). Many companies with an embedded green approach are characterised by having an integrated character since their start-up, frequently related to the environmental values of the founder (Pandey et al., 2013). Such embeddedness seems to occur on several levels, although it is unclear how, and to what extent, employees ultimately endorse the business philosophy of the founder.

1.3. The context of Norwegian small-scale companies

Much of the research on green climate in work settings has been situated in large companies (Del Giudice et al., 2017; O'Donohue & Torugsa, 2015; Ozbilir & Kelloway, 2015). Research on small-scale companies is scarce; however, their environmental impact also deserves attention (Del Giudice et al., 2017; O'Donohue & Torugsa, 2015). The Confederation of Norwegian Enterprise

(NHO) defines small-scale businesses as companies with 1–20 employees; they employ 26 per cent of the workforce and make up 25 per cent of the wealth creation (NHO, 2018). There are several distinct features associated with size. Small companies tend to be flexible, autonomous, and adapt rapidly to changes (Del Giudice et al., 2017; Masurel, 2007; O'Donohue & Torugsa, 2015). They also tend to be less structured and characterised by informal management (Fernández & Camacho, 2015; O'Donohue & Torugsa, 2015), direct interaction with customers and have strong ties with their local communities (Masurel, 2007; O'Donohue & Torugsa, 2015; Roxas & Coetzer, 2012). The founder is argued to play an influential role in small-scale companies, which is strengthened through close interaction between the founder and members of the organisation (Del Giudice et al., 2017; O'Donohue & Torugsa, 2015; Roxas & Coetzer, 2012). Small-scale companies often have a unified organisational culture and climate, which facilitates the diffusion of green values (Harris & Crane, 2002).

This study focuses on organisations that face dilemmas posed by competing demands of economic and environmental sustainability—which are typical of hybrid organisations (e.g., combining profit generation and idealism) and social entrepreneurship—and to analyse the social processes that unfold when stakes are high (Battilana & Dorado, 2010; Jay, 2013; Newth & Woods, 2014). Following Gorgievski and Stephan (2016), the companies were classified according to three phases of growth: (1) start-up, (2) expansion and (3) stability.

A recent cross-cultural study by Aguado and Holl (2018) found that Norwegian small and medium-sized companies tend to emphasise environmental sustainability, and that their pro-environmental attitudes are driven by customer demands. The Norwegian context is characterised by low levels of hierarchy, employee autonomy and a high degree of employee involvement, which may affect how the founder can influence employees.

1.4. Research questions

The purpose of this paper is to analyse the role of the founder in forming a green organisational climate in small-scale manufacturing companies. With this aim in mind, one objective is to explore the founder's motivation that instigated his/her green ideas. Another objective is to analyse the processes by which the environmental focus is communicated from the founder to the employees. Finally, the paper aims to explain the interpersonal dynamics involved in constructing a green climate.

2. Materials and methods

The focus of the present study was on exploring relational aspects of the entrepreneurial process of establishing a green organisational climate; accordingly, a qualitative and longitudinal approach was considered most appropriate. Focus group interviews enabled to explore the participants' shared perceptions of the green climate. A thematic analysis was conducted, aimed at identifying central themes in a straightforward manner (Braun & Clarke, 2006). A questionnaire study was also conducted, aimed at examining individual environmental climate perceptions. In addition, a follow-up phone interview with the founder was conducted one and a half years later to explore how the climate developed.

2.1. Selection criteria and description of the companies

The selection criteria were carefully designed. Companies with a green product and profile were targeted, and were primarily found through web searches. As organisational climate is a group phenomenon, organisations with at least five members were selected. Companies with more than 20 employees were excluded to avoid the potential of existing subcultures. Revenue was used as a criterion to target organisations that were primarily business-oriented (more than EUR 100,000). Companies that produce a physical product face similar challenges concerning packaging and transporting: including this as a criterion for selection allowed comparison across different branches. Moreover, companies that were expected to experience tension and dilemmas between economic and environmental concerns, due to competition in the open market, were selected. The

overall aim was to select companies with a high level of involvement in decision-making processes, as indicated by a shared physical localisation, a common language, and a joint meeting forum.

Seven out of the 15 companies that were invited to participate fulfilled the selection criteria and agreed to take part in the study. Focus group interviews were conducted in the field, included both founders and employees and consisted of three to six participants. Five of the companies were organised as corporations, two as foundations, and several were family- and/or farm-based. They were in a start-up, expansion or stable phase of growth; and they were in the beverage industry (BI), food industry (FI), and textile (TI) industry.

2.2. Measures of environmental climate and behaviour

A questionnaire was designed that targeted different aspects of a green organisational climate: an environmental climate scale (Norton et al., 2014), questions measuring pro-environmental behaviour (PEB, adopted from Hartig et al., 2007), and pro-environmental initiative specific to the work setting. Cronbach's alpha (α) was calculated to test for internal consistency within the scales. The environmental climate scale (α = .83), PEB scale (α = .83) and pro-environmental initiative scale (α = .68) had sufficient internal consistency. The questionnaire enabled measurement of environmental perceptions on an individual level, and examination of how the individual reports corresponded with the analysis of the interviews at the group level.

2.3. Comparison group

The data from the questionnaire were compared with data from a study using the environmental climate and PEB scales, including employees (N = 234) from small- and medium-sized companies in the inland region of Norway, collected in the same time period. These served as a comparison group and provided a proxy for green climate perceptions and environmental behaviour in a general Norwegian company. The participants in the present study reported higher levels of environmental climate and pro-environmental behaviour than the comparison group (Table 1). An independent-samples t-test was conducted to compare the environmental climate and pro-environmental behaviour in the participant and comparison groups. There was a significant difference between the environmental climate scale scores for the participant group (M = 4.10, SD = .43) and the comparison group (M = 3.82, SD = .65); $t(187) = 2.25$, $p = 0.025$. There was not a significant difference between the participant group (M = 3.60, SD = .48) and the comparison group (M = 3.32, SD = .73) on the PEB scale scores; $t(139) = 1.89$, $p = 0.061$. These results indicate that the selected companies (i.e., the participant group) had succeeded in creating a green outcome; specifically, they scored significantly higher on self-reported levels of environmental climate than the controls. Further, these results suggest that the selected companies were sincere in their environmental approach, and not merely engaging in green marketing.

Table 1. Environmental climate and pro-environmental behaviour

	N	M	SD	t	df	p
Environmental Climate						
Participant group	28	4,10	0.43	2.25	187	.025
Comparison group	161	3.82	0.65			
PEB						
Participant group	28	3.60	0.48	1.89	139	.061
Comparison group	113	3.32	0.73			

2.4. Coding and analysis of the interviews

The interviews were transcribed and analysed in MAXQDA—a program designed for qualitative data analysis (VERBI Software, 2019). A set of initial codes were formed based on topics from the interview guide; however, subsequently, the codes were created based on the material (Braun & Clarke, 2006). Following the constant comparative method, hypotheses were formed and tested in the empirical material, and the researcher engaged in a back-and-forth dialogue with the material (Glaser & Strauss, 2006). Significant codes were highlighted, giving direction toward the elaboration of codes and the development of analytical categories. In the final stage, the categories from the interviews were analysed in conjunction with the questionnaire data.

3. Results

The following section will present the major themes from the thematic analysis of the interviews: 1) founder motivation and drive, and 2) the role of the founder in establishing a green climate. The self-report on environmental climate, initiative and behaviour will then be analysed in relation to founder motivation.

3.1. Motivational categories of the founders

From the analysis outlined above, the significance of the founder in determining the direction and prospects of the company was identified as a central topic. The personal engagement of the founders concerning environmental issues seemed to be decisive for the course of the company; they set the agenda from the outset and played a pivotal role in the establishment of a green organisation. Furthermore, the founders left a green imprint with lasting and far-reaching effects on the company and its products, employees, customers and even the community in which they were based. Although all the founders in the present study had an environmental focus, they had quite diverse backgrounds, and their concern for the natural environment had different origins. In the following section, their motivations will be explored and divided into four driving forces: opposition, activism, frugality and ideology.

3.1.1. The opponents

Two of the founders (i.e., of Company A and Company E) appeared to be part of a countermovement to mainstream society that opposed the use of pesticides and protested against the exhaustion of natural resources and excess consumerism.

> In the '1950s' and '1960s' there were kind of a lot of things to be done about drugs, psychiatry, pesticides and livestock. Lots of medications and lobotomy—it's called … and vaccines and drilling in teeth, right. A lot in that era, and not the least within agriculture—it was sprayed and sprayed and sprayed. (1, Company E)

This founder described the zeitgeist of progress, and expressed that he was part of a countermovement that questioned the way society was moving forward. Moreover, he seemed to believe that excess use of pesticides was contrary to common sense.

> We reduced the amount of pesticides and broke off using the spray if we didn't find the animals that we wanted to spray against. I followed that line of reasoning for quite a few years, and that went very well, too. And then we kind of felt that there was a truly short way to cultivate organically. (1, Company E)

Thus, it seemed that the transition to organic production provided a release from the founder's frustration related to societal development. The other founder in the opponent category dissociated himself from the approach of modern consumer society (toward agriculture).

> We can't keep doing what we're doing—it's overconsumption and overexploitation on many levels. And with the way you have conventional farming, it will deplete and deplete and deplete. Then you just keep it artificially alive with fertilisers and keep on going. We think that if we're adamant about what comes from the conventional or from farming, especially

> from larger stakeholders, it should [here, he hits the table] be organic. Then it's that little drop in the ocean on at least the right side toward giving incentives for perhaps more people to consider alternative, more sustainable ways of cultivating. (1, Company A)

Running the company according to sustainable principles seemed to be empowering for this founder and provided a promising direction forward. The notion *'to be the little drop in the ocean"* appeared to give an alternative identity that allowed for a certain distance from consumerism.

For these founders, environmental issues were linked to strong emotions, such as anger and frustration.

> We look at these *fly-tipping* points—they drive into the forest you know, and just dump loads of stuff, fridges and stoves. I mean, I get so angry! It gives you so little hope when people are so concerned about themselves, and so little about the community. You dump stuff in the forest just to save a 50 note. It makes you see red. (1, Company A)

In sum, setting up an organic production led to greater engagement and more intrinsic motivation, and seemed to be a coping strategy to make the frustration bearable.

3.1.2. The frugals

In two of the companies, the founders (Company F, Company B) emphasised utilizing local resources, preserving old production equipment and maintaining traditions. Both founders referred to ideals from the traditional agrarian community, such as being cautious and utilizing all available resources.

> You know, we're very frugal in the first place. We use things in at least two separate ways if we can. We transport a lot of the leftovers back to the farm for animal feed, and we throw away very little, basically. It's almost like it isn't rational because you're so, in a way, cautious … so frugal. But I think it's kind of rewarding to be a little cautious with stuff. (1, Company B)

In this category, the founders emphasised the solid qualities of old equipment.

> The engines that you can see right behind, they're the kind that are built to last forever. And a modern engine is built to last for five years. And when it's broken, then we can't just buy a new part, and get it running again. No. You must bin it, and buy a new one. (1, Company F)

Company F's founder explained how his production equipment from 1937 was still functional and highlighted that it was easy to manage, because it was mechanical and small-scale. The old equipment seemed to provide him with a sense of mastery. Additionally, the founder compared the old equipment to modern engines and distanced himself from throwaway culture, which seemed to give rise to frustration.

Among the founders in the opponent and frugal categories, participants used a Norwegian expression about a reflex action originating from the spinal cord (translated here as *in your nature*) when explaining their motivation. *"It's kind of in your nature, that it's nice to do things in an environmentally friendly way"* (2, Company B). This expression—*"It's kind of in your nature"* [*It's located in the spinal cord*]—referred to something that was taken for granted, or considered as the natural course of action, and therefore related to a direct impulse to act. Moreover, green and pro-environmental values were not explicitly articulated in these two companies. These companies exemplified that environmental sustainability is not a new phenomenon; on the contrary, it is deeply rooted in values that stem from the traditional agricultural society.

3.1.3. The activist

One founder (i.e., of Company C) had a political agenda with his company: aiming to build a model company. Although the founder seemed to think of himself as an innovator and an outdoor person, he did not mention the environment when discussing organisational values. When asked directly about the environment, this was his answer: *"It's sort of impossible to imagine founding something without it [the environment] playing a role. It's the most important issue of our time! Together with being an outdoor person, then those things become truly clear"* (1, Company C). Thus, the founder of Company C associated his identity with being an *outdoor person*, which seemed to be linked to his behaviour. He believed that his own engagement was the most important reason for their environmental strategy: *"I'm quite sure that it's the most important reason for this company having an environment commitment. And that we put all our focus on the right way"* (1, Company C). This idea of doing things *the right way* has a moral dimension that is related to the company's environmental strategy.

To compensate for their environmental footprint, he introduced a self-imposed environmental tax; consequently, the company paid a certain amount for every item sold to an environmental organisation.

> I remember when I sent an invoice to [an environmental organisation] for 20,000, before I had taken out a single penny as salary. It was a very strange feeling, haha. It becomes a core mission for the company to tax your environmental footprint. (1, Company C)

The statement above illustrates how environmental engagement and the founding of a company may go hand in hand. Although he appeared to be proud of his political accomplishments, this founder seemed to be embarrassed and ashamed about not doing enough: *"It becomes very wrong for me to sit bragging, because I feel as ashamed as I am proud that we have a far larger environmental impact because we exist than if we hadn't exis … been here."* (1, Company C). The environmental tax might provide a release from feeling ashamed, by making up for the footprint that inevitably was related to the existence of the company.

3.1.4. The ideologists

Two of the founders were anthroposophists: they were producing according to biodynamic principles and followed ideals developed by Rudolf Steiner. They both had articulated environmental foundational values. One of them emphasised the importance of *"working with the nature and not against it"*, and highlighted that there might be both selfish and idealistic motives.

> I've noticed that I've felt good when I've been working in that manner. Like, it's also an egoistic [motive], but then somehow an idealism. To do something good for the world. Improve the world, a little bit like this. I am a bit of a world improver. Haha, yes. (1, Company D)

This participant clearly associated his identity with being a *world improver* when he used the expression *"I am"*. Similarly, the founder of company G had a clear articulation with an ecological underpinning: *"An ecological understanding can be expressed in several ways for sure, but in a sense it's kind of the fundamental value in everything, basically"* (1, Company G). Accordingly, an ecological understanding seemed to be the foundation for everything in the company, which indicates a strong connection to ecological values. The members of the two anthroposophical organisations had to relate to the philosophical underpinnings in some way, which seemed to create a strong ideological basis for their work.

To sum up, the founders had different motivations, ranging from opposing to assigning importance to frugality, political activism and ideology. Together, these findings indicate that feelings of shame and frustration existed across the overarching themes. Moreover, the findings demonstrate that the majority of the founders had a practical approach to environmental efforts; only two of them related a green focus to overarching environmental values. In the following section, the

process by which the founders influenced the employees and the formation of a green organisational climate will be discussed.

3.2. Founders' role in establishing a green climate

A central aim in the present study was to examine the founders' role in establishing a shared green climate. The previous section analysed the role of the founder during the start-up phase. In this section, the focus will be on analysing their efforts to transfer their ideas to the employees and consequently create shared perceptions of a green focus. Findings indicate that the founders influenced their employees in several ways: by giving instructions and guidance; and by anchoring the green values. Moreover, the founders could observe what the employees were doing and give them immediate feedback, because they were working closely together and often shared physical space.

3.2.1. Giving instructions

The most direct strategy of influence was to guide behaviour by giving the employees instructions. Although neither of the companies had formalised orientation training programmes, the founders influenced behaviour by instructing new employees from day one. In Company B, for instance, participants described how the founder drilled the newly hired to conserve paper towels.

3: [Name of founder] scolds them if they use too much paper towels and such.
5: No, she often nags about this, that we should use fewer [paper towels].
1: I might say, 'Be a little careful when you use paper—don't take one, two, three layers'.
3: With [name of founder], it might be a little during the first day.
4: I remember the first day at least.
2: So, just that with the paper towels is probably learned within the first day … I would think, haha. (Company B)

In another company, one employee described how the founder instructed her to close the door to save energy on her first day at work.

> It was perhaps the first thing he told me: 'Remember to close the storehouse door so we don't let too much heat out'. [The message that] 'here, we do it this way', I think it was on day one or two, and that was okay. You get it straight away and it doesn't take too long. You don't get a formal letter about new guidelines for the farm. (Company E)

These quotes highlight how the founders emphasise the importance of communicating pro-environmental behaviour to newcomers from the beginning. Additionally, Company G organised newcomers into teams with experienced employees to ensure that they followed the green routines. *"If someone is going to the greenhouse to fetch herbs in boxes, there's one person who knows it and then there might be one or two who don't have that much experience"* (1, Company G).

Alongside the behavioural instructions, the founders explained the rationale behind specific practices and gave recommendations to the employees. "*To be environmentally friendly originates from humans, so if I throw away paper in the bin, he [the founder] says—you have to throw it in the paper bin, because we recycle that"* (2, Company C). In this quote, the employee describes how the founder supervised him, taking a more cautious approach compared to the more direct behavioural instructions outlined above. Some founders were reluctant to give direct instructions and highlighted that autonomy and motivation was important; thus, they allowed the employees to try out on their own and waited for them to ask for guidance.

Due to the size of the business, several of the founders mentioned that they were able to work closely with their employees. This made it possible to monitor employee behaviour—something that might not be achievable in larger organisations with more spacious office layouts and complex structures.

1: Here [it] is so small that you see everything. You get an overview, basically.
2: I would say you have incredibly good control, at least. (Company F)

In addition to size, being a family-based company could be beneficial for transferring environmental values and practices to employees. To sum up, the above accounts exemplified how the founders influenced employee environmental behaviour by giving instructions and various forms of guidance.

3.2.2. Transferring values

Most founders did not have outspoken values that were vocalized, or clearly articulated. Several participants avoided answering questions about values; they changed the focus to describing work routines and how these were performed in practice. Among the opponents and frugals, both founders and employees struggled to express the company values.

Interviewer: What would you say the core values were from the start?
1: Let's see … perhaps we've never been concerned about such, to think about those things (Company E).

Later, when asked about values, he replied to the question by describing how pesticides posed a significant threat to birds and insects.

Interviewer: Thinking about the environment, or thinking green, was that a value from the start for you?
1: Yes, I would almost definitely say so. It was like … Swallows, Great Tits and Blue Tits were absent around fruit farms and that's wrong, actually, haha. And not least bees, well, they get sprayed to death. (Company E)

The questions about values were often answered indirectly; however, they seemed to spark reflection on practical aspects of environmental issues. One founder reasoned that it is typical for small-scale companies to lack the time to discuss goals and values.

1: A lot of these things are there, but you might not speak much about it, because the work we do is hands-on, and then the day is over, and then …
3: It is often non-stop. (Company B)

The participants stressed that starting a business is demanding, and several participants discussed the difficulty of following up on strategic work, such as value processes and the formulation of goals and visions.

The environmental values were seldom explicitly discussed among the opponents and frugals; however, the green values essentially originated from a common base, because they were family-based companies. For instance, the employees were the ones that initiated an explication of the green values in Company E (opponents).

2: Well, it's there. After all, it's the foundation stone, right? So, when we make decisions, we keep it in mind. Well, we're almost obliged to do so.
1: We're now trying to manage a little more with new ways of cultivating strawberries, and besides, we're going in for grapes and wine production and will continue this, and well, that's also green per se. What we do is just green stuff, really. (Company E)

Nevertheless, Company A's founder highlighted the importance of recruiting employees who shared their environmental values. *"It's exceedingly difficult if you engage someone with other values than you. It's a lot easier if you engage someone that thinks like you"* (1, Company A). He also compared being a family company with a unified culture: *"It's either fit in or fuck off"* (1, Company A).

Additionally, the founder of Company E discussed the challenge of including seasonal workers in the environmental endeavour, which points to the limits of founder influence. He further emphasised the importance of inner motivation—hence his efforts to hire people that were genuinely interested in organic cultivation.

> You're at least running into trouble if you engage people that aren't interested in ecology. Like … It's just to do a job. But when you produce organic, you need to have a little passion and think it's fun, basically. (1, Company E)

Several founders identified the potential in hiring green employees: namely, that it enables a dynamic interplay that contributes to developing the green climate.

In contrast to the tacit approach of the opponents and frugals, the activist founder pursued a direct approach: he invited the new employees for a motivational walk, which introduced them to the environmental vision of the company.

> When we take on a new employee nowadays, well, then I'll go for a walk with that person and drill in very clearly the kind of visions we have … and well, I notice that most young people that start in our business have a sparkle in their eyes, much because of that environment part. And well, that's about leadership in general, you have to sell the … a good leader often highlights a clear vision. (1, Company C)

Thus, the founder of Company C believed the environmental vision sparked enthusiasm and motivation at work. His use of the expression *"sparkle in their eyes"* might reflect his own projection and/or emphasis on environmental work. However, among the activists, the active engagement of the founder strongly influenced the establishment of shared environmental values. One participant expressed that the environmental values of the employees reflected the environmental values of the founder: *"Yes, I believe it isn't a shared perception, it's the company's environmental values from [the founder's] environmental values, and that influences all of us, because we're in the company"* (3, Company C). This statement illustrated that the founder may have had a strong influence on the employees. This corresponded to the notion of the founder: he believed the employees' perceptions were an *echo chamber* of his environmental philosophy. *"Indeed … I think it would become an echo chamber of what I just said … that goes without saying, I talk a lot about this. So, well, they sit and listen a lot about it. Haha, yes"* (Company C). Moreover, the workers in Company E highlighted the importance of the environmental vision of the founder in promoting a shared green focus. *"But if [1E] hadn't been so into his own vision, then I think it would have gone down very quickly. So that, in a way, he is so clear all the time, I think it's important"* (3, Company E). This participant stressed that the founder had a significant role in creating engagement and motivation.

Participants from the ideologist companies discussed values explicitly; both of these companies had frequent meetings to discuss a variety of topics, from practical matters to more abstract and philosophical themes. Some newcomers shared the company values, while temporary workers could either absorb them or not. The founder of Company G had a clear articulation of their core values: *"An ecological understanding might be expressed in several different ways, for sure, but … it's like a fundamental value in everything, in a sense"* (1, Company G). He also reflected on how people are constantly changing and influenced by their surroundings.

> Clearly, if someone is here for a month or a year, then they're a different person than when they first arrived, anyway. But like, we do not have a very proactive approach toward consciously influencing people, that what we do is the only proper teaching … and ideologies are a bit scary, as ideologies are sort of an attempt to make reality fit into a type of model, and reality never fits into a model, really. (1, Company G)

This founder stressed the importance of embracing individuality; through their organic production, he aimed to inspire other people to discover their own motivation. In Company D, one participant problematised the behaviour–value relationship.

> It is a difference between knowing and doing, in all of us … You have to have much tolerance with each other. You can know what is best, but it is not always you are in the mood to do the best, haha, we are human … [Regarding] values I think, we are quite common … but, doing some days better, some days not. (1, Company D)

This participant thus had a constant awareness of the environmental issues, and a tolerance toward people not always acting in accordance with their values. This kind of philosophical underpinning among the ideologists produced a higher level of reflection, compared to members of the other companies.

To summarise, the way these leaders supervised and instructed their employees seemed to be an important aspect of establishing green routines and shared environmental values. The strategies of influence varied amongst the founders: the frugals and opponents guided their employees in a direct manner, the activist actively supported green initiatives, while the ideologists approached this topic more carefully by exerting their influence indirectly. The founders all facilitated pro-environmental behaviours by enhancing the awareness and significance of greening efforts, depicting environmental norms, and demonstrating behaviour as role models. In Company E, for instance, the lack of a common language was a barrier for integrating seasonal workers. However, the analysis revealed that a strong green climate was established for permanent employees. The above section analysed how the founders attempted to transfer their environmental values to employees. Although most founders did not speak directly to their employees about values, they seemed to be indirectly communicated through action. Thus, the analysis illustrated that the green focus did not seem to evolve gradually; it was established by the founders from the outset. As such, these companies were *born green* and driven by an inherently green logic.

3.3. Self-reported environmental perceptions and motivational categories

Finally, the self-reports on the environmental climate scale, environmental initiative scale and the PEB scale were analysed and related to the motivational categories. There were major differences among the companies, and seemingly, scores on the three different self-report scales were unrelated to each other (Table 2).

Interestingly, these results (Table 2) may be related to the founders' motivation extracted from the analysis of the focus group interviews. The participants in the opponent category (A and E) scored highest on pro-environmental behaviour; the participants in the frugal category (B and F) scored highest on initiative; the participants in the activist category (C) scored low on pro-environmental behaviour and initiative; and the participants in the idealist category (D and G) scored low on environmental climate and initiative. In sum, the results from the questionnaires reveal similarities within the companies in the same motivational categories. This indicates that there might have been substantial similarities within the motivational categories, extending beyond the drive to found a green company.

A one-way ANOVA was conducted to quantitatively analyse the differences between the motivational categories. There was a significant difference between the motivational categories related to environmental initiative, $F(3,24) = 4{,}18$, $p = .016$, but there was not a significant difference related to environmental climate, $F(3,24) = 2{,}42$, $p = .091$, nor environmental behaviour, $F(3,24) = 1{,}09$, $p = .372$. A Tukey HSD post hoc test was conducted to determine which motivational categories differed on the environmental initiative scale. This revealed that the frugals differed significantly from the activists ($p = .020$). The frugals also differed from the idealists, but the

Table 2. Environmental climate, pro-environmental behaviour and environmental initiative

Name of Company		Environmental Climate		PEB		Environmental Initiative	
	N	*M*	*SD*	*M*	*SD*	*M*	*SD*
Company A	3	4.79	0.16	3.83	0.50	4.13	0.19
Company B	5	3.75	0.29	3.42	0.36	4.36	0.29
Company C	4	4.34	0.14	3.30	0.45	3.75	0.48
Company D	6	4.13	0.31	3.70	0.35	4.17	0.29
Company E	3	3.96	0.41	3.80	0.57	3.93	0.34
Company F	4	4.06	0.41	3.63	0.44	4.65	0.41
Company G	3	3.83	0.06	3.50	0.45	3.73	0.09

difference was non-significant (p = .078). This suggests that the motivational category *frugals* produced the environmental initiative effect.

To summarise, there were differences between the motivational categories regarding employees' willingness to take environmental initiative and consider environmental issues in decision-making processes. Thus, the data from the questionnaire helped confirm the existence of the motivational categories identified in the qualitative analysis.

4. Discussion

The main finding in this study is that the founder exerted a significant and continuing influence on the employees' environmental practices and decision-making. The results suggest that the founder was central to the establishment and maintenance of a green climate, which is in line with Schein's (Schein, 1983) studies on how organisational cultures evolve. The employees may have strengthened the green strategy, but it seems likely that the entrepreneur would have succeeded in his/her greening efforts regardless of the employees' support. Notably, the vital role of the founder was not a focus of the study at first; however, during the analysis it became obvious that their influence strategies were decisive. They exerted this influence in several ways, from direct instructions to more careful supervision; nevertheless, their influence remained strong. Moreover, the founders maintained the green focus, regardless of the employee responses. The results from the present study highlight the pivotal role of the founder in shaping and determining the environmental focus of small companies (see, also Del Giudice et al., 2017for similar findings; Roxas & Coetzer, 2012), and as such are part of a growing literature demonstrating the relevance of developing a green climate (Khan et al., 2019; Norton, Parker et al., 2015; Norton et al., 2012, 2014; Robertson & Carleton, 2017).

This article expands the entrepreneurship literature by showing that various motivations among founders may have substantially different impacts on the developing green organisational climate. Although entrepreneurial motivation in general is discussed in the literature, it is seldom specified (Barba-Sánchez & Atienza-Sahuquillo, 2017; Frese & Gielnik, 2014; Murnieks et al., 2019). The analysis showed that the founders were quite different with regard to the origin of their green focus. For the opponents and the frugals, the green practices formed the basis for the elaboration of the green climate, and ultimately the formulation of green strategies. Yet, the activists and the ideologists had a primarily political or ideological drive. The activists used the company to promote their values and actively engaged in political discourse on environmental issues. The ideologists also had a political agenda, but did not engage in public discourse; their approach was to act in accordance with their values and attempt to influence by example. While the ideologists refrained from open discourse to avoid shaming others, the activists were not afraid of confrontations. The opponents defined their identity in contrast to society in general; at some point they started to despise consumerism, and actively chose another path. Within the company, the opponents actively engaged in shaping the

green climate. Both the activists and the opponents actively opposed the mainstream society, and took a minority position. The frugals differed from the other motivational categories in that they did not have a political agenda nor an opposing position: they seemed to continue doing what they considered the right thing regardless of the surrounding society. Thus, an important implication of this study is that a variety of motivations may be successful in constructing and maintaining a green endeavour. Additionally, the results indicate that the type of motivation makes a difference, as reflected by the varying levels of environmental initiative in each organisation.

The findings of this study indicate that founders, who are driven by values and a conviction to do something for the environment, seem to have a high chance of succeeding in creating an environmentally sustainable organisation. While some previous studies argue that small companies are lagging behind in promoting a sustainable attitude (Aguado & Holl, 2018; Masurel, 2007), the present study suggests that small organisations may actually drive greening processes. Contrary to the study by Shepherd et al. (2013), which reported that entrepreneurs may disengage their pro-environmental values in assessing profit opportunities, the founders in the present study persistently engaged in actions consistent with their values, regardless of economic concerns. Their values seemed to be at the core of both strategic choices and everyday practice and acted as guiding principles, in line with Schwartz's theorising (Schwartz, 1992; Schwartz et al., 2012). The results point to the importance of ideology and meaning as driving forces, in accordance with research on the significance of ideology in social entrepreneurship (Dey & Lehner, 2016). Unlike challenges typical of hybrid organisations related to conflicting demands, these participants seemed to experience coherence, and environmental values seemed to trump economic concerns (Battilana & Dorado, 2010; Jay, 2013).

Since these companies are all small, their environmental impact is not great; however, the mechanisms by which the green climate is formed are interesting to study, because these same mechanisms may play a role in larger companies. Moreover, these companies could grow and constitute the core of a larger corporation in the future. Larger companies certainly meet challenges. For instance, the founder is unable to provide follow-up, give feedback, or instruct employees directly; therefore, they must depend more on organisational procedures and practices, which is reflected in a green climate. One implication for practice is that the direct strategies of influence that were identified in the present study must be replaced by alternative approaches in larger companies, such as strengthening the green climate. The cultural context is relevant because employee involvement and the significance of the organisational climate could be of greater importance in cultures characterised by low levels of hierarchy. In line with this, employees in the present study were involved in decision-making and were able to influence the environmental focus. It should be noted, however, that the founders employed a variety of influence strategies that are normally associated with hierarchical organisations—while this finding was unexpected, it further underlines the crucial role of the founder.

According to Rogers (2003), innovators represent only a small proportion of the population that are at the forefront, creating the changes they want to see in society. The participants in this study did not simply adopt existing environmental solutions: they created novel solutions, did things differently than the majority, and looked for ways to improve. In line with Rogers' (Rogers, 2003) theorising, they could be categorised as innovators and may play a central role in the development of novel green and sustainable solutions to environmental challenges (see, also De Bruin, 2016).

Extending beyond the literature on entrepreneurship, the results of this study have implications for organisational theory. The analysis indicated that the founders succeeded in establishing shared perceptions of a green organisational climate, and that it is possible to develop a green climate without connecting it to a green strategy. Even without the strategic element, because of their integrated character, the companies in the present study leaned toward the embedded end of the peripheral–embedded continuum of environmental sustainability suggested by Aguinis and Glavas (2013). Furthermore, the green focus was a defining feature from

the outset, which is often associated with embedded approaches (see, Pandey et al., 2013). Moreover, small organisations are not structured; hence, green changes do not follow an orderly sequence of steps, as suggested by the strategic responsibility management model and other structural approaches to organisational development (Aguinis & Glavas, 2013). In the present study, the founders played a pivotal role in all the entrepreneurial phases; from the start-up phase, through the expansion phase, to the stable phase of managing the company. Furthermore, the establishment of a green organisational climate did not depend on the formation of a green strategy in the initial phase, as suggested by Aguinis (Aguinis & Glavas, 2013), but seemed to depend on the founders' presence and their direct influence on environmental practices, in line with the systems theory of greening (Flagstad et al., 2021). The present study thus advances theorizing on green change by suggesting that there might be alternative routes to greening.

4.1. Implications for practice

Entrepreneurs can learn from this study that their approach toward environmental aspects of their business can shape the formation of a green organisational climate. Results indicate that successful entrepreneurial influence strategies are: direct behavioural instructions, supervision, leading by example and employee involvement. Including the green focus in employee selection strategies may be intuitively clear; it enables the recruitment of employees who will fit with the organisational climate, and also represents an opportunity to strengthen and develop the environmental practice. This study helps entrepreneurs understand their potential influence on the green climate and encourages them to maintain a strong motivational position.

4.2. Suggestions for future research

To further investigate the effect of founder motivation on green climate and environmental behaviour, future studies are advised to explore these phenomena in larger samples. In addition, it would be interesting to relate motivational categories to research on founder identities, which has also been shown to influence business formation (Fauchart & Gruber, 2011; Wagenschwanz & Belz, 2017). Founder identity has been found to play a significant role in explaining social entrepreneurship in particular (Wagenschwanz & Belz, 2017), indicating that founder identity is highly relevant for green entrepreneurship.

4.3. Limitations of the study

This study focused on small-scale companies characterized by face-to-face interaction. However, the significance of founder influence on behaviour is likely to be less profound in large companies. Furthermore, this was an in-depth study of seven Norwegian manufacturing companies with a green profile, and the findings may be specific to this context. Finally, this study was conducted in a culture characterized by low levels of hierarchy, and the results may not be generalized to more hierarchical cultures. Future studies may extend to other cultural settings, different industries and to larger companies. Nevertheless, we believe that the present study contributes to advance our understanding of the establishment of a green organizational climate.

5. Conclusions

The emergence of a pro-environmental organisational climate in these small-scale companies seemed to depend on the environmental engagement of the founders. A green practice was the core of the environmental focus, whereas strategies and visions appeared to be of less importance. For the founders, the environmental focus was present from the outset and evolved through a process of constantly questioning and improving procedures. The founders had different but strong motivations to *go green*, which formed a solid drive toward developing sustainable practices. Moreover, the founders played a significant role in establishing and determining the development of the green climate in these companies, which was formed and strengthened through face-to-face interactions.

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Certification dissonance: Contradictions between environmental values and certification scheme requirements in small-scale companies

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ABSTRACT

The importance of internalization and employee involvement in the greening of organizations is well-established; however, experiences of environmental certification processes in small-scale companies have largely been overlooked. The aim of this study was to examine the experiences of environmental certification in small-scale companies, and how certification may drive green change in these contexts. The study employed a qualitative approach and thematic analysis. Twenty-eight informants in seven small-scale companies were interviewed, via focus-group interviews with employees and leaders, and in individual interviews with leaders. The main theme that was identified from the reflexive thematic analysis was that certification gave rise to a back-and-forth process between drivers and hindrances, resulting in conflicting emotions and cognitive dissonance—which we denoted *certification dissonance*. Findings indicate that employees experienced conflicts between their own environmental values and the requirements imposed by the certification scheme. Four main categories of certification dissonance were identified: 1) *Company characteristics*, 2) the company's relationship with the *customers/market*, 3) characteristics of the *certification scheme*, and 4) *emotional reactions*. The participants struggled to choose between alternatives in different shades of green in what we denoted the 'eco grey zone'. Systems theory and cognitive dissonance theory provided a theoretical framework for analysis. Based on our findings, we propose a new process model of certification dissonance outcomes. This model illustrates how employees and managers feel trapped within categorical thinking, and experience dissonance between the poles of 'what is truly green and sustainable' and 'being certified'. This study may be of relevance to managers and stakeholders working on environmental sustainability.

1. Introduction

In response to increasing demands to go green, many companies enter into environmental certification schemes to communicate that they are environmentally responsible. Since the introduction of the ISO 14001 standard in 1996 (Boiral et al., 2018), there has been steady growth in certified organizations internationally, alongside the recent trend of decertification (Flaten et al., 2010; Mosgaard and Kristensen, 2020). In their literature review, Boiral et al. (2018) found that studies tend to focus on the impact of ISO 14001 on management practices, environmental indicators, environmental awareness and company image. Most (76%) focus on effectiveness and positive aspects (e.g. Erauskin-Tolosa et al., 2019), and Boiral et al. (2018) argue that this obscures potential undesirable effects. However, some studies point to drawbacks, including bureaucracy, organizational resistance, cost of implementation, lack of resources and lack of commitment from managers (Boiral et al., 2018). Several recent studies question the overall impact of environmental certification schemes; these point to symbolic adoption of schemes, and question the impact on environmental performance and integration into the organizational climate (e.g. Boiral et al., 2018; Heras-Saizarbitoria et al., 2020; Testa et al., 2015). Thus, several studies seem to indicate that there may be problematic issues relating to certification (e.g. Valenciano-Salazar et al., 2021), highlighting the need to explore what happens within organizations that attempt to work towards environmental sustainability.

The use of eco-labels has also been increasing (Darnall and Aragón-Correa, 2014): these are designed to signal information about a product's sustainability qualities. Many eco-labels are one-dimensional, meaning that they focus on a specific environmental attribute of a product; however, customers are often unaware of other desirable (or undesirable) environmental qualities (Darnall and Aragón-Correa, 2014). The literature seems to acknowledge that there may be

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challenges related to the credibility of eco-labels (Delmas and Gergaud, 2021), and we need more knowledge on how eco-labels contribute to environmental sustainability.

Ultimately, certification schemes and eco-labels aim to *change* environmental practices, however, researchers have mainly focused on impact while the actual implementation has received less attention. Environmental psychologists highlight the importance of designing interventions that change employee behaviour; they need to go beyond external rewards or information campaigns, and foster internal motivation (Lülfs and Hahn, 2014; Steg and Vlek, 2009; Young et al., 2015). Relatedly, exploring user experiences with certification schemes—as we do in this article—provides a knowledge base for designing certification processes that engage employees.

1.1. Environmental certification in the context of small-scale Norwegian companies

In Norway, there are two eco-labels for products: producers of organic food are certified by Debio, and bio-dynamic producers are certified by Demeter (Debio, 2021). Furthermore, there are two main environmental certification schemes at the organizational level: the Eco-Lighthouse (2021) and the ISO 14001 scheme (International Organization for Standardization, 2019). The Eco-Lighthouse scheme targets companies with fewer than 100 employees, and the cost and resources involved in implementation is relatively low, compared to the ISO 14001 scheme (Granly and Welo, 2014). The Eco-Lighthouse scheme represents an alternative model for Environmental Management (AMEM), characterized by less bureaucracy, lower costs and better adaption to local circumstances and branch specific requirements (Granly and Welo, 2014; Heras and Arana, 2010). Interestingly, the motivation that drives implementation is different for AMEMs compared to ISO 14001, putting more emphasis on 'substantive' change within the company rather than external factors such as reputation (Heras and Arana, 2010).

Small-scale companies comprise 98.5% of enterprises in Norway (Statistisk sentralbyrå, 2021). Although implementing environmentally sustainable practices may improve their likelihood of success, the number of small-scale companies that embed environmental measures is limited. The challenges related to environmental certification in small-scale companies seem well-established in the literature (Mosgaard and Kristensen, 2020): these include lack of resources, competence and appropriate environmental management schemes (Granly and Welo, 2014). Moreover, while large organizations may have the skills and resources to implement all-encompassing environmental certification schemes, these schemes may not be tailored to promote environmental sustainability in small organizations (Granly and Welo, 2014; Graafland and Smid, 2016). Nevertheless, foregoing formal greening measures altogether may not be the best solution. In fact, a study by Graafland and Smid (2016) shows that simple environmental targets improve environmental performance in small organizations. Studies also document cross-cultural differences in the implementation of environmental certification (Orcos et al., 2018). This highlights both the need to explore different cultural contexts and the significance of the local context, which is especially relevant to small-scale companies.

1.2. Employee perspectives on environmental certification

Studies indicate that the implementation of environmental certification is often led by environmental managers; employees are seldom involved and tend to have little knowledge about the organization's environmental policy (Boiral, 2007, 2011; Mosgaard and Kristensen, 2020). This is noteworthy, since employee involvement is considered key to the internalization of environmental certification standards (Testa et al., 2018).

In a review by Boiral et al. (2018), the employee perspective was included in only 12% of the studies. One of these reported that employees perceived the ISO 14001 scheme to be costly, bureaucratic and cumbersome, and they had difficulties understanding its applicability (Boiral, 2007). Furthermore, employees were seldom involved in the implementation and monitoring of the ISO 14001 scheme, had only vague understandings of the scheme and their commitment tended to be low (Boiral, 2007). Boiral (2011) argued that employee understanding of the environmental objectives, involvement and motivation were crucial to the successful implementation of environmental certification. However, empirical studies are needed to establish how psychological processes may drive or hinder certification.

1.3. Reasons to decertify from environmental certification

A study of Norwegian organic farmers by Flaten et al. (2010) found that many terminated their certification due to excessive bureaucracy, as well as complicated and changing standards. Interestingly, a large number of those who decertified planned to continue their organic production and sell directly to the customers (Flaten et al., 2010). In a Danish study of companies that discontinued their environmental certification, the main reason was the negative outcome of a cost–benefit analysis; potential benefits did not justify the high economic cost and time-consuming documentation (Mosgaard and Kristensen, 2020). Though environmental managers intended to maintain the environmental focus after decertification, the focus on environmental practice dropped and they reverted to a focus on day-to-day operations (Mosgaard and Kristensen, 2020). These studies indicate a continuous dialogue—inter- and intrapersonal—on the advantages and challenges of certification and whether and how it contributes to sustainability.

1.4. Greening or greenwashing?

Most companies now communicate some level of greenness. However, certification processes give rise to a dynamic interplay between companies merely signalling greenness and their *actual* environmental performance.

Along with the rise of ecological consciousness, consumers increasingly request green products; companies are therefore eager to promote the greenness of their products. At the same time, there is a rise in greenwashing—a misleading communication practice regarding a company's environmental performance or the environmental aspects of a product (Delmas and Burbano, 2011). Greenwashing undermines stakeholder and customer confidence in environmentally sustainable companies and products, which may further reduce willingness to invest in going green (Delmas and Burbano, 2011). Moreover, greenwashing has a deteriorating effect on employee green behaviour (Tahir et al., 2020).

Studies of environmental certification highlight growing concerns regarding its lack of effect on environmental performance; indeed, some companies use certification to strengthen their environmental legitimacy (Heras-Saizarbitoria et al., 2020). This kind of symbolic adoption is used to promote a green image, while internal practices within the company remain unchanged (Ferrón Vílchez, 2017; Heras-Saizarbitoria and Boiral, 2013; Martín-de Castro et al., 2017). Several studies document the discrepancy between daily practices and the written documentation required by the environmental standard, and how internalization of routines into a green organizational climate is seldom achieved (Heras-Saizarbitoria and Boiral, 2013; Martín-de Castro et al., 2017). Christmann and Taylor (2006) therefore argue that research

needs to go beyond using certification as a measure of environmental sustainability, and study how the schemes are implemented. Indeed, a review by Pham et al. (2019) suggests that, beyond certification, environmental management and the establishment of a green climate precede long-term environmental sustainability.

In contrast to symbolic adoption is the *internalization* of environmental practices and the establishment of a green organizational climate—defined as employees' shared perceptions of their organizations' pro-environmental procedures and practices (Norton et al., 2014). The internalization of greening measures into daily routines and the embedding of a green climate are key to achieving true sustainability (e.g. Erauskin-Tolosa et al., 2019; Mosgaard and Kristensen, 2020; Testa et al., 2018). The ISO 14001 certification aims to change the environmental processes within the company, not the results (Johnstone and Hallberg, 2020). Similarly, the Eco-Lighthouse certification aims to build a green organizational culture (Eco-Lighthouse, 2021). As such, these schemes should be positioned to contribute to a green climate. Yet, it is unclear exactly how the schemes attempt to achieve these goals. Psychological research may shed light on the procedures needed to achieve internalization of a green climate.

1.5. Gap in the literature: Employee voices

As noted above, approximately three-quarters of studies in this field rely on (environmental) management perspectives, while the employee perspectives are largely neglected (Boiral et al., 2018; Sartor et al., 2019; Todaro et al., 2019), thereby creating a potential management bias (Heras-Saizarbitoria and Boiral, 2013). Furthermore, the dominant literature on environmental management schemes mainly focuses on positive aspects, possibly creating a pro-certification bias (Boiral et al., 2018). The research is also primarily quantitative (Boiral et al., 2018), which has sparked a call for qualitative studies (Johnstone, 2020; Testa et al., 2018; Todaro et al., 2019). Finally, environmental certification processes seem to be context-dependent, and more studies are needed in 1) different cultural contexts, 2) organizations that are both certified and uncertified, and 3) small organizations (e.g. Granly and Welo, 2014; Heras-Saizarbitoria and Boiral, 2013; Johnstone and Hallberg, 2020). The present study addresses these gaps by diving into user experiences of certification processes. The psychological perspective may contribute to the research on certification, which has been traditionally conducted within engineering, management/business and organizational science framework.

Given that there is little research on psychological processes, this study aimed to examine the meaning and experience of environmental certification in small-scale companies. As previously discussed, small-scale businesses are commonplace in Norway and face several challenges related to certification. The first research question targets user experiences with the certification process:1) How is environmental certification of products and organizations experienced in small-scale companies? The overall impact of environmental certification has been called into question in recent studies, and accordingly, the second research question addresses how certification may promote environmental sustainability: 2) Are these certification processes a driving force for greener organizations and greener production? The next section outlines the theoretical basis used to explore these questions.

2. Theoretical perspectives

The theoretical perspectives that informed this study are derived from social, organizational and environmental psychology (Clayton et al., 2016).

2.1. A systems model of environmental certification processes

Granly and Welo (2014) introduced a model of drivers, challengers and outcomes of ISO 14001 and Eco-Lighthouse certifications. In this model, market opportunities and customer demands were identified as drivers and employee buy-in as a challenge for both schemes. Environmental awareness and reduced environmental impact were also reported as outcomes for both schemes, but increased market opportunities was only associated with the ISO 14001 scheme. The absence of market increase was a challenge to the Eco-Lighthouse scheme, while time and resources were challenges related to the ISO 14001 scheme. In our study, we combined elements from Granly and Welo (2014) model with systems theory (Flagstad et al., 2021), to create a systems perspective on environmental certification (Fig. 1).

Based on Bronfenbrenner's (1979) ecological systems model of human development, Flagstad et al. (2021) developed a systems model of green changes in organizations. The model explores how individual behaviour in organizations is influenced by factors at different systems layers: the microsystem, the corposystem, the macrosystem and the surrounding context—as well as how these different systems interact. The drivers of greening processes involve exposure to proximal processes: duration, frequency, intensity and relevance of encounters between individuals at work (Flagstad et al., 2021). The outcome of such processes is the development of a green organizational climate. Extending this to environmental certification, we suggest that different system elements related to certification may create green development when they harmonize, and, correspondingly, may hinder greening processes when they are incongruent (Fig. 1).

At the centre of the model is an employee, with his/her values and attitudes. The next layer is the microsystem, comprising his/her colleagues and leader. The corposystem includes organizational climate and strategy, and in large companies this level also includes other departments and top-level management. In certified companies, the environmental certification is part of the corposystem; in uncertified companies, however, it is part of the macrosystem. When the employee's environmental values and attitudes are in line with the practices prescribed by the certification system—and harmonize with the organizational climate and strategy—the certification may contribute to organizational greening. By contrast, when the employee experiences conflict between his/her values and certification requirements, this tension leads to frustration and hinders organizational greening. The model may be constructed from the perspective of any employee or manager in the company and is used in the analysis of the data.

2.2. A cognitive dissonance perspective on certification

According to cognitive dissonance theory (Fig. 2), people holding conflicting beliefs (i.e., cognitions that do not fit together psychologically) experience a negative affective state, denoted dissonance (Festinger, 1959; Hinojosa et al., 2017). People go through four stages of dissonance arousal and reduction (Fig. 2): Conflicting beliefs create a cognitive discrepancy (1), this leads to emotional discomfort—dissonance (2), they are motivated to reduce the dissonance (3) and engage in different strategies to reduce the discrepancy and thereby reduce the dissonance (4) (Hinojosa et al., 2017).

Similarly to how ecosystems in nature strive to achieve equilibrium, Festinger (1959, 1962) hypothesized that humans seek to reduce dissonance and achieve a state of consonance. There are several ways to reduce dissonance: for instance, persuasion and justifications may increase the desirability of a chosen alternative (Festinger, 1962). If the dissonance is not resolved, the person remains in a negative affective

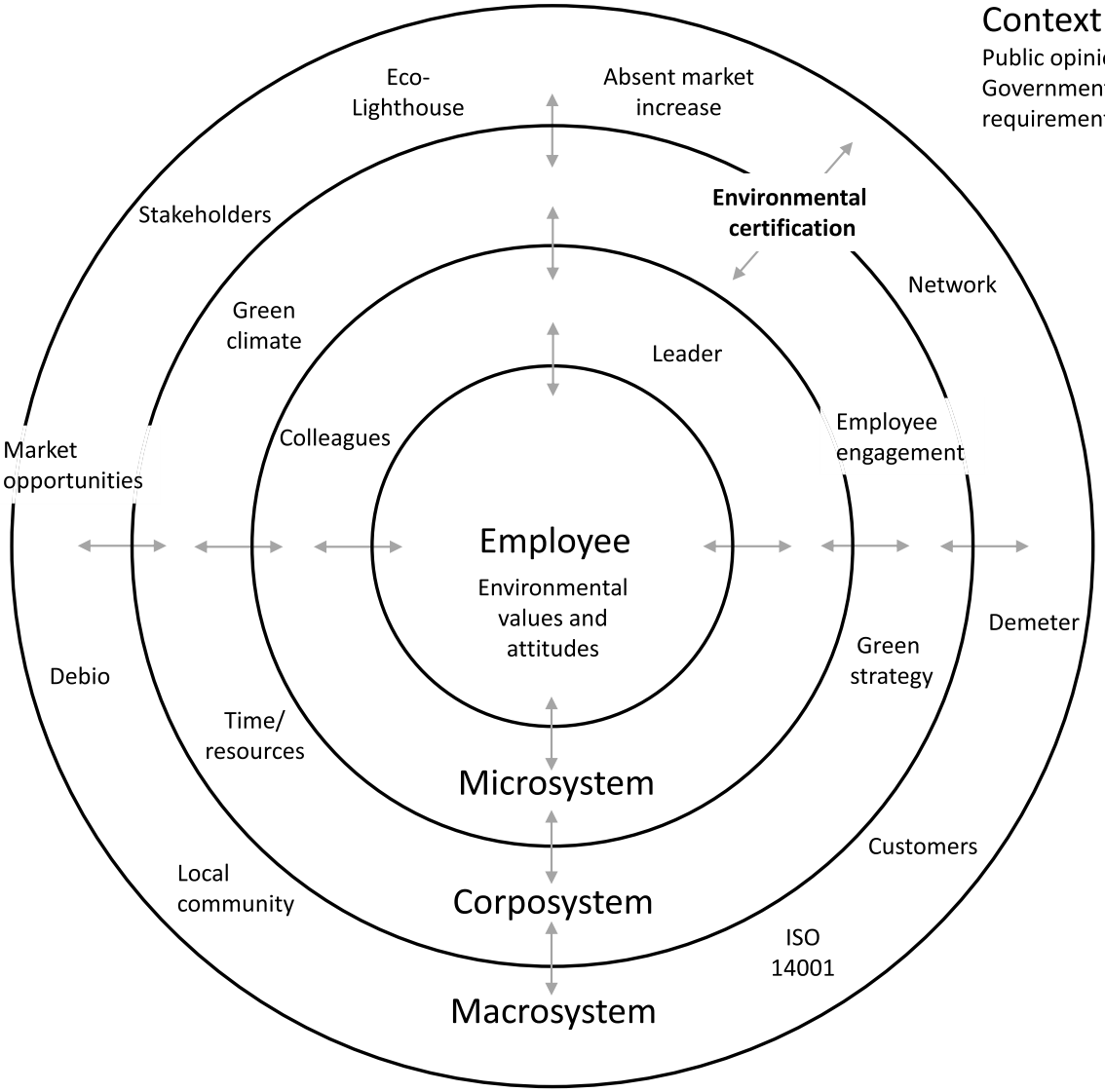

Fig. 1. Systems perspective on environmental certification. Adapted from Flagstad et al. (2021).

state, which may cause frustration (Hinojosa et al., 2017). In the following, this cognitive dissonance theory is viewed in relation to the interview results and further developed in the discussion. In the result and discussion section, we introduce the term certification dissonance to describe the frustration the participants experienced when their personal beliefs were not in line with requirements from the certification scheme. Furthermore, we develop a process model describing different outcomes of certification dissonance.

3. Material and methods

3.1. Focus group and follow-up interviews

Focus group interviews on greening organizations were conducted in the first months of 2017 in seven small-scale companies and included three to six participants in each interview. Environmental certification was not a focus in the interview guide, but the topic made its way into the study, as the participants were eager to speak about it. Follow-up interviews were conducted in September 2018, enabling exploration of evolving aspects of the green focus. The focus group interviews were conducted in the field, directed by a moderator alongside an observer, and followed a semi-structured interview guide.

3.2. Companies and participants

The companies were selected using three criteria: 1) being certified according to an environmental certification (e.g., Eco-Lighthouse), or having a product that was certified (e.g., Debio); 2) using the word 'green', 'environment', 'sustainable', 'ecology', 'organic' or 'care for nature' when describing the company on the website; and 3) demonstrating awareness of environmental issues, describing ways to reduce pollution/energy consumption, and/or emphasizing the use of local

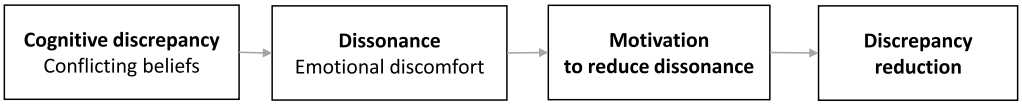

Fig. 2. Cognitive dissonance processes. Adapted from Hinojosa et al. (2017).

Table 1
Company descriptions (N = 7).

Company	Company type	Participants	Environmental Certification	Website
A	Family-based corporation	1 manager, 2 team members	Debio, Green point	Organic
B	Farm/family corporation	1 manager, 2 team members, 2 employees	Green point, Norwegian Eco-tourism, former Eco-Lighthouse	Sustainable
C	Entrepreneurial corporation	1 manager, 3 employees (1 intern)	Global Organic Textile Standard (GOTS)	Nature/ Sustainable
D	Farm-based foundation	6 employees (3 interns), no manager, some seniors have areas of responsibility	Debio, Demeter	Organic/ Biodynamic
E	Farm-based corporation	1 manager, 2 employees	Debio, Green point, Norwegian Eco-tourism	Organic/ Sustainable
F	Family-based corporation	1 manager, 2 team members	Debio, Green point, Norwegian Eco-tourism	Organic
G	Farm-based sole tradership	1 manager, 2 employees (interns), 1 team member	Debio, Demeter, Norwegian Eco-tourism	Organic/ Biodynamic

resources, reusing and recycling on their website (Table 1).

In total, 28 participants (14 males/14 females) in 7 companies were interviewed (Table 1). The organizational structures tended to be flat and informal; managers could be democratic coordinators and employees could hold influential roles. Furthermore, roles did not fit into a simple dualistic structure of managers and employees—the participants were family members, founders, seniors and interns. We use the term 'team member' to describe autonomous roles that were not clearly defined as a subordinate with an employment contract (e.g., a family member).

Five of the companies produced according to organic principles and sold Debio-certified products. Two of these also followed the Demeter guidelines for biodynamic agriculture. Company B had ceased their Eco-Lighthouse certification, and company E was planning to get certified. Additionally, the companies had several environmental-related certifications that were not mentioned in the interviews (Table 1).

3.3. Reflexive thematic analysis

The transcripts from the interviews were analysed via reflexive thematic analysis (Braun and Clarke, 2006, 2020) using a qualitative data analysis programme—MAXQDA (VERBI Software, 2019). Reflexive thematic analysis emphasizes the importance of researchers' subjectivity as a resource, entailing that the researchers engage reflexively with theory, data and interpretation (Braun and Clarke, 2020). The approach in this study was empirically driven: certification was not a topic in the interview guide but was brought up as central to the participants. Furthermore, the analysis was conducted inductively, meaning that the themes were developed through the analytic process. In addition, existing research and theory were used to inform discussions around and interpretations of the data. Thematic analysis was selected because it enables active engagement in the analytic process, is suitable for a large sample of participants and allows interpretation within the wider socio-cultural context (Braun and Clarke, 2021).

The analysis was conducted through a six-phase process (Braun and Clarke, 2006), beginning with (1) transcribing and becoming familiarized with the material, (2) initial coding, and (3) gathering codes and looking for overarching themes and patterns. The analysis focused on meaning in a straightforward way (e.g., positive reputation, rigid rules), but some underlying themes were identified (e.g., frustration, pride and motivation). (4) Themes were developed and divided into drivers, hindrances and some categories that were more independent. (5) These themes were evaluated critically, refined and related to the research questions. The final phase (6) of analysis was to report the findings (with quotations), and compare these with the existing literature. The analysis was mainly conducted by the first author; however, all three authors discussed the categories to ensure methodological integrity (Levitt et al., 2018).

3.4. Ethics

The study received approval from the Norwegian Social Science Data Services (NSD) and followed the guidelines of the National Committee for Research Ethics in the Social Sciences and Humanities. Written informed consent was obtained.

4. Results and discussion

The main theme was that certification gave rise to a back-and-forth process between drivers and hindrances, resulting in conflicting emotions and cognitive dissonance—which we denote *certification dissonance* (Table 2). Subthemes with the most weight are emphasized in bold in the table.

Several themes that were considered drivers of and hindrances to certification processes were identified, and grouped into themes that encompassed 1) internal characteristic of the company, 2) related to market and customers, 3) aspects of the certification scheme and 4) emotions evoked by the certification (Table 2). An overarching theme was the certification dissonance these drivers and hindrances produced. Finally, the overall theme—how certification contributed to greening processes—was analysed.

4.1. Experiences of dissonance in certification processes

4.1.1. How company characteristics shape certification processes

One theme was how characteristics of the company influenced the certification process. Being *small* was generally seen as a hindrance to certification: The time and resources needed for certification were challenging to small-scale companies, and they experienced that the certification process was *expensive*. One participant explained how the economic costs associated with recertification prompted a reconsideration of the scheme:

Table 2
Experiences of the drivers and hindrances in certification processes.

CERTIFICATION DISSONANCE	Drivers	Hinderances
COMPANY CHARACTERISTICS	Flexibility	**Small size**
		Expensive
CUSTOMERS/MARKET	**Positive reputation**	**Greenwashing**
	Competitive advantages	**No market changes**
	Expansion	**Personal relations**
CERTIFICATION SCHEME	Trust	**Rigid rules/bureaucracy**
	Internal routines	**Being controlled**
	Quality mark	**No difference on green practice**
		Internal motivation
EMOTIONS	**Pride/identity**	**Anger/frustration**
	Enthusiasm	Discouragement/ resignation

Yeah … we were an Eco-Lighthouse enterprise until we had to be recertified after three years … then some consultant or other had to come and inspect things, and they had to be paid a few tens of thousands. So just that makes you lose a bit of motivation for it. (Female manager, Company B)

This participant highlighted lack of motivation and economic costs as an important reason to decertify. Furthermore, the costs associated with certification are high relative to the size of the turnover in small-scale companies. Additionally, several participants pointed out that they lacked the time to discuss environmental improvements—practical tasks related to production dominated their work capacity. These findings are in line with the drawbacks of certification (Boiral et al., 2018; Mosgaard and Kristensen, 2020; Valenciano-Salazar et al., 2021), and challenges of certification specific to small-scale companies (Granly and Welo, 2014).

However, being small was seen as an advantage: specifically with regards to *flexibility* and the ability to rapidly adapt to changes and implement greening measures with immediate effect. As this participant pointed out: *'We still have the advantage of being very small, and we can make decisions very quickly'* (Male manager, Company C). Moreover, the participants experienced a high degree of autonomy. Several related flexibility to the ability to implement environmental measures; however, this was not linked specifically to environmental certification. These findings illustrate that size is an important factor to take into consideration when designing certification schemes. Note that although the Eco-Lighthouse certification is targeted at small and medium-sized companies, the small-scale companies in this study nevertheless experienced size-related challenges.

4.1.2. Customer and market drivers and hindrances

In addition to the internal characteristic of the companies, certification processes were also driven by external factors. Several participants experienced that the customers were interested in the environmental profile of their products. A *positive reputation* was identified as a driving force—participants reported that the customers cared about the environment and demanded ecological products. One participant recounted this customer statement: *'Wow, are you really an Eco-Lighthouse enterprise? That's so good to hear'* (Female manager, Company B). In this quote, the participant highlighted that the customer expressed positive surprise upon learning that the company was certified. The positive feedback from customers contributed to the motivation to become certified and stay certified. In contrast, several participants found that the certification led to *greenwashing*, which was considered a major hindrance. The participants stressed the importance of genuine environmental action and distanced themselves from 'other companies' that promoted the greenness of their products through marketing campaigns.

The participants experienced the stretch between certification requirements and their personal environmental values as a major hindrance. In some cases, the certification scheme required using eco-labelled ingredients that entailed long transport, which conflicted with the participants' ideals of true environmental sustainability. Thus, the participants felt that staying within the certification scheme entailed greenwashing their product. Following the scheme's rules and guidelines would provide the label, but also resulted in a product that was environmentally unsustainable. As one participant stated:

For us, there's one thing that trumps organic ingredients, and that's things I consider to be better overall than ingredients marked as organic. Debio only looks at one thing: that is whether something is certified or not. We were going to make a [beverage] *with a particular type of chili. The farmers in Northern India who grow it, they don't even have a tractor, let alone know what pesticides are … but we're not allowed to use it because it's not certified.* (Male manager, Company A)

For this participant, conforming to the environmental standard would provide an eco-labelled product—however, it would also entail greenwashing the product since it would force them to use ingredients that were not seen as environmentally sustainable. Furthermore, the certification implied a simple categorization of products as either eco-labelled or not, contrasting the complex environmental evaluations in which they engaged (Darnall and Aragón-Correa, 2014). Finally, some participants felt that the certification entailed a threat to their reputation, as their environmental performance was at a much higher standard—this may be interpreted as active distancing from symbolic adoption (Ferrón Vílchez, 2017; Martín-de Castro et al., 2017; Heras-Saizarbitoria et al., 2020). The experience of a gap between a positive reputation and greenwashing gave rise to certification dissonance; one response was to decertify.

Some participants experienced that the certification provided a *competitive advantage*—that they were given opportunities because they were certified as organic. The following quote illustrates how the eco-label granted access to a new market:

Male manager: *We now have a contract with* [name of wholesale grocery supply group] *so from May our product will be in all the* [name of supermarket chain] *throughout Norway. And we have had to redo the labels … and write 'Certified Organic' in front of it.*

Interviewer: *Did that have any bearing on why they gave you access?*

Male manager: *That we're organic? Yes, that's the reason why they gave us access.* (Company A)

Additionally, some participants related the use of eco-labels to the economy, arguing that it increased the product's selling price. Other participants, however, contested the idea that certification provided a market benefit. Some even reported *no market changes*. These participants were uncertain about the impact on their reputation; additionally, the costs were a burden, so they concluded that being certified did not pay off. One participant even stated that he was losing money on the eco-label: *'It isn't a magic money tree for us'* (Male manager, Company F). Some participants further reported that their customers did not know that they were certified. Finally, a few participants reported that the customers cared for other aspects of the production, such as producing locally or following traditions. In summary, the experiences regarding market effects varied from positive to uncertainty and no effect—and any gap between resources invested and lack of market effects gave rise to dissonance.

While *personal relations* with customers would normally be considered an advantage, in this context, close connections were a hindrance to certification. Many customers were familiar with the companies because of their local base, and had established personal relationships with the producers. As a result, they had sufficient knowledge about their production and did not need the quality stamp the certification could provide. In this quote, the participants underline the advantages of interacting directly with customers.

Female employee #4: *I think you can already feel it when you enter the shop, because it is much smaller … everything is prepared well and … the person selling has often time also to talk. It is, maybe this atmosphere mixed with a person you can see directly and know he or she is working here, like that combined also makes you like feel that it is more value maybe.*

Male employee #2: *So bigger companies put a lot of effort into ads. Here we hope that people just trust us.*

Male employee #1: *I think the important thing is it is not too big. You can have a personal relationship … and that is building up that trust in them. I think that is important.* (Company D)

The participants highlighted the personal contact with customers as the basis for trust, and this was contrasted to larger companies that rely on advertising to build reputation. In addition, several companies cultivated close relationships with their suppliers to be able to trust the quality of the ingredients. Environmental certification may be seen as a substitute for trust based on personal relationships, and hence more relevant to large companies or companies without a local base.

However, *expansion* into new markets increased the necessity of certification. Therefore, expansion to sell products nationwide was considered a driver for certification. One participant explained this in the following way:

> *If you are going to say that something is organic, then you actually need to have it labelled, otherwise you're not permitted to say it's organic. Given that we sell things throughout the country and so on, then … but if one only sold in the local area, it actually wouldn't be that important.* (Male manager, Company G)

This participant related the importance of certification to the area of distribution: nationwide distribution increased the significance of certification.

In summary, the customers were driving certification processes by their demand and positive attitude towards certification. Being certified could be considered a competitive advantage—especially related to expansion. This is in line with Valenciano-Salazar et al.'s (2021) findings from Costa Rican companies, highlighting improved green image, recognition and increased market shares as important drivers. However, our findings indicated that customers and market factors were also hindering certification, as many customers were indifferent towards certification, and seemed to trust the company regardless of eco-labels. Furthermore, participants experienced a dissonance between their personal environmental values and certification requirements, and felt that conforming to the standard greenwashed their product.

4.1.3. Drivers and hindrances within the certification scheme

Rigid rules and bureaucracy were highlighted as a serious barrier to certification. Participants experienced that the certification scheme entailed categorical thinking. Moreover, lack of flexibility and practical solutions hindered staying within the certification scheme. The tendency to experience work on documentation as negative was common: *'There's an awful lot of bureaucracy! There's a frightful amount of it'* (Male manager, Company F). These experiences correspond to previous studies' findings that bureaucracy and documentation are disadvantages that may lead to decertification (Flaten et al., 2010; Mosgaard and Kristensen, 2020). In contrast, one participant expressed that the certification aimed to contribute towards a green ideal, thereby creating *trust*:

> *The Debio regulations are really developed to ensure that everything should be, sort of, as good as it can be, from an environmental standpoint. So we are … partly it's the case that you need to believe that the work put into it is sound, that you can trust it.* (Male manager, Company G)

This quote indicates that the participant supported the work that was done to obtain an eco-label, but his use of qualifiers (e.g., 'kind of' and 'partly') devalues the strength of the statement.

Several participants experienced the certification scheme as an external *control*. They reported that they were monitored, and kept records in order to defend their practice: *'We are going to be checked'* (Female employee #2, Company E). Participants referred to the certification scheme as a controlling body; this resulted in practices aimed at satisfying the inspectors rather than substantially changing their organization. In contrast, a few participants experienced that the certification might help strengthen *internal routines* in the companies, which was considered a driver.

> Female team member #1: *He* [the manager] *always makes every effort to obtain organic products, but when that doesn't happen he just has to take what he gets. But the aim is certainly for everything to be organic.*
>
> Male manager: *That is the whole point of the Debio certification.*
>
> Female team member #1: *It is what we strive for.* (Company F)

In this quote, the participants attributed their striving for green alternatives to the certification, indicating that it helped them establish internal environmental practices in the company. In relation to the systems perspective (Fig. 1), most participants indicated that the certification scheme was unsuccessful in establishing internal routines in the corposystem; rather, it was regarded as an external body located in the macrosystem.

The eco-label was considered a *quality mark*, which was a driver. The need for a quality mark to secure trust in the product and confidence regarding environmental aspects was related to expansion beyond the local market: *'It's like a quality stamp, but maybe we didn't really think that we would be able to … that we would sell more because of that. But that maybe it was of positive benefit for our reputation, possibly … '* (Female manager, Company B). This participant considered the eco-label a quality mark but was uncertain about the effect on sales and reputation. Several participants experienced that certification made *no difference on green practice*, which was a strong hindrance to certification. The Eco-Lighthouse scheme required recertification every third year: in one company, this prompted a dialogue on the pros and cons of staying certified versus decertifying:

> *We no longer wanted to be part of it, because I kind of felt that there was … a bit too much bureaucratic nit-picking attached to it in a way. We were just as environmentally friendly in how we operated, whether we were certified or not. And there were some kind of yearly costs involved. If you wanted to be recertified.* (Female manager, Company B)

In this participant's experience, the certification did not strengthen the environmental practices within the company—additionally, she questioned the overall value of the certification. This doubt regarding the significance of certification, and/or the belief that certification made no difference on environmental practice, gave rise to certification dissonance. In the case of company B, this dissonance was reduced by decertification.

Some of the companies were green at heart; as such, the certification did not contribute to greening. They had an *internal motivation* to go green that seemed to exist independently of external certification schemes. As one participant stated: *'That's not our motive—our motive is on a different level'* (Male manager, Company G). The internal motivation was considered a hindrance to certification, since the certification provided no additional value in these cases.

In summary, the certification scheme did spur processes within the companies, such as providing a quality mark and establishing trust. However, the rigid rules, bureaucracy and monitoring were experienced as drawbacks, as was the experience that certification did not affect environmental practices.

4.1.4. Emotional reactions to certification-imposed dissonance

The participants expressed strong emotions related to certification that may both drive certification and de-certification. Several participants expressed *anger and frustration* because of the rigid requirements imposed by the certification scheme.

> *They* [Debio] *only look at one thing, and that's whether something is certified or not … if our beer is to be certified organic we would have to purchase oysters from France that are imported from Japan. That's, what … where is the organic aspect in that? It is just as if the people working in Debio, they don't know what in the world 'organic' means! They just don't know—that's how I feel.* (Male manager, Company A)

This quote illustrates the stretch between the participant's own sense of environmental soundness and the rigidity of the certification scheme—which then created dissonance and triggered negative emotions. Furthermore, working with the certification scheme also led to *discouragement and resignation*, as in this quote: *'I think it's very demotivating and difficult to work with Debio, who do the certification. As far as I'm concerned, they've completely lost the bird's-eye view'* (Male manager, Company A). This participant struggled with his motivation, because he felt that the requirements did not make sense. His solution to reduce the dissonance between the certification requirements and his own sense of what was environmentally sustainable was to produce some products outside the certification scheme. Other negative emotions occasionally expressed were sadness, disappointment and indifference. One participant explained that producing according to the eco-label is *'actually not problematic, but neither is it a source of inspiration'* (Male manager, Company G). This participant expressed indifference; handling the requirements from the certification agency was a necessity but did not stimulate green innovation. A few participants expressed disappointment that the certification did not live up to their green ideal.

However, participants also expressed strong positive emotions related to the certification. They expressed *pride and identity*, which were considered important drivers of their environmental measures in general but were also related to the certification. One participant was proud to mention that they were the first company to gain Eco-Lighthouse certification in their municipality. In addition, participants felt pride when presenting their products to customers:

> *Among our products we have eco-fleece, so our products are manufactured in as environmentally friendly a way as possible, and as a salesperson it means that I can proudly travel around to shops and show them our products—it* [the environmental profile] *is something I tell them about.* (Female employee #4, Company C)

This participant felt that her own environmental values and the company's environmental values were in congruence, which produced a positive emotion—namely, pride. The following quote illustrates the significance of this environmental consciousness: *'I sort of feel that taking the green route was maybe a natural choice for us in a way, that it was part of our identity'* (Female team member #1, Company B). This participant expressed that going green was central to the identity of the company. Overall, the participants in this study stressed the importance of a green profile. However, it is difficult to distinguish the environmental profile from the certification; pride and identity might just as well be a result of their greening measures as their certification.

Some participants also expressed *enthusiasm* related to certification. One participant mentioned environmental certification as an important element in the entrepreneurial phase: *'One thing that was important was to get the Debio certification, so we got it almost immediately'* (Male manager, Company F). This participant seemed to be both enthusiastic and proud of the eco-label. Thus, although the negative emotions were more pronounced, it is worth noting that the certification also evoked positive feelings. This raises the question: To what extent was the decision to certify based on rationality or emotions? Environmental decisions are often not guided by cognitive factors such as information and future perspectives, but rather emotions and social practice (Grolleau et al., 2016; Brach et al., 2018).

4.2. The 'eco grey zone'

This section discusses the outcome of these certification dissonance processes: Does certification lead to greening or greenwashing? The certification scheme inherently involves categorical thinking—a dichotomous outlook on companies or products as either green or not green. However, in the participants' experience, considering what is environmentally sustainable involves comparing a variety of factors. This is captured by the following quote: *'What is actually real green … how to define what is green. There are many things to take into account'* (Male employee #3, Company D). This quote illustrates how the participants had a complex understanding of what being green means, which is in line with Darnall and Aragón-Correa's (2014) critique of the one-dimensionality of many eco-labels. In the 'eco grey zone', different environmental considerations are often conflicting. In some cases, companies that were producing in accordance with the eco-label decided to make uncertified products.

> *We have a* [beverage] *containing raspberries. You can't get hold of organic raspberries in Norway, so if we were to have the Debio label on it, we would have needed to import them from France. Organic raspberries from France! But, just a short distance from here, there is a friend of mine who is a raspberry farmer, and I know that he sprays them as little as humanly possible. So this summer, we will produce with local raspberries, and it won't be certified organic.* (Male manager, Company A)

For this participant, 'organic' and 'imported from France' were incompatible. In this case, the participant felt that a product based on local and uncertified raspberries was truly sustainable—which was considered more important than being able to use the eco-label. Thus, the drive to be green may lead companies out of the certification scheme. According to the systems perspective, elements close to the employee are more influential than peripheral elements. In Company A, the environmental values of the manager (microsystem) seemed key to the decision; the certification scheme, on the other hand, represented a peripheral element (corposystem).

A central discussion in the eco grey zone was the meaning of environmental sustainability. One participant expresses explicit disagreement with the definition provided by the eco-label:

> *That particular term, what is organic, that … and Debio's definition, I, for one, disagree strongly … Previously, Debio kind of set the guidelines … but sometimes we actually see that there are more sustainable products if we do not relate to Debio.* (Male manager, Company A)

This participant found it difficult to stay within the scheme, as his personal values and those represented by the eco-label were dissonant. This quote might also indicate a disappointment that the certification scheme is no longer considered to represent a green ideal. Several participants felt that they were truly sustainable, although they were outside the certification scheme: *'We didn't go down the organic route. But in fact, we were as organic as it was possible to be'* (Male team member #1, Company A). In this quote, the participant contrasted being eco-friendly with the eco-label. It is this sense of contradiction that gave rise to cognitive dissonance and negative emotions.

There seemed to be a hierarchy of certifications regarding how much they required and to what extent they spurred processes internally in the organization. For instance—the Demeter label was considered to require more pervasive changes than the Debio label: *'Demeter is an international label for biodynamic agriculture, which is also a lot more stringent, and even a more sort of holistic way of thinking, perhaps'* (Male manager, Company G). This quote demonstrates the comparison between different certifications and indicates an understanding of the eco grey zone as hierarchically ordered, consisting of different shades of green.

The quotes in this section illustrate that the participants struggled to evaluate what is—and is not—eco-friendly. They renegotiated the meaning of going green, thus leaving a categorical understanding and entering the eco grey zone. Regardless of how one conceptualizes nuances in the eco grey zone, both customers and companies had to navigate the complex landscape of an increasing number of certification schemes. This, and the fact that several participants found that certification made no difference on their green practice, challenges the overall greening effect of certification.

4.3. Theoretical and practical implications

The participants appeared to struggle with their evaluations of different environmental outcomes. The requirements required to produce a certified product forced them to make choices that they felt were not sustainable, such as importing airborne certified ingredients instead of using local, sustainable but uncertified alternatives. This seemed to give rise to cognitive dissonance (Festinger, 1962; Hinojosa et al., 2017); correspondingly, we have introduced the term *certification dissonance* to denote the gap between adhering to one's environmental values and conforming to certification standards.

Combining elements from certification processes and cognitive dissonance theory, we propose a new process model to understand certification and organizational greening. The central proposition in this model is that the employee's environmental values and the requirements of the certification scheme can cause incongruence, thus producing certification dissonance. The frustration associated with this dissonance forces the employee to do something. As the model suggests, and as our data support, an employee may reduce dissonance by: 1) changing their perception of the certification; 2) decertifying or making products without the eco-label; and 3) resigning and/or disengaging. When an employee's values are in congruence with the requirements of the certification scheme, denoted *certification consonance*, the certification scheme may enforce green practice and produce organizational greening (Fig. 3).

Is certification relevant for small-scale companies? Small-scale companies tend to have more direct contact with customers and often operate locally—both factors that may outperform the added value of certification schemes. The resources required for certification are proportionally larger in small-scale companies: not only is the economic cost high, but the companies may also lack human resources. Finally, small-scale companies depend more on informal structures and seem able to follow through with their green agenda regardless of formalization in the form of certification. We therefore argue that small-scale companies be treated as special cases, that there may be several routes to greening, and that there be more flexibility in revision processes.

To avoid losing members, certification schemes must be based more on a holistic understanding of what greening means—and less on rigid rules and bureaucracy. To be sustainable, the schemes must consider the variety of factors that constitute true sustainability.

4.4. Study limitations

This is a small case study of seven small-scale companies in Norway; this must be taken into consideration when generalizing the findings to similar contexts. Nevertheless, many findings are likely also relevant for small-scale companies in other countries. The companies were selected because they had a green profile, which provided rich data on environmental sustainability, however-the results must be understood in the context of purposive sampling (Levitt et al., 2018). Additionally, one of the researchers had a farming background, with engagement in environmental issues; this may have helped gain participants' trust, but may also have influenced their responses. Environmental research is prone to social desirability bias (Vesely and Klöckner, 2020), which is especially relevant in focus groups because of the lack of anonymity. Future studies could include observation and field work to counterbalance possible biases. In addition, future studies should focus specifically on the certification process, and distinguish between the perspectives of employees versus managers.

5. Conclusions

How is environmental certification of products and organizations experienced in small-scale companies? In summary, participants engaged in a continuous dialogue around certification schemes' and eco-labels' contradictions. The dissonance between environmental sustainability and certification requirements precluded an easy path to certification, or straightforward benefits of being certified. The tension created at the intersection of the drivers and hindrances gave rise to strong emotions and we coined the term certification dissonance to describe this phenomenon. These contradictions were related to *characteristics of the companies*, as certification was expensive in small-scale companies. Furthermore, the *customers and market* were important: certification builds a positive reputation but the personal relationship with customers reduces the significance of the competitive advantage. The *certification scheme* provided a quality mark and promoted green development, but the experience of rigidity, excess bureaucracy and being controlled were a hindrance—especially when being certified made no difference on the company's green practice. Finally, *emotional reactions* to certification were surprisingly strong, which was explained by the certification dissonance processes. Based on psychological theory,

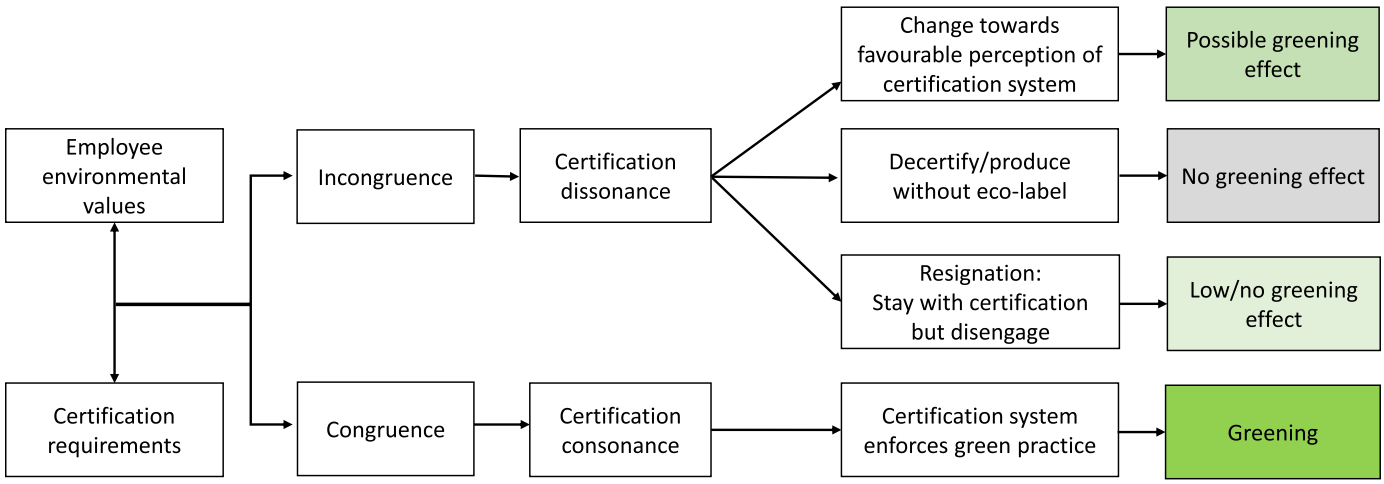

Fig. 3. A certification dissonance and consonance model of greening.

we developed a process model of certification dissonance to analyse how certification may lead to different outcomes. These outcomes may include no greening, low greening or a possible greening effect. The practical implication to those who run certification schemes is that they should avoid rigidity and embrace a holistic sustainability perspective to ensure that the certification process includes the pro-environmental values of employees—ultimately promoting environmental sustainability.

Although it was not an initial focus, the data indicated that there were some differences between the certification of products through eco-labels and the environmental certification of companies. Participants expressed strong emotions in relation to eco-labels; they experienced frustration related to dilemmas posed by the adoption of schemes, but also positivity about reputation, comparative advantages and new market possibilities. Regarding certification of companies, participants expressed more indifference—the certification was relatively easy to obtain, but provided less gain. In comparison, the eco-label was associated with larger wins, but at a higher cost.

Are these certification processes a driving force for greener production? The participants' accounts indicate a nuanced understanding of the meaning of greening. Thus, an understanding of green as an inclusive or exclusive category is not supported. The participants' understanding of pro-environmental behaviour is that it is complex, and that finding the best environmental solution is difficult: i.e., using certified ingredients in a product is good, but not if it necessitates long transport. The participants discussed pros and cons related to choices of different courses of action. In this way, the process of certification seems to lead to environmental awareness, but not always in the ways required by the schemes. We introduced a new concept—the *'eco grey zone'—to describe the complex and contradictory evaluations of environmental sustainability.*

The systems perspective provides a novel framework to understand certification processes. The accounts in this study illustrates that environmental certification is often considered peripheral and may be placed in the macrosystem. However, both the Eco-Lighthouse and ISO 14001 schemes aim to internalize routines and establish a green organizational climate. This would have placed the certification system at a more central system layer, but our data do not support this. The certification schemes must therefore develop implementation processes that engage employees and contribute to substantially change practices. Future studies of user experiences may provide a knowledge-based foundation to improve such implementation processes.

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Ingeborg Flagstad: Conceptualization, Methodology, Investigation, Formal analysis, Writing – original draft, Visualization, Project administration. **Åshild Lappegard Hauge:** Conceptualization, Formal analysis, Writing – review & editing, Visualization. **Svein Åge Kjøs Johnsen:** Conceptualization, Validation, Formal analysis, Writing – review & editing, Visualization.

Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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