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Stakeholder influence
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Proefschrift

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Preface

It took me two millenia to realize this unaccomplished book. Research is an evolving enterprise, fed by partial, temporarily unfalsified observations. At the outset of this study, in May 1998, I had the naïve idea that I could acquire an almost exhaustive understanding of a topic as broad as the present one. While my theoretical and empirical knowledge progressively increased with time, I also became more aware of my ignorance and the limitations the endeavour. Yet, a lot has been achieved over the past few years. The fruits are partially embodied in this book and partially carried on as a personal experience. I have perceived my Ph.D. studies as an extraordinary journey, during which I encountered myriads of fascinating ideas and which gave me a more realistic view of the (im)possibilities of scientific research.

Being the sole author of a book creates the false impression that the realization of the study involved one single person. Many people, inside and outside academia, have made divergent contributions at different points in time. They are too numerous to be all mentioned. It seems unfair to mention only a few of them, but it would be even greater injustice not to refer to those who made a particularly important contribution to this work. Nigel, who has been my mentor from the very beginning, has played an important architectural role in this study. His foresight of upcoming research issues and his tolerance of alternative views have been precious assets. Niels, who joined the mentoring process after a year, has shown a remarkable capability to get quickly to the heart of this study and to give ever pertinent advice. He has also played an invaluable role in the process of time management. Anja's pragmatic approach was important in getting started with the empirical research. I thank my former colleagues of the Department of Organization and Strategy, especially the 'Young Ones', for the nice working environment and the often interesting discussions. The empirical study would not have been possible without the willingness of the many respondents to candidly share numerous interesting insights 'from the field.' Finally, I am most grateful to Bart, Christine, Kees, Niels, Nigel, and Sjoerd for their kind willingness to peruse the manuscript and to provide valuable advice.

The Ph.D. track has implied a radical change of my professional life. I interpret Manu's acceptance and support of its private implications as a sign of love. Shine on, you diamond in the rough. I am immoderately proud of Tom and Anna, whose vivacity is a source of perpetual energy. They also keep on reminding me that important questions tend to be simple and that needless complexity obscures understanding. My parents' moral and practical support has been a constant factor

throughout my life. Christine and Michel could so often be counted on. Last but not least, I thank Remco for being my alter ego.

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1 Introduction

1.1 Area and rationale

Organizational studies have had a long-standing tradition of writings on power and influence, including contributions by Machiavelli, Marx, and Weber (Hardy and Clegg 1996; Morgan 1997). Influence and power can be regarded as equivalents (Mintzberg 1983b), and refer to the ability to make others behave in a way that they would otherwise not (Dahl 1957). Power issues have been studied at different levels, ranging from individuals to societies. The objectives of these studies vary from mere understanding to political advocacy (Hardy and Clegg 1996). Their objects include such divergent themes like resistance, labour relations, informational flows, gender, uncertainty reduction, domination, and adaptation (Kramer and Neale 1998; Hardy and Clegg 1996; Morgan 1997). As a result, the influence literature is vast but disparate (Bacharach and Lawler 1998; Hardy and Clegg 1996).

Organizational learning is a far more recent topic. But over the last few decades, there has been a fast growing number of publications (Argote 1999; Miner and Mezias 1996; Huber 1991). Organizational learning takes place when organizations increase the range of their behavioural capacities due to the processing of information (Huber 1991; Kim 1993). Learning has been analysed at different levels (individuals, groups, organizations, and networks), though the organizational level is the more common one. Due to different objectives, a dichotomy exists between the more scholarly publications- aiming at merely understanding learning processes- and the more practice-oriented action research- seeking to realize concrete changes (Argyris and Schön 1996). The learning literature covers issues like cybernetic processes, barriers and stimuli, types, roles, group composition, and dynamics. (Argyris and Schön 1978; 1996; March 1991; Romme and Dillen 1997; Huber 1991; Nonaka 1996; Miner and Mezias 1996; Argote 1999). Within a relatively short period, the organizational learning literature has become fairly extensive and relatively coherent (Argote 1999; Miner and Mezias 1996; Huber 1991).

While both areas are well-established, the relations between influence and learning have hardly been addressed in the extant literature. In September 1999, I searched for combinations of power/influence and learning (including their derivatives) in an electronic data bank of millions of scientific publications (Online Contents, Tilburg University). The search yielded some 500 hits, which were practically all irrelevant to the field of organizational studies. This confirmed my impression that the interrelations between influence and learning in organization

settings are a highly underresearched theme, a view which is shared by Coopey (1996). Therefore, I decided to explore common grounds between the two areas.

The study addresses the issues of influence and learning in the context of the field of corporate environmental management, which is concerned with the ways in which business organizations deal with issues that are related to external physical and biological systems (cf. Egri and Pinfield 1996).[1] Although concerns for (shortfalling) environmental resources can be traced back to at least Malthus (Tietenberg 1988), companies have only recently perceived environmental issues as relevant. Business interest in environment-related problems started in the 1970s and has progressively increased (Hoffman 1997). Consequently, the corporate environmental management literature is very recent. Most publications have appeared over the last decade. Business environmental management issues are mostly analysed at the organizational, industry, and network levels. Normative differences have driven a wedge between relatively neutral scholars and the more action-oriented researchers (Egri and Pinfield 1996; Hoffman and Ehrenfeld 1998). Subjects of interest include accountability, strategic management, institutionalization, stakeholder issues, structuralization, systemic interrelations, and marketing (Gray et al. 1993; Hall and Roome 1996; Roome 1998; Clarke and Roome 1999; Hart 1995; Kolk 2000). The environmental management literature has not yet matured (Gladwin 1993), though it has developed rapidly.

So the present study explores interfaces of influence and learning with respect to environmental management. For reasons of focus and clarity, I have further delimited the research area. As far as influence is concerned, I only consider the influence of corporate stakeholders. A stakeholder can be defined as any individual or group who significantly affects an organization's behaviour (cf. Mitchell et al. 1997). This study examines, how different internal and external stakeholders affect the behaviour of business organizations that manage environmental issues. Stakeholder influences can be represented as a multilateral network (Rowley 1997). Here, I do not explicitly address structural characteristics of networks. Instead, I take a more social psychological stance, by focusing on how and why the behaviour of individual actors is affected by other stakeholders (cf. Murnighan 1993). I analyse the relations of organizational actors with other internal actors and with external constituencies. The focus is thus on the ways in which the behaviour of members of a business organization is affected by their social relations. On top of these dyadic relations, I also consider configurations of different stakeholder relations. Because of holistic

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[1] Throughout this study, the term 'environment' refers to the natural environment. Other types of environment are indicated by adding adjectives, for example social environment.

2

effects, networks of stakeholders are not merely the sum of individual relations (Meyer et al. 1993; Ragin 1987).

Organizational learning can be regarded as learning by individual organizational members or as a group process with collective outcomes (Argote 1999). In this study, I take the latter stance, and consider organizational learning to be a process that involves a combination of inputs from different (organizational) actors. Instead of studying isolated learning processes by individuals, I consider the roles of individual actors in collective learning processes.

As far as environmental management is concerned, I focus on (the management of) stakeholder relations in the organizational context. Other perspectives (like industry effects) or other topics (such as accountability) may be touched upon, but I do not extensively deal with them.

Furthermore, I focus on large organizations. Though influence and learning occur in and around any business organization, the present study takes a particular interest in large organizations. They are characterized by a multitude of heterogeneous, interrelated spheres of influence, which cannot be (fully) predicted and controlled (Emery and Trist 1965; Morgan 1997; Simon 1973). The presence of numerous, divergent, and interrelated influences are likely to generate the type of complexity that I seek to study.

Against the backdrop of the above delimitations, the central research question of this dissertation can be formulated as follows:

How and why do stakeholder influence and organizational learning interact in the environmental management practices of large business organizations?

I adopt a critical realist perspective, which assumes the existence of an objective, complex reality. Critical realists study configurations of causal factors, acknowledging that our understanding of reality is only partial (Sayer 1992; Guba and Lincoln 1994). Chapter 3 further elaborates on the ontological and epistemological positions adopted in this study.

The present study was embedded in a larger project, labelled as DynEmics. This project covered the period 1998-2001, and included researchers from four Dutch universities. Each participating institute specialized in a different aspect of environmental management: its integration into business strategies, marketing, the government-business interface, and stakeholder relations. The aim of the project was to better understand longitudinal changes of environmental management practices in the Netherlands. Major findings from the DynEmics project were presented in Roome et al. 2002.

1.2   Setting of study

Organizations cannot sustain their activities without considering their relevant business environments. External constituencies hold critical resources, on which companies depend for the fulfilment of their own objectives (Pfeffer and Salancik 1978). Organizations are exposed to quasi-irresistible institutional forces, such as legislation, to which they have to conform (DiMaggio and Powell 1983). Combining these perspectives leads to the view that companies face strong external pressures, to which a variety of organizational responses can be formulated (Oliver 1991). I extensively apply this combined resource dependence-institutional view.

I also use other theoretical lenses on influence. Social psychology provides insights into the reasons why individuals are sensitive to influencers (French and Raven 1968; Messick and Ohme 1998; Mitchell et al. 1997; Prakash 2000). The contingency perspective highlights the necessity to fit the organizational structure to the characteristics of external environments, which requires appropriate mechanisms to allocate resources to the actors involved (Burns and Stalker 1961; Emery and Trist 1965; Mintzberg 1983a, 1983b; Pfeffer 1992). The collective action view is concerned with the ways in which individual actors join forces to counter powerful other actors (Galbraith 1952; Olson 1965; Pfeffer 1992; Bacharach and Lawler 1998). Finally, the social network view analyses the relations between informational flows in networks of social actors and relative power (Burt 1998).

All of these perspectives of influence provide useful but partial explanations to the prevailing research question. Therefore, I use them in an eclectic way. Moreover, I try to craft an integrative typology, because the existing influence literature is extremely disparate (Bacharach and Lawler 1998; Hardy and Clegg 1996). An integrative perspective on influence enables a far more powerful analysis (Bacharach and Lawler 1998).

Pettigrew et al. (2001) argued that organizational studies of change fall short in highlighting process, context, and dynamics, although these aspects are particularly relevant. The present study includes a process approach to influence. I contextualize by considering antecedents and the coincidence of different causal factors. Finally, this study was designed as a set of longitudinal cases, which enabled the investigation of organizational dynamics.

The organizational learning literature is rooted in the behavioural approach, which studies cognitive aspects of individual and group decisions (Simon 1973, 1976; Cyert and March 1992; Bazerman 1997). The behavioural view of organizational

learning plays a central role in this study. The learning literature is relatively coherent (Huber 1991; Argote 1999). Similar typologies exist, though terminologies differ (March 2001; Argyris and Schön 1978, 1996; Senge 1990, 1996; Coopey 1996; Fox-Wolfgramm et al. 1998; Weick and Westley 1996; Miner and Mezias 1996).

Processes of learning are also a recurrent issue in the literature. Certain scholars view organizational learning as learning by individual organizational members (Argyris and Schön 1996; Simon 1991). However, the mainstream view is that organizational learning is not simply the sum of learning individuals. This implies that processes in groups should be studied, including holistic aspects like information sharing (Huber 1991; Argote 1999). While theoretical consensus exists as to the process of learning within the mainstream literature, empirical studies of organizational learning are rare (Miner and Mezias 1996; Lähteenmäki et al. 1998). The few existing field studies tend to focus on production or innovation settings; empirical research in other areas is virtually inexisting (Argote 1999; Castaneda 2000). This study builds on the mainstream view. Organizational learning is assessed empirically in other areas than production and innovation. The study also includes a longitudinal dimension, allowing for intertemporal comparisons.

The literature on organizational learning is fairly consistent as to the roles of different actors in the process of learning (Tushman and Nadler 1996; Nonaka 1996; Senge 1999). Yet, more systematic (empirical) research is needed to assess the contributions of different stakeholders in organizational learning processes (Roome 1998). This study sheds light on the involvement of different actors in learning processes.

Environmental strategies can be regarded as organizational responses to influences by major (external) constituencies. Existing typologies of environmental strategies tend to be inductive, tailored to the prevalence of (particular) environmental issues (Kolk and Mauser 2002; Roome 1992; Hall and Roome 1996; Kolk 2000; Sharma 2000; Sharma et al. 1999). Such studies can lead to detailed empirical insights. Yet, I draw primarily from more general theories of influence, applying them to the particular field of environmental management. In my view, the applicability of general theories is larger than the scope of particular frames. In chapter 3, I address this issue in greater depth.

The environmental management literature tends to approach stakeholder relations as cooperative platforms that foster mutual understanding and learning (Clarke and Roome 1999; Westley and Vredenburg 1991; Turcotte and Pasquero 2001). Again, I use insights from these inductive studies, but primarily use the more general influence and learning literatures.

The field of environmental management has not yet matured. Gladwin (1993) identified a number of issues that scholars confront in newly emerging fields, including the failure to build on existing publications, the insufficient use of rigorous hypothesis testing, the lack of dynamics, and the lack of general models. During the decade that followed Gladwin's plea for better scholarship, many improvements have been realized. Yet, there is still a long way to go. The present study takes up Gladwin's challenge. I make extensive use of the existing literatures on influence and learning, and try to craft a general model. This model provides the basis for developing hypotheses, which are tested on the basis of longitudinal data.

To resume, this study aims at contributing to the literature by exploring interrelations between stakeholder influence and organizational learning. Another objective is to achieve an integration of different theoretical approaches to influence. A third aim is to measure organizational learning in a diversity of empirical settings. Finally, I want to contribute to the environmental management literature by adding theoretical and empirical insights into relations between companies and their stakeholders.

1.3   Structure

This study follows a classical structure. Chapter 2 provides the theoretical framework. I review the literature of the three major areas (environmental management, stakeholder influence, and organizational learning). The analysis of each field is built up along similar lines. It starts with a typology of the respective field, followed by the basic process that takes place in an area, static complexity due to the presence of multiple processes, key actors in an area, and dynamic developments in a field. Next, I blend the three areas to craft a general model. In order to focus the empirical research, I finally derive three hypotheses from the model.

Chapter 3 is concerned with methodological issues. It provides links between theory and empiricism. The first part describes the research paradigm adopted and adds some reflections on the different elements that make up a scientific study. The second part deals with the empirical method. I explain the rationale for choosing case studies, and describe the pilot study, the selected cases, the data sources, and the data analysis.

The empirical study is described in chapters 4 and 5. Chapter 4 deals with the contexts in which the different cases are embedded. It starts with an overview of the different cases. Next, the six main cases are described in turn, using the same format

for all cases. I first provide (general and environmental) antecedents and the environmental management structure. To complete the picture, I give an overview of stakeholder influences (which are extensively described in chapter 5). As this study is longitudinal in nature, the same issues are passed in review twice. For reasons of parsimony, I only describe the changes that took place between the two observation periods. For the second period, I thus represent new events, changes of the environmental management structure, and an overview of modifications in stakeholder relations for each case.

Chapter 5 constitutes the core of the empirical study. It can be read on a stand-alone basis, though this chapter frequently refers to contextual information from the preceding chapter. This second empirical chapter analyses the stakeholder influence and organizational learning that occurred in each of the focal organizations. I represent the objectives and resources of important internal and external actors, as well as the organizational response to these inputs. As far as organizational learning is concerned, I indicate the extent to which the organizational objectives of learning were realized. Besides, I analyse the performance of the focal organizations in the different stages of the learning process. In conformity with the longitudinal nature of this study, I analyse the alterations of stakeholder influence and changes of organizational learning that occurred between the two observation periods. After the analyses of individual cases, I come to the cross-case analysis. The theoretically derived hypotheses provide the basis for comparison. I summarize and compare the outcomes of the different cases for each of the three hypotheses. This leads to the falsification or corroboration of the hypotheses.

The empirical results are considered in the light of the existing literature in chapter 6. I discuss the extent to which the outcomes of the field study are in line with or challenge the existing academic literature. I first discuss the implications for the literature that is directly related to the hypotheses. Next, I consider the impact of the outcomes for the basic research model. Then, I broaden the scope to discuss other implications for the (learning and influence) literature. Finally, I reflect on the generalizability of this study.

Chapter 7 is reserved for conclusions, limitations, and recommendations. I recap salient aspects of the literature review (including some critical notes), the basic model, the methodology, the empirical results, the revisited model, and other empirical outcomes. No study is complete without specifying its scope and, especially, its limitations. Therefore, this study is put into a wider perspective and its major shortcomings are considered. Finally, I make a number of recommendations. I highlight points for future academic research. Besides, I provide advice for the stakeholders whose (lack of) concrete actions have far-reaching consequences for the future state of the environment: government and business.

Figure 1.1: The research process

Chapter 1: Research question

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Chapter 2: Literature review

⇩

Model deduction

⇩

Hypothesis deduction

⇩

Chapter 3: Methodology

⇩

Chapter 4: Empirical context

⇩

Chapter 5: Empirical analysis

⇩

Hypothesis testing

⇩

Chapter 6: Model revision

⇩

Implications for literature

⇩

Chapter 7: Conclusions and recommendations
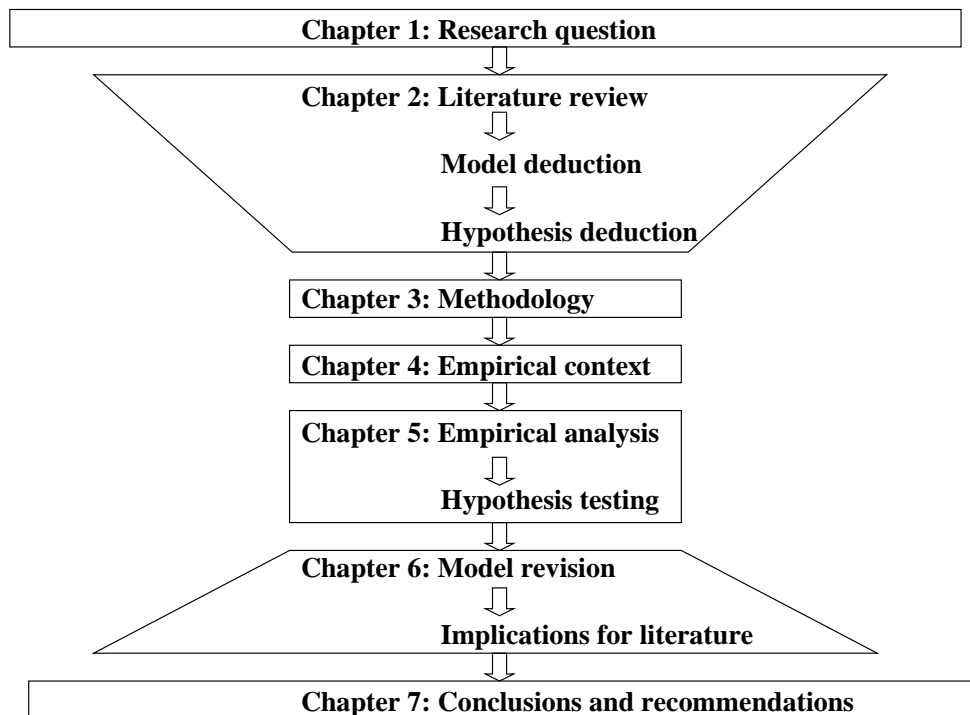
A graphical overview of this study is provided in figure 1.1. The study starts with the delineation of the research area and the development of a research question (chapter 1). A review of relevant literature provides theoretical insights into the central problem (chapter 2). However, a review is unlikely to be fully exhaustive, so the selection of the literature used provides a first focus of the study. The literature review leads to the development of a model of interaction. Hypotheses are subsequently derived from this model. As these hypotheses highlight particular aspects of the model, they involve a further focus. The methodological chapter (3) provides reflections on the design of the study and establishes links between theory and empiricism. The empirical study consists of a contextual part (chapter 4), which describes the particularities of the different cases, and an analytical part (chapter 5), which reports on processes of influence and learning and which tests the different hypotheses. The outcomes of the empirical study are discussed in the light of the basic model and the literature (chapter 6). Relating these (specific) results to the (more general) basic model and the literature at large implies that the scope of the study widens again. The scope becomes even wider during the discussion of the extent to which the results are generalizable outside the field of corporate environmental management. Finally, conclusions are drawn, the basic research question is answered, and recommendations are made (chapter 7).

2 Literature review

The introductory chapter provided the rationale, setting, and structure of the present study. Its basic research question is how and why stakeholder influence and organizational learning are related with respect to the environmental management of business organizations. This chapter address the research question from a theoretical perspective. I successively review relevant literature from the three main fields (environmental management, stakeholder influence, and organizational learning). This review has the same structure for each area: a typology, the basic process, static complexity, roles of key actors, and dynamic aspects. A typology represents the different forms in which a phenomenon can manifest (Meyer et al. 1993). A process explains, how a phenomenon takes place (Pettigrew et al. 2001). I start with the most basic process, which I subsequently extend to the multiple-process setting in order to account for complexity. By representing roles of key actors, I indicate the ways in which particular stakeholders contribute to a phenomenon (Freeman 1984; Mintzberg 1983b). Dynamic aspects highlight, how a phenomenon unfolds over time (Pettigrew et al. 2001).

After the review of each area, I explore theoretical interrelations between the three fields. This leads to the deduction of a basic model. Finally, I derive three hypotheses that pertain to major interactions.

2.1 Environmental management

This section starts with a definition of environmental management and the identification of reasons why environmental issues are relevant to business organizations. Next, I explain how business organizations manage the different types of environmental issues. Subsequently, I introduce more complexity by highlighting the systemic nature of environmental issues. Then, I indicate the roles of major actors in environmental management. Finally, I describe the evolution of corporate environmental actions.

2.1.1 Types of environmental relevance

Environment consists of "all of the external physical and biological factors that directly influence the survival, growth, development, and reproduction of organisms" (Egri and Pinfield 1996: 461). Applied to business organizations, environment refers to the natural resources-related context within which organizations operate.

Environmental management is the way in which business organizations deal with environmental issues. Environment can be relevant in three ways: as a sources of resources, as a constraint, and as a market opportunity.

Environment as a source of resources. A business organization uses a number of environmental inputs (Kotler and Armstrong 1993). These can be part of the product itself (for example, a wooden cupboard). Alternatively, environmental resources can be applied to manufacture a good or to market a product (such as energy). Thus, environment as a source of resources is relevant to almost any business organization (Schumacher 1973; Tietenberg 1988; World Commission on Environment and Development 1987).

Environment as a constraint. When a business organization engages in economic activities, it affects the environment as an unintended by-product. It depletes natural resources, occupies space, and emits residual substances into air, water, or soil. The impact that a company thus has on the environment is an externality, because its economic activities affect the environment-related welfare of other actors. To the extent that environmental effects directly lead to price adjustments, markets self-adjust to these externalities. For example, the gradual depletion of oil reserves may lead to progressive sales price increases- which stimulate the search for substitutes (Tietenberg 1988). Non-pecuniary negative externalities are a source of market failure, because they violate property rights. Besides, their consequences are not absorbed by price adjustments. Such externalities call for government intervention (Tietenberg 1988). Government has a repertoire of policy instruments to resolve or diminish the effects of market imperfections. One measure is to internalize externalities, for instance by forcing a polluting organization to install technology that precludes emissions. Alternatively, government may control overall emission levels in a cost-effective way through a system of tradable emission permits, which encourages emission-reducing measures where they are least costly. Government may also provide incentives to dissuade the generation of negative externalities, for example by making levies on emissions (Tietenberg 1988; Cook and Farquharson 1998).

Governmental measures are constraints, because they restrict the organization's discretion. An organization may also feel constrained by other constituents, such as societal groups that call for environmentally benign corporate behaviour (Carroll 1996).

Environment as a market opportunity. When an organization uses environmental characteristics of its products or processes to promote its sales, environment constitutes a market opportunity (Elkington and Burke 1989; Elkington 1998). An

organization has a competitive edge when it is capable of exploiting valuable, hardly substitutable environmental resources (Hart 1995). These valuable resources are used for the procurement, production, or marketing of products. When (a product or process of) a business organization is perceived by customers as environmentally benign or less harmful in comparison with the perceived environmental performance of competitors, a company has a competitive edge (Elkington and Burke 1989; Porter and Van der Linde 1995). The competitive advantage may stem from the environmentally favourable image of the organization as a whole, a brand, or a product (cf. Kotler and Armstrong 1993). An example of a 'green product' (i.e., a good or service with a favourable environmental image) is the marketing of water-borne paint. Alternatively, a company may have a competitive edge due to a favourable regulatory regime. This occurs when a product's market share rises due to a regulatory ban on competing products that have been forbidden for environmental reasons. A well-known example is Du Pont, which successfully marketed a substitute of the forbidden CFC gas (Gabel 1995).

The three types of environmental relevance are conceptually different. Environment as a source of resources pertains to the availability of natural resources to conduct business-as-usual (i.e., to offer products without considering environmental aspects). Environment is a constraint refers to the limitation of a company's feasible behavioural options due to environmentally related pressure by important (external) constituencies. Environment as a market opportunity provides the potential to realize additional sales by benefiting from company-specific environmental characteristics.

Yet, the three types may be related. Porter and Van der Linde (1995) argued that governmental regulation forces an organization to behave in an environmentally benign way, which- in the context of different regulatory regimes- can turn into a source of competitive advantage. Westley and Vredenburg (1991) described the legitimization of a green product by the environmental movement. Furthermore, the procurement of resources with environmentally favourable characteristics may create the basis for the marketing of a green product.

2.1.2   The process of environmental management

Though *environment as a source of resources* has been regularly identified (Schumacher 1973; Tietenberg 1988; World Commission on Environment and Development 1987), its management at the organizational level seems to have received no attention in the literature. The management of environmental inputs

seems to be considered like the generic procurement of inputs. This literature considers a variety of issues, including strategic dependence, local versus global sourcing, relative factor costs, and logistics (Davidson 1982).

Environment as a constraint can be *managed* in a variety of ways (Roome 1992; Hall and Roome 1996; Kolk 2000; Sharma 2000; Sharma et al. 1999). Kolk and Mauser (2002) provided an overview of 50 environmental management typologies, which differ with respect to the identification of stages (for example, reactive versus proactive), levels (strategic versus operational), and orientation (outward versus inward). For the sake of parsimony, I present an eclectic typology with different degrees of proactiveness. In terms of increasingly proactive behaviour, basic strategies are:

1. contestation or non-compliance of regulation. An organization can try to avoid regulation altogether. A trade association's lobby may claim that regulation entails a competitive disadvantage as compared with companies outside the jurisdiction, and ask for no or business friendly regulation. When government proceeds to unfavorable regulation, an organization may choose not to comply. It may overtly show its resistance or simply pretend to comply.

2. taking 'voluntary actions'. When regulation is unavoidable, an economic sector may proceed to 'voluntary actions', such as covenants.[2] These are sector-wide actions to achieve predetermined environmental targets. Consent is obtained under the threat of legislation (Lévêque and Nadaï 1995). Voluntary actions have advantages in terms of flexibility and speed: government does not have to go through a lengthy legislative process, and a company can choose the least costly and most feasible means to implement.

3. compliance with legislation. When government proceeds to legislation, for example because a sector is divided or the gap between the ambition levels of government and industry is too wide, an organization may choose to strictly comply with legislative requirements (which tend to be translated into company-specific environmental permits). A company generally takes end-of-pipe measures, such as the installation of emission-reducing filters. The organization's aim of this and the preceding strategies is to change the ordinary business activities as little as possible.

4. acting beyond compliance. An organization may decide to go beyond the minimal regulatory requirements, because its mission includes environmental considerations or because it is economically attractive to do so. In the latter case, it takes measures that offer both economic and environmental advantages. These can take the form of 'eco-efficient' measures: the fine-tuning of existing processes, which

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[2] Environmental regulation includes not only legislation but also covenants (i.e., agreements between government and a specific spector).

reduces the amounts of required inputs and undesired outputs (i.e., waste) (Cramer 2000). An organization can also try to prevent pollution by redesigning its products or processes ('eco-design' or 'design for environment') (Van Hemel 1999).

In many respects, *green products* are *managed* like any other products. Green products tend to be supplied by profit-seeking organizations. They meet a demand of customers, who derive utility from the consumption of products that they perceive as environmentally benign. Organizations that offer green products have a competitive advantage, because they dispose of unique, hardly imitable environmental resources (Hart 1995). An example is the organizational understanding of specific organic farming techniques.

A difference between green and other products is that not all relevant information is embodied in the former. An 'ordinary' product is simply judged on its face value. The evaluation of a green product is based not only on its embodied, directly observable environmental characteristics, but also on the impact during procurement, production and/or discarding. Therefore, a green product tends to be accompanied by additional, environmentally relevant information. It aims at convincing customers that products and processes are genuinely green, and not just attempts to greenwash. In order to enhance legitimacy, external agencies issue the 'proofs' of greenness. These can take different forms: the eco-labelling of end products (like the German Blue Angel), the certification of environmental management systems (such as ISO 14000 or EMAS), or the environmental audit (Spencer-Cooke 1998; Ball et al. 2000; Hoffman 1997; Prakash 2000; Gray et al. 1993; Kolk 2000; Cook and Farquharson 1998).

Again, the different manifestations of environment may be related. An example is Du Pont's manipulation of CFC gas regulation, which enabled the company to market its CFC substitute (Gabel 1995). Another illustration is eco-certified tropical hardwood, which requires the strict control of inputs in order to guarantee customers that the wood was exploited in an ecologically responsible way.

2.1.3 Systemic complexity

The preceding analysis has treated the business organization as a monolithic entity that formulates a strategy towards one external party (such as government or the customer). But environmental management- be it a source of resources, the control

of internal processes or the exploitation of market potential- can be regarded as a systemic issue, which involves a multitude of interrelated actors.

Micro-systemic complexity. It can be argued that at the micro level environmental management affects all organizational departments (Prakash 2000; Gray et al. 1993).[3] Green product or process features direct choices that concern purchasing, manufacturing, marketing, finance, accounting, and human resources. One can think of the ban of noxious inputs, adaptations of production processes to respect maximum emission levels, market studies of environmental customer sensitivity, and environmental reporting.

The actions of different departments are *interrelated.* The outcomes of a market study on the features of a potentially successful green product have to be translated into appropriate purchasing and production prescriptions. Likewise, an emission ceiling may imply the procurement of other inputs. So effective environmental management is embedded at all organizational levels; it is not confined to the territory of a specialized technical department.

Internal complexity has not only a horizontal, interdepartmental dimension. It also consists of vertical interrelations. A formal environmental management system (EMS) like ISO 14001, for instance, recognizes the interrelatedness among different organizational levels (Kolk 2000; De Groene 2000).[4] An EMS involves top-level commitment, which becomes manifest through strategic objectives. These are communicated to and implemented at operational levels. Training, the attribution of responsibilities, and documentation are important elements at this stage. Environmental performance is assessed, and leads- if necessary- to the adjustment of objectives for the next period.

Meso-systemic complexity. A business organization can be regarded as a part of a product chain, which cannot perform its activities without upstream and downstream partners.[5] Consequently, a product's cumulative environmental impact- which can be measured through a 'life cycle assessment' (LCA)- affects not only a focal organization but also its suppliers and customers (Gray et al. 1993; Elkington 1998). When a business organization takes concerted actions in order to reduce the overall

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[3] Organizational embeddedness is also a function of the adopted strategy: proactiveness is positively related to embeddedness (Hoffman 1997; Hall and Roome 1996).

[4] An EMS has the additional advantages of facilitating the achievement of total quality environmental management (Hall and Roome 1996) and avoiding the waste of inputs (Hart 1995).

[5] This framework can be extended to include the customers of the focal product, as well as the producers and customers of related products (Expert Working Group for the European Commission 2001).

product's environmental impact, it engages in *chain management* (Kolk 2000; Wycherley 1999).[6]

Macro-systemic complexity. From a global perspective, the environmental actions of individual organizations can be seen as interrelated (Egri and Pinfield 1996). The exertion of their economic activities entails the use of a limited amount of environmental resources: a finite stock of- partially non-renewable- raw materials, restrictions of usable space, and a bounded absorption capacity of emitted substances (Schumacher 1973; World Commission on Environment and Development 1987; Tietenberg 1988). According to this view, a sustainable development path in an interrelated world has to consider the impact of individual actors on others; not only statically but also on an intergenerational basis (World Commission on Environment and Development 1987). Besides, environmental effects would have to be considered in conjunction with social and economic performance: the 'triple bottom line' (Spencer-Cooke 1998).

Gray et al. (1993) argued that the complexity of these global interrelations exceeds an organization's cognitive capacities. This does not imply, however, that the direction of organizational behaviour would not be clear. In order to meet the needs of present and future generations, organizations would have to use rare environmental resources far more parsimoniously than at present. An organization that seeks to reconcile the economic (competitiveness), environmental (parsimony), and social (equity) aspects of its activities, is thus engaged in *sustainable management* (Roome 1998, 2001a; Hoffman and Ehrenfeld 1998; Gladwin 1998). An example of a sustainable technique is 'backcasting', which translates long-term objectives into short-term actions. It aims at huge efficiency gains (for instance through dematerialization), and involves different societal groups (Vergragt and Van der Wel 1998).

2.1.4 Key actors in environmental management

A host of internal and external parties are involved in the management of environmental issues. Overviews of environmentally relevant actors can be found in Stead and Stead 2000, Kolk 2000, and Boons et al. 1998). For the sake of parsimony, I identify a limited number of green constituencies that are identified in the literature.

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[6] A company may even decide that its moral responsibility goes beyond its legal liability. By declaring itself responsible 'from cradle to grave' and by taking action throughout a product's life cycle, an organization engages in 'product stewardship' (Hart 1995).

Internal actors. The environmental management literature remains particularly silent on intraorganizational processes and actors (Prakash 2000). Yet, three major internal roles can be deducted from the literature on environmental management systems (Gray et al. 1993; Kolk 2000; De Groene 2000). *Top management* formulates and endorses the organization's environmental mission and policy. It also sets environmental targets and controls actual performance. *Operators* take concrete environmental actions to realize the formulated strategic targets. Without their involvement, eco-efficient or pollution restricting measures cannot be implemented. Finally, an *environmental coordinator* or department provides technical and organizational support, for example through training and technical advice. An environmental coordinator also fulfils a major task in communicating with internal and external parties.

External actors. Government is regularly identified as a very important external party, which issues and maintains regulation. Governmental bodies at local, national, and supranational levels are involved (Kolk 2000; Harvey and Schaefer 2001; Boons et al. 1998; Groenewegen et al. 1996). S*uppliers and customers* are important because of interdependence in controlling a product's environmental performance throughout its life. Chain management requires the involvement of both suppliers and customers (Cramer 2000). Finally, *societal groups,* like environmental pressure groups or neighbours, seek to influence, even though a business organization has no contractual relations with them. Their claims stem from the occurrence of- usually negative-externalities. The fear of negative publicity or a customer boycott may induce an organization to accommodate to these claims (Carroll 1996; Hoffman 1997).

2.1.5 The evolution of environmental management

The combination of a limited stock of environmental resources, a sharp population increase, and steady real-income rises has considerably augmented the impact of human activities on the environment during the latter half of the twentieth century (Tietenberg 1988; Gladwin 1993; Schumacher 1973). The evolution of corporate environmental management should be understood against this backdrop.

Due to *increased societal pressure,* environmental management became a relevant issue to Western business organizations from about the 1970s onwards. Following major pollution scandals, government- at least in Western Europe and North America- started crafting restrictive legislation (Hoffman 1997). At the same

time, disconcerting publications (like the Club of Rome's 'The limits to growth') created societal awareness of environmental problems (Tietenberg 1988) and inspired environmental pressure groups to raise their voices (Hoffman 1997). During the 1980s, societal pressure led- at least in Western countries- to the demand for 'corporate social responsibility', the consideration of environmental and social interests on top of economic imperatives (Kolk 2000; Hoffman 1997). The 'Brundtland committee' pointed to the static and dynamic interrelations among these three systems on a global scale, and advocated a sustainable development path (World Commission on Environment and Development 1987).

The responses of business organizations to the increased societal claims have- at least in Western countries- shown an *increasing degree of proactiveness* (Elkington and Burke 1989; Hoffman 1997; Hoffman and Ehrenfeld 1998). Initially, companies tended to react defensively. Environmental demands were handled by isolated departments, which either turned them down or strictly complied with legislative requirements. During the 1980s, companies started embedding environmental issues into their organizational structures. Environmental responsibilities started spreading throughout business organizations. In the 1990s, companies tended to view environment not only as a threat but also as an opportunity. In many instances, environmental imperatives gave rise to cost savings and the reaping of green market potential. The current state of affairs is that environmental issues have become institutionalized within most large organizations to whom they are relevant. However, steps towards chain management and sustainable management have only been taken by a small number of precursors (cf. Roome 1998).

2.2   Stakeholder influence

This section first defines influence and reviews forms of influence from a variety of theoretical perspectives. I derive an integrative typology of influence from the different approaches. Next, I discuss the basic process of influence. The analysis is subsequently extended to the concurrence of multiple processes of influence. Afterwards, the roles of different influential actors (or stakeholders) will be passed in review. I conclude with the development of influence over time.

2.2.1   A typology of influence

Dahl (1957) defined *power* as the ability to make others behave in a way that they would otherwise not. This definition is still widely accepted (Hardy and Clegg

1996), and recurs in slightly different forms like "the capacity to effect (or affect) organizational outcomes" (Mintzberg 1983b: 4) or "the potential ability to influence behavior, to change the course of events, to overcome resistance, and to get people to do things that they would not otherwise do" (Pfeffer 1992: 30).

Power can be distinguished from *influence* in terms of the potential versus the realization of making others behave differently (Mintzberg 1983b). But Mintzberg also argued that this distinction makes little sense: power is only meaningful when it is wielded, and influence can't be exerted without having power. I adopt this view, and use power and influence as synonyms.

The literature on power and influence is vast but disparate (Bacharach and Lawler 1998; Hardy and Clegg 1996). The topic is approached from different perspectives (including sociology, psychology, political sciences, and organization studies) and with different objectives (to merely observe or to change prevailing power structures). Different approaches fail to take account of each other and use idiosyncratic terminologies. Consequently, "there is relatively little coherence, much less cumulative theory and research, within the organizational politics tradition." (Bacharach and Lawler 1998: 68). In the present study, I draw on several strands of theory: social psychology, resource dependence, institutions, contingency, collective action, and networks. I succinctly discuss their respective power perspectives, and use these to derive an eclectic typology.

Social psychology studies the influence of the social environment on an individual's behaviour (Murnighan 1993; Messick and Ohme 1998). An early contribution to this literature is French and Raven's (1968) typology of social power bases. They distinguish five sources of power: reward power (stemming from the ability to reward in case of compliance), coercive power (based on the capacity to punish in case of non-compliance), legitimate power (due to the internalization of values of legitimate obedience), referent power (stemming from the identification with a referent person), and expert power (due to the perceived knowledgeability and knowledge of an actor).

Deutsch and Gerard identified two sources of power (Messick and Ohme 1998). Informational influence refers to the acceptance of 'facts', (novel) information that is regarded as evidence about reality, while normative influence is related to 'oughts', norms that should be met. Skinner's and Cialdini's typologies resemble this one (Messick and Ohme 1998).

Etzioni's classification consists of three categories. Coercive power is based on physical means, such as violence, to impose one's will. Utilitarian power stems from

material incentives, like financial gains. Normative or social power consists of normative or social symbols (Mitchell et al. 1997; Prakash 2000).

Like the social psychological approach, *resource dependence* theory analyses behaviour from the viewpoint of the influenced actor. The central postulate of the resource dependence perspective is that external parties hold resources which a business organization perceives as crucial to the realization of its internal objectives. An organization deliberately tries to diminish this dependence on and uncertainty of resources by negotiating with its interconnected environments and by trying to take control of important external resources (Pfeffer and Salancik 1978; Oliver 1991).

So while the social psychological perspective highlights social influences, resource dependence focuses on economic sources of power.

Institutional theory studies processes through which organizations take their socio-cultural environments for granted (Tolbert and Zucker 1996). Institutions are "enforced rules, formal and informal, about what actions are required, prohibited, or permitted", while organizations are "collections of physical actors" (Prakash 2000: 17). Institutions include regulatory structures, governmental bodies, laws, courts, and professions (Oliver 1991).

Institutional pressure is exerted by governments, market forces, interest groups, and public opinion (Oliver 1991; Tolbert and Zucker 1996). Organizations tend to passively comply with these quasi-irresistible pressures (Oliver 1991). As organizations respond in similar ways, institutional pressures exert a homogenizing or isomorphic influence. DiMaggio and Powell (1983) identified three types of isomorphic processes. Coercive influence stems from cultural expectations, as well as formal and informal pressures from external parties on which organizations depend. Mimetic influence consists of imitation of other organizations in uncertain situations, such as poorly understood technologies. Finally, normative influence stems from professional pressure, including formal education, on-the-job socialization, and sectoral information networks.

Institutional and resource dependence theories have many commonalities (Oliver 1991). Both consider their (socio-economic) environments as interdependent and inevitable. Organizations have to respond effectively to reduce uncertainty and to survive. The theories diverge as to the types of influence (formal, social, and informational versus economic power) and in the responsiveness to environmental demands (compliance versus a range of responses, including negotiation).

Fit with the organizational socio-economic environment is also a central tenet of *contingency* theory. External and internal environments can have a range of configurations in terms of economic and technological stability, and complexity. Consequently, the most suitable organizational structure depends on the prevailing structure of the business environment (Burns and Stalker 1961; Emery and Trist 1965; Mintzberg 1983a). As the appropriateness of organizational structure is context dependent, so are the loci of power. For example, when an organization heavily depends on external parties, it tends to centralize its organizational structure. This raises the power of central decision makers (Mintzberg 1983a).

Actors in and around organizations are powerful when they dispose of crucial, concentrated, and non-substitutable resources (Mintzberg 1983b; Pfeffer 1992). These resources may be economic inputs (such as raw materials), technical skills (for instance the ability to operate a complex machine), a body of knowledge (like specific marketing knowledge), or formal power (i.e., managerial authority) (Mintzberg 1983b; Pfeffer 1992). Another, often forgotten but crucial resource, is the power to implement: decisions are fruitless until they have been executed (Pfeffer 1992).

Contingency and resource dependence theories share the assumption that organizations respond in a contingent way to demands from their business environments. Contingency theory is broader than resource dependence, as it identifies a variety of power bases.

Collective action theory shares with institutional theory the recognition of forces which are stronger than those of individual entities, such as organizations. But while institutional theory's response to these pressures is mere accommodation, collective action theory provides a different option: to join forces with other actors and to act as a countervailing power (Galbraith 1952). So instead of giving in to a 'higher' power, actors engage in coalitions with actors who have similar interests (Olson 1965; Pfeffer 1992; Bacharach and Lawler 1998).

Collective action thus focuses on the influence of coalitions, rather than on individual power bases.

Network theory highlights one power base: the possession of unique, valuable information. Actors who - directly or indirectly- share information can be represented as an information network. Information flows depend on the structure of networks. In centralized networks, all information is mediated through a single actor. A network is dense when many actors are directly related to one another (Rowley 1997). A central actor in a communication network is powerful, because other actors depend on the central actor in order to communicate with one another.

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Burt (1998)- building on Granovetter (1973)- not only considered the position in an information network but also the nature of the information. He argued that network enlargement makes only sense to the extent that new actors provide access to non-redundant information (i.e., knowledge that cannot be obtained from existing actors in the network). Actors who bridge gaps between non-redundant networks fill 'structural holes'. They are powerful because of their unique access to different networks that breed dissimilar (i.e., qualitatively different) information.

So from a network perspective, active brokers of relatively unique information are powerful actors.

A *typology* of influence is a helpful analytical tool to understand the origins of power and (the most suitable) responses by influencees (Pfeffer 1992; cf. Meyer et al. 1993). None of the preceding typologies covers the whole spectrum of the present topic of research. They identify only particular types of influence, such as social or economic influence. Besides, some typologies can be regarded as methodically flawed (Mitchell et al. 1997). For example, French and Raven's referent power shows overlap with reward and coercive power, because a referent uses positive or negative incentives to influence. This implies that their categories are not mutually exclusive.

Therefore, I provide a typology that tries to blend the best of these different theoretical perspectives. The typology aims at providing a cohesive framework that consists of mutually exclusive and collectively exhaustive categories. The framework should be suitable to analyse the influence of actors in and around business organizations, who operate at different levels and in different roles.

I propose the following typology of sources of influence:

1. formal influence. This type consists of power that stems from hierarchical authority and legal enforceability. Formal influence has an internal component (official, vertical power differentiation within an organization) and an external element (a legal claim that can be formulated by an outside actor). Formal power is rooted in French and Raven's legitimate power: influencees subordinate themselves to others, because they regards the authority as legitimate. Etzioni's coercive power is based on enforceability: even if actors do not consider claims to be legitimate, they can be forced to accept them when others can impose their will.[7] DiMaggio and Powell's coercive power includes a formal component: claims can be enforced by law. The basis of Mintzberg's formal power is legal. It enables governments to impose their will on organizations, and offers top managers possibilities to hire and

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[7] Though this enforcement is primarily based on physical means, it can easily be extended to include legal enforcement.

fire employees. Pfeffer's formal authority concerns hierarchical relations within organizations.

2. economic influence. This type of influence occurs when behaviour is influenced through material incentives. When a business organization strives for internal efficiency (i.e., a low ratio of inputs to output) or external effectiveness (i.e., meeting demands from its business environment), economic influence is at work (Pfeffer and Salancik 1978). While formal power is based on legitimate authority and legal enforcement, economic power stems from positive and negative material (often pecuniary) inducements. French and Raven's reward and coercive power are two sides of the same coin. Behaviour is affected through positive and negative material incentives. Likewise, Etzioni's utilitarian power is based on material inducements. The control of economic resources is the central theme in Pfeffer and Salancik's approach. Holders of unevenly distributed resources possess economic power. Mintzberg's and Pfeffer's resources, like material inputs into production processes, are equally a source of economic power.

3. social influence. Immaterial norms and values are the bases of social influence. It differs from formal influence because it is not legally enforceable, and from economic influence because it focuses on non-pecuniary resources. An example is an organization's pursuit of ecological sustainability, which is not required by law and which may negatively affect the organization's financial performance. French and Raven's referent power occurs when an influencee wants to be assimilated with (the norms and values of) a reference group. Deutsch and Gerard's normative influence occurs in cases of sensitivity to others' norms and values. Etzioni's normative or social power is based on symbolic resources (i.e., social norms and values). DiMaggio and Powell's coercive power includes informal pressures from external parties on whom organizations depend and on societal cultural expectations. DiMaggio and Powell's normative power stems from the definition, legitimation, and dissemination of social norms by professional groups.

4. informational influence. This type of influence takes place when behaviour is affected through the transfer of information. Informational influence differs from the preceding types, because it does not consist of legal enforcement, material incentives, or social norms. When a novel solution to a production problem alters the organization's behaviour, informational influence has occurred. French and Raven's expert power consists of two stages: the perception of somebody as an expert (creating sensitivity to the holder of information) and the transfer of knowledge itself (leading to different behaviour). Deutsch and Gerard's informational influence is the outflow of the transfer of factual knowledge, evidence about reality. DiMaggio and Powell's mimetic influence entails imitation of other organizations in situations of uncertainty. Imitation consists of adopting others' (technical) solutions, which

involves altered behaviour through the transfer of knowledge. The diffusion of information is also an element of DiMaggio and Powell's normative influence (in this case, information transfer is inspired by professional norms). According to Mintzberg and Pfeffer, technical skills and bodies of knowledge are bases of power, to the extent that they are crucial, concentrated, and nonsubstitutable. When technical skills (a form of tacit knowledge) and other types of knowledge affect behaviour, informational influence is at work. Finally, the location in a communication network is a source of informational influence, as it indicates the degrees of access to others' information and the dependence of other actors on the holder or broker of information. According to Burt, an actor who brokers between disconnected networks fills a structural hole, which makes him or her influential.

   5. operational influence. The basis of operational power is the capacity to implement decisions. Operational influence is not concerned with disposing of formal authority or economic resources. Nor does it entail the dissemination of social norms and values or unique information. Any decision that has been taken without being

Table 2.1: Types of influence

Type: Antecedent:	Formal	Economic	Social	Informational	Operational	Coalescent
Social psychology	Legitimate[1] Coercive[3]	Reward[1] Coercive[1] Utilitarian[3]	Referent[1] Normative[2] Social[3]	Expert[1] Informational[2]		
Resource dependence		Economic[4]				
Institutions	Coercive[5]		Coercive[5] Normative[5]	Mimetic[5] Normative[5]		
Contingency	Formal[6,7]	Economic[6,7]		Technical[6,7] Informational[6,7]	Implementing[7]	
Collective action						Counter-vailing[8] Coalescent[7,9,10]
Network				Informational[11]		

1) French and Raven   2) Deutsch and Gerard   3) Etzioni   4) Pfeffer and Salancik   5) DiMaggio and Powell
6) Mintzberg   7) Pfeffer   8) Galbraith   9) Olson   10) Bacharach and Lawler   11) Burt

implemented remains fruitless. While other types of influence are well documented, the literature remains relatively silent on operational influence. By hammering on the difference between decision making and implementation, Pfeffer is a notable exception.

6. coalescent influence. This type of influence occurs when an actor joins forces with one or more other actors in order to affect the behaviour of a third party. While the preceding types are based on dyadic interactions or on larger settings in which existing power structures are taken for granted, coalescent influence seeks to change power distributions through collective action. An example is a trade association's attempts to thwart stringent supranational regulation. Galbraith's countervailing power and Olson's collective action occur when individually weak actors operate together against relatively powerful actors. Pfeffer's discussion of allies is in the same vein.

Table 2.1 summarizes the typology of sources of influence.

2.2.2 The process of influence

In its simplest form, two actors are involved in the *process* of influence: the influencer and the influencee. The influencer disposes of and uses a source of influence, to which the influencee is sensitive and formulates a response (Mintzberg 1983b; Oliver 1991; Messick and Ohme 1998). This response may involve a third actor, with whom a coalition may be formed (Pfeffer 1992; Bacharach and Lawler 1998). The influence process takes place in an enacted environment: only actors who are perceived as influential will be considered, irrespective of their actual influence (Pfeffer and Salancik 1978; Morgan 1997).

So influence starts by disposing of a power source: the influencer disposes of an unevenly distributed resource (Pfeffer and Salancik 1978). This may be a formal, economic, social, informational, or operational resource. Second, this power base should be activated, because unexploited power does not breed influence (Mintzberg 1983b). For example, a knowledgeable person is not influential if he keeps valuable knowledge to himself. Third, the influencee should be sensitive to the influencer's resource. The resource should be important to the fulfilment of the influencee's objectives, which creates a situation of dependence on the influencer (Pfeffer and Salancik 1978). Fourth, the influencee responds in a certain way.

Oliver (1991) identified a palette of strategic *responses*. Acquiescence is the most passive position, and consists of acceding to the influencer's demands. Acquiescence can take forms like habitual imitation and mere compliance.

Compromising is a more active reply, where the influencee asks the influencer for concessions. Bargaining is a common manifestation of compromising. Relatively resistant responses are avoidance and defiance. In these cases, the influencee tries to preclude the necessity of conformity. Concealment of nonconformity with the influencer's claims through window-dressing is an example of avoidance. Challenging the influencee's claims is a manifestation of defiance. Manipulation is the most active response. It occurs when the influencee attempts to align the influencer's behaviour with the influencee's own aims.

Oliver's strategic responses include institutional positions: coercive, quasi-irresistible influence leads to responses like compliance or concealment, while mimetic influence brings about imitation (DiMaggio and Powell 1983; Meyer and Rowan 1977). Other responses leave more room for counter-influence, such as suggested by resource dependence. Actors engage in negotiations with their (economic) environments in cases of mutual dependence; influencees may even challenge or manipulate influencers (Pfeffer and Salancik 1978; Cyert and March 1992). An example of interdependence is the case of a government that wants to impose stringent environmental regulation, which cannot be enforced without obtaining company-specific technical information.

Oliver's typology provides a rich analytical framework of 5 possible strategies with 3 tactics each. For the sake of parsimony, I distinguish only three basic response strategies:

1. compliance. This passive response consists of the unaltered adoption of the inputs that the influencer proposes. Inputs consist of demands (such as regulation) and/or offers (like information). Compliance is similar to Oliver's acquiescence. It is the most likely response when claims can be (legally) enforced or when inputs lead to (economic) advantage for the influencee (Oliver 1991).

2. resistance. Active resistance occurs when the influencee tries to decline the influencer's inputs. Ignoring a customer's demand or not abiding by the law are examples. Resistance includes Oliver's avoidance and defiance. Resistance is the most common response when the influencer's inputs are not perceived as attractive or enforceable (Oliver 1991).

3. counter-influence. This intermediate response consists of manipulation (similar to Oliver) and negotiation (the equivalent of Oliver's compromising). The influencer's inputs are neither accepted nor rejected. The influencee tries to change the influencer's behaviour, either by taking the lead (as in the case of manipulation) or by trying to obtain concessions (through negotiation) once the influencer has formulated a claim or expectation. After having manipulated or negotiated with the influencer, the influencee decides to either comply with or resist the (modified)

Figure 2.1: The process of influence
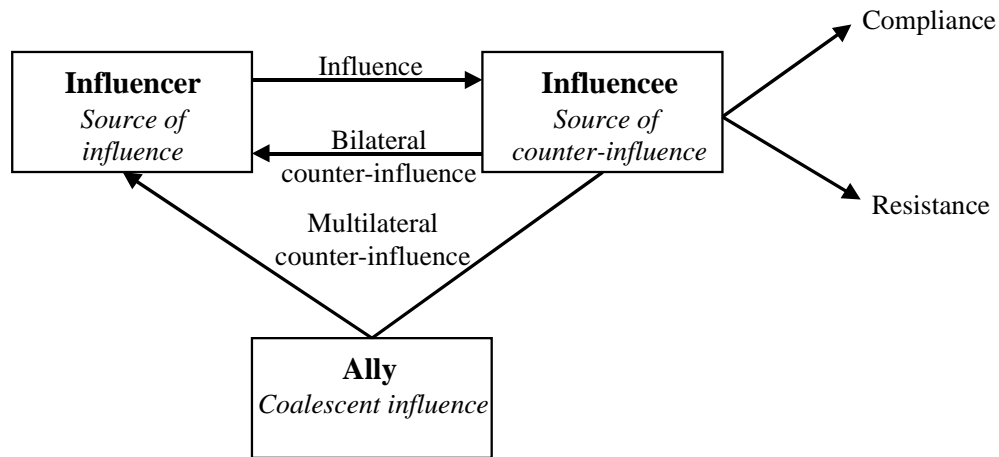
inputs. Manipulation is the logical response for an influencee who disposes of resources to which the influencer is sensitive (Oliver 1991). Negotiation is likely in ambiguous, information deficient settings: different interpretations leave room for multiple outcomes, and limited information precludes the possibility of making rational decisions that include all relevant aspects (Bacharach and Lawler 1998). Negotiation can take place on a bilateral basis or by including one or more third parties (multilateral negotiation). In the case of bilateral negotiation, the influencer and influencee interact in a direct way. When the influencee perceives his or her bargaining position as weaker than the influencer's and when support can be mobilized from other actors with similar interests, collective bargaining is the more likely option (Galbraith 1952; Olson 1965; Pfeffer 1992; Bacharach and Lawler 1998).

Figure 2.1 represents the basic process of influence.

2.2.3   Multiple-influence complexity

So far, the process of influence has been treated as the activation of a single source of influence, to which the influencee formulates a response (which may

involve the intervention of an ally). The extension of this framework to a multiple-influence setting may, at first sight, look like mere replication, the juxtaposition of multiple processes of influence. But what if different processes of influence affect one another? Especially when a conflict of interests occurs, this question is relevant. Behavioural theory argues that an organization consists of multiple parties with *conflicting interests* (Cyert and March 1992; Cohen et al. 1979; cf. Hickson et al. 1986; Schein 1996; Mintzberg 1983b). Actors with similar interests form coalitions. The clash of interests inheres in the system, it cannot be solved. An organization manages interest incompatibility by dissociating divergent interests, both by decentralizing decisions (thus obtaining multiple, locally acceptable solutions) and by sequentially dealing with divergent interests (leading to temporally separated decisions).

While behavioural theory highlights interest incompatibility, stakeholder theory tends to focus on *common grounds* between different actors. Adverse relations are replaced with cooperative platforms (Westley and Vredenburg 1991; Clarke and Roome 1999; Turcotte and Pasquero 2001; Stafford et al. 2000). Actors recognize that not all of their interests coincide, but argue that only (selective) collaboration can bring about collectively beneficial outcomes. Holistic effects take place when individual actors realize their objectives better by joining forces. Cooperation leads to synergy when other actors dispose of dissimilar, complementary resources or when scale effects occur (Pettigrew et al. 2001; Morgan 1997; Argote 1999). So individual interests may be best served through cooperation.

Interconnected spheres of influence- be they of an adverse or a cooperative nature- can be conceived as a relational network. Such a network can only be understood when its main relations are studied *in conjunction* (Pettigrew et al. 2001; Meyer et al. 1993). First because aligned actions that reinforce one another yield multiplicative effects. Second because conflicts of interests preclude concerted organizational behaviour: actions of certain actors are (partially) offset by those of actors with opposed views. In both situations, studying isolated relations would lead to misperceptions of reality because of the omission of crucial variables. This implies, for instance, that organizations cannot be studied as monolithic entities; the organizational black box needs to be opened up (Prakash 2000).

To summarize with Cyert and March (1992: 233): "Outcomes [of interacting spheres of influence] are produced not by a process of decision making within a single firm but by complicated networks of interacting organizations and parts of organizations."

2.2.4 What about stakeholders?

Sources of power are located in a variety of repositories. For example, a physical source of influence like weather affects our moods or outdoor activities. The present study considers only stakeholder influences. As opposed to other carriers of influence, stakeholder influence is mediated by a person or group. This is reflected in Freeman's (1984: 46) widely accepted definition of *stakeholder:* "any group or individual who can affect or is affected by the achievement of the organization's objectives". Freeman's definition is, though, very broad. It is questionable, whether a business organization can manage a large, in principle infinite number of, stakeholder relations. In extremis, a Martian who feels affected by the air emissions of a company should be characterized as a stakeholder. Therefore, I use a more restrictive definition: a stakeholder is any individual or group who significantly affects an organization's behaviour. This definition resembles the original one of the Stanford Research Institute: "[those groups] on which the organization is dependent for its continued survival" (Mitchell et al. 1997: 856).

Inspired by societal calls for corporate social responsibility, the stakeholder literature has strongly expanded over the last two decades (Mitchell et al. 1997). It shows that business organizations are exposed to influences which are mediated by people, rather than by anonymous forces. This opens the door to stakeholder interaction and management. Besides, stakeholder theory highlights the importance of other constituencies than those with which organizations have direct, business-related relations (Freeman 1984; Donaldson and Preston 1995; Carroll 1996). For example, an environmental pressure group is no business partner but is a stakeholder, as it may negatively affect a company's sales through unfavourable publicity.

I consider the added value of stakeholder theory to be twofold: it explicitly identifies influential individuals or groups, and it shows that the range of influential parties is not confined to directly involved business partners. Apart from these specifications, I regard stakeholder theory as an empty shell. It is old wine in a new, fashionable bottle, which is distilled out of well-known ingredients from the influence literature. Thus, the stakeholder literature is no more than a subset of the large influence literature. Like Mintzberg (1983b), I use the term 'stakeholder' merely as the equivalent of 'influential person or group'.

Stakeholders can be categorized. An example is Carroll's (1996) identification of primary stakeholders (actors with whom organizations have formal relations) and secondary stakeholders (all other actors). As the present study considers environmental management from the viewpoint of organizations, I prefer to use

organizational boundaries as a demarcation criterion.[8] Therefore, I distinguish between organizational members (or internal stakeholders) and outsiders (or external stakeholders).

According to Schein (1996), major *internal stakeholders* are:

1. operators. They have practical skills, tend to operate in teams, and solve daily problems. In the field of environmental management, operators control emission levels and produce green products.

2. enigineers (or technical support staff). Engineers are in search of technical perfection and control, while trying to diminish the dependence on human vagaries. Environmental coordinators are in charge of searching for and coordinating technical solutions to prevailing environmental problems.

3. executives (or top management). Executives have a broad, often outward-oriented orientation, and care about financial performance. Top management endorses the corporate environmental policy or attributes a strategic marketing importance to environmentally benign products.

Schein (1996) argued that these three groups have clearly different interests and perspectives. Schein's typology has clear parallels with Mintzberg's (1983a; 1983b) categories: Mintzberg's strategic apex is similar to Schein's executives; Mintzberg's technostructure includes Schein's engineers; and Mintzberg's operating core is the same as Schein's operators.[9]

In the literature (Mintzberg 1983b; Freeman 1984; Carroll 1996), the following *external stakeholders* are identified as important:

1. owners. Shareholders are entitled to decide upon an organization's activities and to pick the fruits of its activities. Owners are sensitive to the impact of environmental issues on the organization's financial performance.

2. suppliers. They are business partners, who provide crucial inputs (such as raw materials and knowledge). This occurs on an arm's length basis (as opposed to employees). Suppliers may provide (certified) green inputs.

3. customers. The organization's output is sold to customers, whose primary function is thus the generation of revenues. Customers may be sensitive to environmental product characteristics or environmental performance before, during, and after production and consumption.

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[8] Cf. Pfeffer and Salancik's (1978: 32) statement that "the organization ends where its discretion ends."

[9] Mintzberg identified two more categories: the middle line (management at intermediate levels) and the support staff (which is not involved in direct production, but provides services to those involved in directly productive tasks). These two categories do not significantly add to the understanding of environmental management problems.

Figure 2.2: Multiple-influence complexity
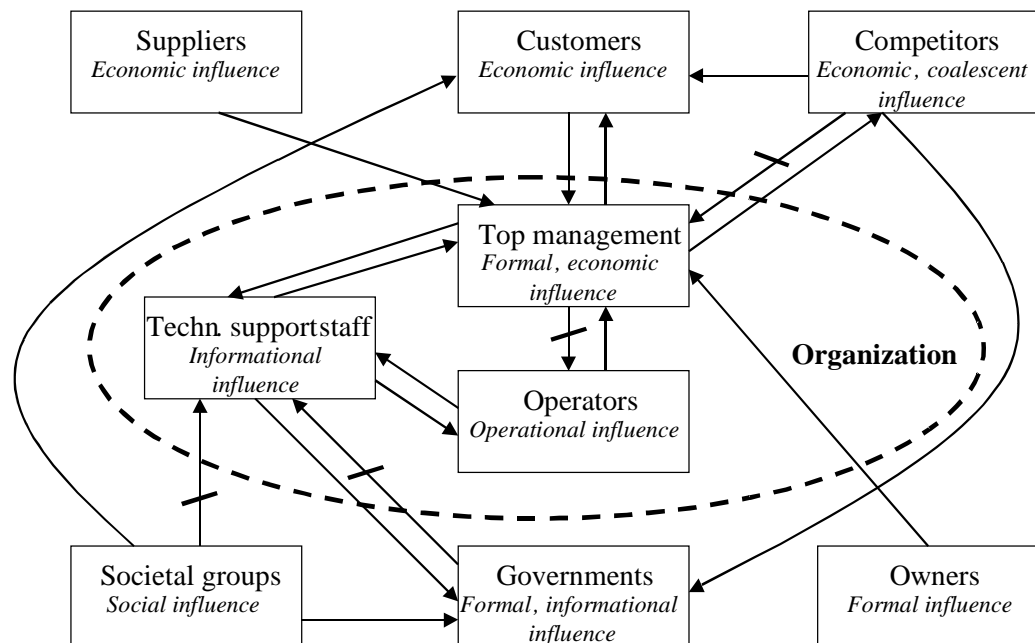
4. competitors. Other companies in the same sector are important because they serve the same markets, and thus constrain the organization's sales. Competitors may supply products with a similar or superior environmental performance.

5. governments. Different governmental bodies regulate, provide fiscal incentives (taxes and subsidies), and share generic information. National and supranational governmental bodies may issue restrictive environmental regulation, or may offer subsidies for environmentally benign products. They may also create platforms to foster the exchange of environmentally relevant information. Local governments (municipalities and provinces) are in charge of issuing and maintaining environmental permits. Governments thus fulfil both a restrictive and a stimulating role.

6. societal pressure groups. They pursue particular societal objectives, such as conservation of the earth, or the protection of particular nature reserves or species. Social pressure groups have no contractual relations with a business organization, but use means like publicity and legal actions to affect an organization's behaviour.

Figure 2.2 provides an example of multiple processes of influence, in which the three internal and six external stakeholders are involved. The source of influence differs per type of stakeholder. Some influences lead to cooperative processes, others (indicated by barred lines) involve clashes of interests.

2.2.5 Power dynamics

The preceding argument has been predominantly static: the process of influence has been considered at one point in time (or within a short time span). This section focuses on how the influence process unfolds over time. The question of organizational dynamics is important, because the survival of a business organization depends on the extent to which it obtains a fairly high degree of congruence with its internal and external business environments (Tushman and Romanelli 1985). These environments contain critical resources that an organization needs for its survival (Pfeffer and Salancik 1978). When a business environment changes, an organization can respond in three different ways. The contingency perspective postulates that an organization quickly adapts to changes of its business environment. An organization accommodates to a change in order to restore the required environmental fit (Mintzberg 1983a; Chandler 1962; Brown and Eisenhardt 1997). The second view argues that an organization is inert, and thus fails to respond to business environmental changes. Population ecology argues that an organization has invariant characteristics (Hannan and Freeman 1984). These are consistent with business environmental demands at certain periods but inconsistent at others- eventually leading to the organization's demise (Hannan and Freeman 1984). The third view incorporates elements of the two other views. Punctuated equilibrium states that an organization has inertial tendencies (i.e., resists to all major changes) but also has the capacity to change in cases of necessity. Resistance to change can only be overcome when a major shock (such as an imminent bankruptcy) occurs (Tushman and Romanelli 1985; Romanelli and Tushman 1994).

The influence literature clearly points to the existence of strong *inertial forces*. Obtaining agreement among multiple constituents with different, partially opposed interests is a tiresome, delicate process (Cyert and March 1992). Whenever a 'truce' (Nelson and Winter 1982: 107) has been reached which is fairly acceptable to all stakeholders, the likelihood of an important change is small. A change would affect the distribution of power and would probably diminish the extent to which certain parties see their interests satisfied. The parties whose stakes are threatened are more than likely to oppose to changes (Cyert and March 1992; Valley and Thompson 1998; Nelson and Winter 1982; Tushman and O'Reilly 1996). They will thwart major changes with whatever power base they have (such as withholding information or failing to execute decisions), leading to power stalemates. Especially when stakeholders are perceived as contributing to an important organizational goal (say, survival), their power is unlikely to diminish: "power is self-perpetuating… power

begets power" (Miller 1993: 125), and "the coalition agreements of today are institutionalized into semipermanent arrangements" (Cyert and March 1992: 39).

Apart from the defense of vested interests, the preference of *uncertainty avoidance* is a major hindrance to change. A substantial, predominantly psychological literature points to the existence of a status quo bias: actors prefer sticking to existing, well-known situations (Rabin 1998; Laibson and Zeckhauser 1998; Pfeffer and Salancik 1978; DiMaggio and Powell 1983). The endowment effect is an example of the status quo bias: the value of a good is perceived as higher when possessed than before, leading to a relatively strong reluctance to give it up (Kahneman et al. 1990, 1991). Relational inertia is the consequence of the trust that has been built up in existing (networks of) relations and the uncertainty (including the possibility of cheating by other actors) that the formation of new relations brings about (Gargiulo and Benassi 2000; Valley and Thompson 1998; Hendrikse 2002). Often unconscious defensive mechanisms are triggered when actors are faced with (attempts to) change: psychological barriers keep actors from reconsidering existing situations, even if it were in their own interests (Argyris and Schön 1996; Argyris 1996; Senge 1990, 1999; Tushman and O'Reilly 1996).

So existing influence processes tend to be perpetuated due to the (deliberate) defense of vested interests and (unconscious) mental lock-in effects. Major changes are only possible in exceptional situations (Cyert and March 1992). Fundamental changes take place when 'shocks' occur. Radical innovation is such a shock, because it renders existing technology obsolete (i.e., it makes production processes with existing technologies relatively expensive, leading to a competitive disadvantage). Another crisis is sustained demand decrease, which jeopardizes the organization's financial performance. Finally, major institutional change leads to a misfit with the organization's legal or social environment (Tushman and Romanelli 1985).

2.3 Organizational learning

The section is structured in a similar way as the preceding ones. I first present different forms of learning. After a discussion of the basic learning process, I shift from the individual to the organizational level. Next, I review different roles in organizational learning. Finally, I discuss the dynamics of learning.

2.3.1 Types of learning

Learning occurs when an entity increases the range of its behavioural capacities due to the processing of information (Huber 1991; Kim 1993). This definition differs from most others in the sense that it refers to potential instead of actual behavioural changes. Argyris and Schön (1978: 2) interpreted learning as "the detection and correction of error." Levitt and March (1995: 16) defined the construct as "encoding inferences from history into routines that guide behavior." Weick and Westley (1995: 445) took a cultural perspective: "organizational learning is the acquiring, sustaining, and changing, through collective actions, of the meanings embedded in the organization's cultural artifacts." I prefer the definitions by Huber and Kim, because entities may have the cognitive capacity to behave in a certain way, and yet choose not to do so (for example because the object of learning is perceived as ineffective or ethically unacceptable).[10]

The literature is conclusive on the existence of two different *types* of learning, though these types recur under different labels. They are not binary modes but the extremities of a continuum of learning.

One polar type is *explorative learning* (March 1991), which occurs when an entity acquires new behavioural capacities that are fundamentally different from existing insights. Exploration refers to cues like discovery, variation, effectiveness, flexibility, and innovation (March 2001; Weick and Westley 1996). An example is an oil refinery that embarks on the generation of solar energy. This type of learning recurs under labels like 'double-loop learning' (Argyris and Schön 1978, 1996), 'generative learning' (Senge 1990, 1996), 'strategic learning' (Coopey 1996), 'second-order learning (cf. Fox-Wolfgramm et al. 1998), 'revolutionary learning', 'frame-breaking learning', 'proactive learning' (Weick and Westley 1996), and 'radical learning' (Miner and Mezias 1996).[11]

The other polar type is *exploitative learning* (March 1991), which consists of the acquisition of new behavioural capacities that are strongly and positively related to existing insights. Exploitation is captured by words like adaptation, selection, efficiency, refinement, and implementation (March 1991; Weick and Westley 1996). An example is an oil refinery that fine-tunes its end-of-pipe technology to reduce the air emissions of existing installations. Exploitative learning is found in the literature under headings like 'single-loop learning' (Argyris and Schön 1978, 1996), 'adaptive learning' (Senge 1990, 1996), 'operational learning' (Coopey 1996), 'first-order

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[10] I admit, though, that it is difficult to empirically assess learning otherwise than through manifested behaviour. But there remains a fundamental difference between actual and potential behaviour.
[11] One might also coin 'effectiveness learning' or 'divergence learning'.

learning (cf. Fox-Wolfgramm et al. 1998), 'evolutionary learning', 'frame-taking learning', 'reactive learning' (Weick and Westley 1996), and 'incremental learning' (Miner and Mezias 1996).[12]

2.3.2 The process of learning

In its most basic form, learning occurs by an individual actor. Morgan (1997) argued that the individual *learning process* consists of three stages: the acquisition, the interpretation, and the implementation of new knowledge (see also Kim 1993). Huber (1991) identified the acquisition, the interpretation, and the storage of new knowledge. In my view, which is consistent with Argote (1999), the basic learning process consists of two stages: the acquisition and the storage of new knowledge. Interpretation is not a separate stage, but an omnipresent factor throughout the learning process. The sensitivity to different sources of information and the acquisition of information cannot be understood without simultaneously considering the aspect of interpretation (see below). Likewise, the retention of acquired information is affected by the interpretation that the learning entity attributes to the new information. Finally, I do not regard implementation as a necessary element of the process. Learning refers to the evolution of cognitive capacities- which may or may not concur with implementation (see above).

So the basic learning process consists of two necessary stages: the acquisition and the storage of information. In cases that new information is either not obtained or not retained, an actor's behavioural capacities are not increased (Argote 1999). Both stages are subject to (actor-specific) interpretation.

Acquisition of information. An entity can obtain new information from within or from outside. In the first case, the entity engages in creative actions that yield new information. This 'experiential learning' (Huber 1991) or 'learning by doing' (Argote 1999; Levitt and March 1995) includes an unconscious component, 'trial-and-error learning' (Miner and Mezias 1996). An example of this tacit learning is the frequent repetition of a directly productive activity. The deliberate creation of knowledge, for example through experiments or introspection, is called 'inferential learning' (Miner and Mezias 1996).

In the second case, the entity learns 'vicariously' by simply picking up existing information from external sources (Huber 1991; Miner and Mezias 1996; cf.

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[12] Alternative labels would be 'efficiency learning' and 'convergence learning'.

Hargadon and Moore 2001). An example is the obtention of a technological solution that is practised by a competitor.

A learning entity engages in 'problemistic search': the quest for information is driven by the desire to find concrete solutions to prevailing problems, which tend to be of a directly productive nature. Information is primarily sought locally ('simple-minded search'), close to existing problems and solutions (Cyert and March 1992). Not all relevant information is considered, because it exceeds an entity's information processing capacity. In conjunction with time limitations (i.e., a problem has to be solved within a limited time span), an entity stops collecting information when the available knowledge is sufficient to solve the prevailing problem. This implies that the entity is engaged in satisficing, rather than optimizing behaviour (Simon 1976, 1991; Bazerman 1997; Lindblom 1959).

Acquired information is not an objective good, like a coin that can be picked up from the street and be used without changing its nature. Information is interpreted against the background of the observing entity (Bazerman 1997; Hargadon and Sutton 1997; Morgan 1997; Huber 1991). For example, a biologist interprets pollution in terms of the impact on the biosphere, while an economist weighs costs and benefits. Besides, observations are biased towards the fulfilment of the observing entity's own objectives (Bazerman 1997).

Storage of information. Acquired information can be stored in a variety of carriers. Personal memory is a major source of information storage. Without individual memories, most acquired information would be immediately lost (Simon 1991; Argote 1999; Huber 1991; Nelson and Winter 1982). Documented information is another form of retention (Levitt and March 1996). A third form is technological equipment (hardware and software), which embodies knowledge. Disposing of technology implies that acquired information remains available (Argote 1999; Huber 1991; Levitt and March 1996). A fourth source are physical and organizational structures. The architecture of a production hall and an organigram are retention bins of knowledge (Argote 1999; Levitt and March 1996). A fifth carrier of information are routines (i.e., repetitive patterns of activity). When operational activities are repeated over and over, satisficing solutions turn into standard operating procedures. These rules are a major retention bin of feasible operational solutions (Nelson and Winter 1982; Argote 1999; Huber 1991; Levitt and March 1996; Cohen and Bacdayan 1996).

Personal memories and routines are effective retention bins of tacit knowledge (Argote 1999; Nonaka 1996); the other forms consist of codified knowledge. It should be noted that only retrievable information makes sense. When acquired information is

Figure 2.3: The process of learning
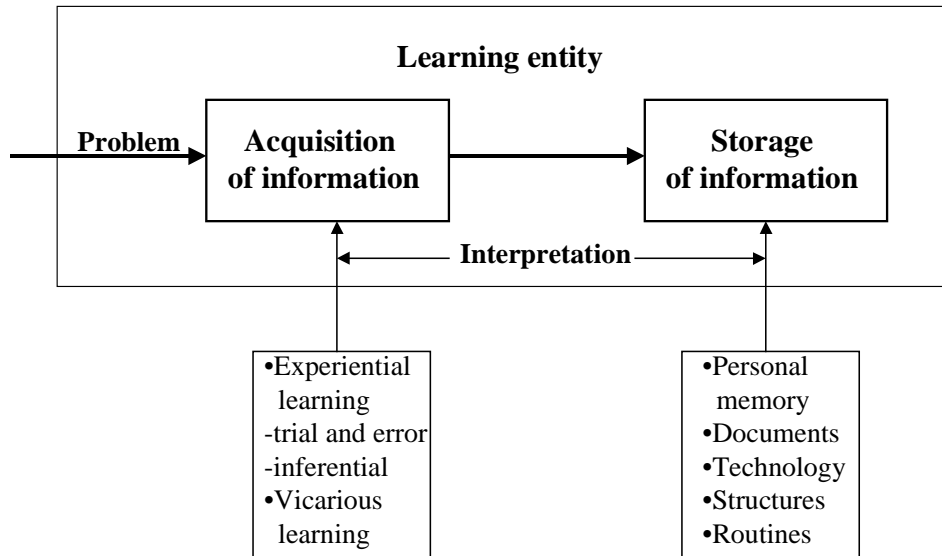
so well stored that it cannot be easily reactivated, it is not an effective form of information storage (Huber 1991; Levitt and March 1996).

Figure 2.3 represents the basic learning process.

2.3.3 From individual to organizational learning

So far, learning has been described as a process in which a monolithic entity (say, a person) is involved. The extension from the individual to the organizational level could be interpreted as the mere aggregation of individual learning processes. This position is taken by Argyris and Schön (1978, 1996) and Simon (1976, 1991), who regard organizational learning as a psychological process of individuals within organizational settings (cf. Romme and Dillen 1997). However, considering organizational learning to be the juxtaposition of individual learning processes ignores the crucial aspect of interaction (Argote 1999; Weick and Westley 1995; Kim 1993; Miner and Mezias 1996). Interaction entails two effects: information sharing and group composition.

Sharing of information serves two purposes. First, to solve problems which are tackled by several organizational entities (for reasons of complexity or efficiency).

Individuals or departments need the informational inputs which other individuals or departments acquire (Simon 1973). For example, a marketing department investigates the market potential of a green product. The study may result in specifications of a commercially feasible product, which are transferred to the production department. Second, replicable knowledge yields synergies: local knowledge that is relevant in other settings does not have to be reinvented (Von Hippel 1994).

Information can be shared in different ways, which show obvious similarities with sources of information storage. First, individuals can tell others what they know (Argote 1999; Nonaka 1996; Romme and Dillen 1997). Second, documents can be distributed among different individuals or departments (Argote 1999; Romme and Dillen 1997). Third, technological equipment can be moved around, or different persons can use the same equipment (Argote 1999). Fourth, different actors can observe the physical and organizational structures (Argote 1999; Romme and Dillen 1997). Fifth, routines tend to be shared among several actors (Nelson and Winter 1982; Romme and Dillen 1997; Weick and Westley 1996; Cohen and Bacdayan 1996).

In much of the network literature, information sharing is depicted as a quasi-automatic process. Information flows in an unconstrained way between different network nodes (i.e., information agents). The configuration of networks is a critical determinant of the information diffusion process (see, for example, Rowley 1997 and Burt 1998). This position side-steps the important issue of motivation (Hargadon and Sutton 1997). There are different reasons why actors abstain from sharing information that is relevant to others. First, communication takes precious time, during which actors cannot perform other activities. For busy persons with extensive relational networks, sharing information with others occupies a considerable amount of precious time. This involves high opportunity costs and thus constitutes a barrier to communication (Hansen et al. 2001). Second, sharing exclusive information may lead to the loss of a valuable resource. Actors with an information monopoly have a source of bargaining power or competitive advantage (Barney 1991; Argote 1999). For example, an organizational member or a firm with unique, valuable know-how cannot be easily dismissed or outcompeted.

Therefore, actors have to be motivated to share information. The creation of a solid social infrastructure or social capital provides the incentives to do so. Social capital is the sum of actual and potential resources which accrue to individuals or groups as the consequence of the existence of relational networks (Nahapiet and Ghoshal 1998; Gargiulo and Benassi 2000). The traditional view of social capital postulates that cohesive social ties facilitate the obtention of trust and cooperative exchanges of information. In networks with common norms, actors feel invited (i.e.,

morally committed) to share information. At the same time, network closure enables the enforcement of information dissemination, because non-cooperative actors can be sanctioned effectively (Coleman 1988; Nahapiet and Ghoshal 1998; Hargadon and Sutton 1997). So tight social ties are conducive to the exchange of information.

The organizational learning process is now complete. Following Argote (1999), I distinguish three stages: the acquisition, the distribution, and the storage of new information.

When extending from the individual to the organizational level, the *composition of a group* that is involved in a particular organizational problem is a relevant issue (Argote 1999). The degree of heterogeneity indicates the extent to which organizational actors have divergent behavioural capacities. A completely homogeneous group consists of actors with identical backgrounds: similar education, professional experience, industry, communication networks, etc. Homogeneity is important in cases of high task interdependence (Argote 1999). The cognitive distance between organizational members with similar backgrounds is small, because they speak the same language, and have followed similar training and experience trajectories (DiMaggio and Powell 1983; Nahapiet and Ghoshal 1998). This common denominator facilitates the standardization of (tacit) activities, which is important because interdependent actors have to operate at the same wave length. Coordination involves knowing what to expect from one another (Weick and Roberts 1993; Argote 1999). So group homogeneity facilitates the development of (tacit) routines in interrelated task environments.

Group heterogeneity is conducive to the solution of creative problems (Argote 1999). Homogeneous groups tend to think in similar terms. This has been fostered by similarity of education and professional experience, and leads to ingrained patterns of thinking (Janis 1972; Morgan 1997). Creativity requires dissimilar thinking, which opens the way to novel combinations, solutions without organizational precedents (Argote 1999). Heterogeneous groups bring together a variety of skills and perspectives, which enables the crafting of creative solutions to prevailing problems, for example through brainstorming (Sutton and Hargadon 1996). However, when the cognitive distance between members is too large, group processes- and hence the generation of creative solutions- are impaired (Nooteboom 2000; Argote 1999).

There are parallels between group composition and type of learning. Explorative learning aims at scope broadening, variety, and discovery. This can best be achieved by relatively loose groups with dissimilar members. So explorative learning thrives in heterogeneous groups (Weick and Westley 1996). Exploitative learning involves focusing, refinement, and implementation. This is fostered by experienced, relatively

tight groups whose members have similar backgrounds. So group homogeneity is conducive to exploitative learning (Weick and Westley 1996). Of course, extremities should be avoided: pure homogeneity brings about ossification, while excessive variety leads to a Babylonic confusion of tongues (Argote 1999).

2.3.4 Stakeholder roles in organizational learning

The process of learning is performed by actors in and around organizations. Nonaka (1996) identified three interrelated key *roles* in the 'knowledge-creating company'. Frontline employees have a detailed know-how of particular technologies, products, or markets. They are experts in solving daily organizational problems. Middle managers build bridges between senior managers and frontline employees. They collect and examine information from a variety of sources. Senior managers provide the normative setting within which present and future activities are to take place. They design standards and craft strategies.

Senge (1999) distinguished three interrelated types of leaders in the process of organizational change.[13] Local line leaders apply new ideas or practices. They are accountable for direct results at the local level. Internal networkers or community builders are well embedded in organization-wide communication networks, which allows them to actively diffuse new solutions. Their access to both local and executive levels is important in creating an organization-wide basis for new ideas and practices. Executive leaders create the organizational room for learning and innovation. They set the normative frames, provide moral support, guide change processes, and allocate financial resources.

Tushman and Nadler (1996) identified four roles, which are critical for successful innovations.[14] Idea generators creatively combine technologies, markets, and products. Their fundamentally new ideas constitute mental breakthroughs. Internal entrepreneurs or champions apply new ideas to concrete settings. They convert relatively vague ideas into tangible innovations. Boundary spanners or gatekeepers link local colleagues to external information sources. They translate and disseminate external information throughout the organization. Sponsors or mentors are senior managers who stimulate and protect new ideas. They provide the resources that are needed to develop interesting but vulnerable new innovations.

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[13] As stated above, learning does not necessarily involve action and change. But the contrary does hold: change is not possible without the (increased) behavioural capacities to do so. So learning is a prerequisite for change.
[14] Like changes, innovations cannot occur without a change of behavioural capacities (see the preceding note).

The typologies are not unrelated. First, Nonaka's frontline employees are similar to Senge's local line leaders, and Tushman and Nadler's internal entrepreneurs. They are actors with a relatively narrow focus and a detailed knowledge, which is applied to solve operational problems. Second, Nonaka's middle managers are the equivalent of Senge's internal networkers, and Tushman and Nadler's boundary spanners. They have extensive internal and external communication networks, which are used to acquire, translate, and disseminate information. Third, Nonaka's senior managers are the equals of Senge's executive leaders, and Tushman and Nadler's sponsors. They have a broad orientation, craft strategies, and allocate the necessary resources to stimulate the development of new knowledge. Only Tushman and Nadler's role of idea generators has no equivalent in other typologies (though it is- in my view- an important role, because it highlights the origin of fundamentally new ideas).

I adopt Tushman and Nadler's typology, and refer to idea generators, internal entrepreneurs, boundary spanners, and sponsors as critical roles in the learning process. These roles have links with stages in the organizational learning process. First-hand information is obtained via internal or external idea generators (inferential learning), or via internal entrepreneurs (experiential learning). The reflections of sponsors are another source of new information (inferential learning). Second-hand

Figure 2.4: Organizational learning
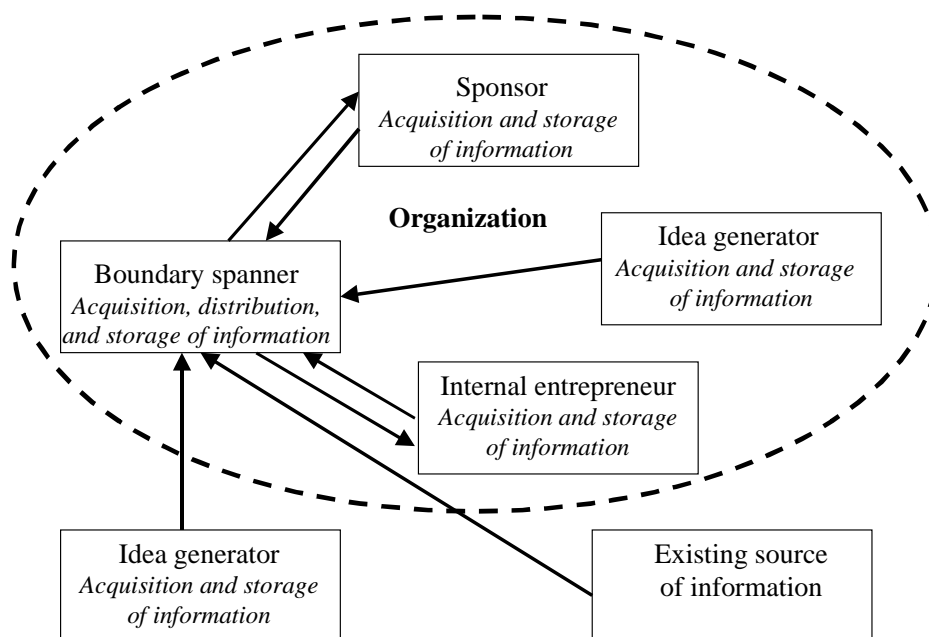
information is acquired via boundary spanners (vicarious learning). The latter also disseminate knowledge. Information is stored in the heads of the different actors.

Figure 2.4 represents an organizational learning process, including the roles of key stakeholders.

2.3.5   Learning dynamics

An organization is confronted with a limited information processing capacity, given the bounds of cognitive capacity and time availability (Simon 1976, 1991; Bazerman 1997; Lindblom 1959). This implies that the organization has to select the sources from which it acquires new information. Organizational actors make this selection by searching for information in the neighbourhood of existing knowledge (Cyert and March 1992). Besides, they interpret information with the help of heuristics, which are "rules of thumb" (Bazerman 1997: 5) or "any principle[s] or device[s] that contribute to the reduction in the average search to solution" (Nelson and Winter 1982: 132). By interpreting new information in the light of the existing, retrievable stock of knowledge, heuristics bias information in favour of initial mental frames (Bazerman 1997; Cyert and March 1992; Levitt and March 1995). So an organization's 'absorptive capacity' is positively related to prior, cognitively close information, because its members can easily acknowledge and assimilate the importance of such knowledge (Cohen and Levinthal 1990). This involves *path-dependent learning:* an organization's behavioural capacities evolve in line with existing stocks of retrievable knowledge.

Path-dependence is also a consequence of experiential learning. An organization becomes increasingly efficient when it routinizes its behaviour. These routines are established and enhanced through the accumulation of experience with particular practices to solve prevailing problems (Nelson and Winter 1982; Argote 1999). The organization reaps dynamic returns-to-scale, which stimulate further attempts to improve efficiency. But focusing on a particular routine renders an organization insensitive to other practices. When alternative solutions are superior but remain systematically neglected, an organization becomes trapped by its own competencies (Levitt and March 1995; March 1991). Organizational knowledge can thus turn from an asset into a liability (Leonard-Barton 1992).

Finally, path dependence is induced by *uncertainty avoidance.* Actors prefer direct, certain outcomes of familiar practices to more distant and uncertain outcomes (Rabin 1998; Laibson and Zeckhauser 1998). For example, excessive planning is the manifestation of the desire to control the vagaries of contingent factors (Cyert and

March 1992). Experiments with novel solutions that pay-off in the longer term are either hardly considered (Levitt and March 1995; March 1991) or aborted when they do not immediately yield the desired results (Denrell and March 2001). Uncertainty avoidance also leads to the perpetuation of existing relations per se (Gargiulo and Benassi 2000; Valley and Thompson 1998). This implies that the same actors keep on providing new information, which is likely to be of the same nature.

So cognitive biases, efficiency considerations, and uncertainty avoidance are conducive to the exploitation of initially adopted paths: organizations learn more of the same kind. The search for more distant solutions, which opens the way to explorative learning, is only considered under exceptional circumstances (Cyert and March 1992).

2.4   Crossroads of green influence and learning

The preceding sections have analysed stakeholder influence, organizational learning, and environmental management in relative isolation. This section explores interactions. I first recap and compare the main issues of the three areas. These lead to a general model. Subsequently, I focus on key parts of the model with the help of three hypotheses.

2.4.1   Interactions

The foregoing discussion of the three areas of interest was structured by means of five issues: typology, basic process, static complexity, key actors, and dynamics. Table 2.2 summarizes the main characteristics for the different areas. *Environmental management* in large business organizations can pertain to environment as a source of resources, an externally induced constraint, or a market opportunity. At all levels (micro, meso, and macro), environmental issues are systemic in nature. Organizational strategies are formulated in response to (constraining) external pressures. They vary in the degree of proactiveness, though there has been a clear tendency towards relatively proactive stances (compliance and beyond-compliance strategies). When environment constitutes a market opportunity, a need for legitimizing information has to be met on top of 'ordinary' product management. Environment as a source of resources is managed like the procurement of any other inputs. Internal actors at strategic, operational, and staff levels play major roles, while government, suppliers, customers, and societal groups are important external actors.

Stakeholder influence stems from formal, economic, social, informational, operational, or coalescent sources. The holders of these sources formulate demands and/or provide resources to meet or counter these demands. Power configurations in and around organizations involve a host of internal actors (operators, technical support staff, and top management) and external parties (owners, suppliers, customers, competitors, governments, and societal pressure groups). The divergent inputs of the different stakeholders can either involve a clash of interests or be joined in a cooperative way. Power configurations have strong inertial tendencies. Dynamic changes would disturb delicate power balances and would involve undesired uncertainty.

Table 2.2: Key elements of the three areas

Issue	*Environmental management*	*Stakeholder influence*	*Organizational learning*
Typology	Source of resources Constraint Market opportunity	Formal Economic Social Informational Operational Coalescent	Explorative Exploitative
Basic process	Purchasing management or External pressure Strategic response: - Contestation - Compliance - Beyond-compliance or Product management plus extra information	Source of influence Strategic response: - Compliance - Resistance - Counter-influence	Acquisition of information Storage of information
Static complexity	Micro-system Meso-system Macro-system	Conflict of interests Cooperation	Sharing of information Composition of group

Table 2.2, continued

Issue	Environmental management	Stakeholder influence	Organizational learning
Key actors	Operators Environmental coordinator Top management Governments Suppliers Customers Societal groups	Operators Technical support staff Top management Owners Suppliers Customers Competitors Governments Societal pressure groups	Idea generator Internal entrepreneur Boundary spanner Sponsor
Dynamics	Increasing proactiveness	Power deadlock Uncertainty avoidance	Path-dependence Uncertainty avoidance

Organizational learning takes place when new information is acquired, shared, and stored. This process involves several key actors: idea generators, internal entrepreneurs, boundary spanners, and sponsors. Learning can consist of the exploration of new fields or the exploitation of existing competence areas. Group heterogeneity is conducive to exploration, while exploitation thrives in relatively homogeneous groups. Organizations have a strong tendency to exploit existing fields. Path dependence is the result of the absorption of new information that is similar to the existing stock of knowledge. The desire to avoid uncertainty is another reason to stick to well-known fields.

The *interactions* of stakeholder influence and organizational learning, applied to the field of environmental management, lead to the following process. Stakeholders in and around organizations formulate demands. In principle, this can be any stakeholder and type of influence, though the following combinations are the more likely ones. Top management, owners, and governments wield their formal power. Suppliers, customers, and competitors have economic influence. Environmental groups exert social pressure.

Stakeholder demands that are perceived as important lead to the formulation of organizational responses. Counter-influence and resistance involve no organizational

actions (except for acts of manipulation, negotiation, overt defiance, or window dressing). Compliant organizational responses require the use of stakeholder inputs. Again, the exact combinations of stakeholders and types of influence are contingent on the prevailing situation. A likely combination is the coalescent influence of competitors to counter stakeholder demands.[15] A compliant response to systemic environmental problems requires the cooperation among different organizational members. Top management takes strategic decisions (formal influence), operators implement decisions (operational power), and the environmental coordinator fulfils a liaison role (informational influence). Feasible solutions tend to be rare. Apart from meeting stakeholder demands, they have to be supported by major organizational members (who may have conflicting interests). Responses that satisfy both criteria create inertial precedents for future problems of the same kind.

Different stakeholders contribute to the knowledge that is required to meet stakeholder demands. A typical combination is top management's role of sponsor- by acquiring and storing strategic information (informational influence) and by allocating means to conceive solutions (formal influence). Another likely combination is the operators' role of internal entrepreneur- by acquiring, storing, and applying operational knowledge (informational and operational influence). Finally, the environmental coordinator is likely to fulfil the role of boundary spanner- by acquiring, sharing, and storing information from internal and external sources (informational influence). The role of idea generator can be fulfilled by any of the preceding stakeholders or other (internal or external) actors. The conjunction of these different roles enables meeting stakeholder demands, and leads to organizational learning. The ability to acknowledge and assimilate new knowledge is related to the cognitive distance between new and existing knowledge. Information that is cognitively close to the existing body of knowledge is relatively likely to be acquired, shared, and retained. This path dependence involves exploitative (rather than explorative) learning, and homogeneous (instead of heterogeneous) groups.

Inertia is also inspired by an- exogenously given- preference to avoid uncertainty. Inertial tendencies shape future stakeholder influences. The enactment of both stakeholder demands and organizational responsiveness to these demands tend to be reflections of those that prevail during preceding periods.

Figure 2.5 represents the process of interactions among environmental stakeholder influences and organizational learning.

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[15] When counter-influence manifests as manipulation, it precedes the formulation of stakeholder demands.

Figure 2.5: Interactions of influence and learning
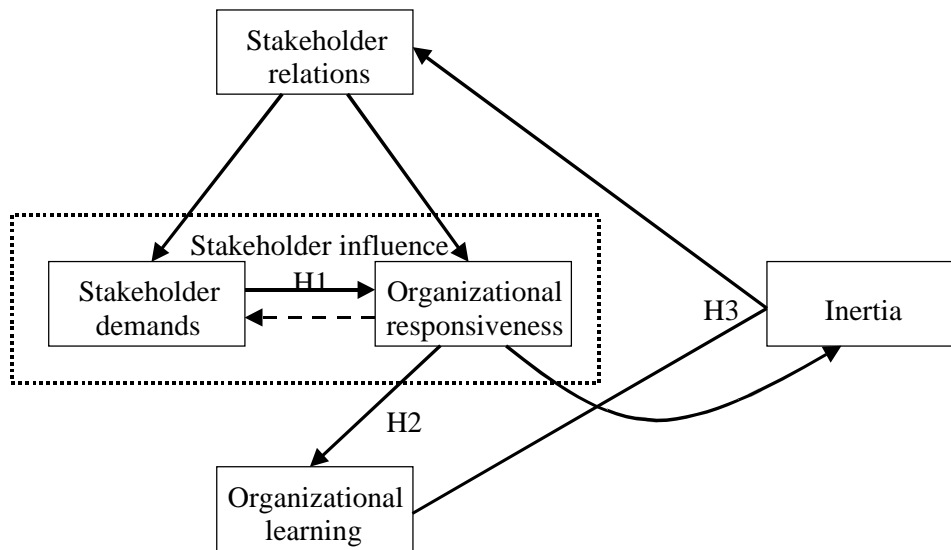
2.4.2 Hypotheses

Figure 2.5 is a general model that shows the complex interactions in the broad fields of stakeholder influence and organizational learning. In order to focus the study (see also section 3.2), I present three hypotheses. They cover major aspects of the model, and are indicated as H1, H2, and H3 in figure 2.5.

From a resource dependence perspective, the performance of a business organization is contingent on its ability to manage crucial resources effectively (Pfeffer and Salancik 1978). Institutional theory argues that a business organization accommodates to the pressures that are exerted by its institutional environment (DiMaggio and Powell 1983). Combining the resource dependence and institutional perspectives leads to the view that the behaviour of an organization is strongly influenced by external stakeholders. An organization actively manages them or passively accedes to stakeholder pressures. When environmental management consists of a constraint, an organization has to respond, for example, to governmental regulation or the environmental movement's threat of boycott. Environment as a market opportunity provides strong incentives to market green products. Ignoring these demands would involve a misfit between the organization and its external business environment, with possibly far-reaching consequences: the governmental

closure of the organization's production site because of the violation of environmental regulation, the plummeting of sales due to a customer boycott, or the stagnation of sales following the failure to tap green market potential. So ignoring the demands that emanate from crucial external stakeholders hampers the organization's economic activities, and may even jeopardize its continuity.

The existence of important demands does not imply that an organization accommodates to them. Stakeholder demands have to be sensed. This is not necessarily the case in an enacted business environment, where the assessment of stakeholder importance is the result of the perception of observing organizational members (Pfeffer and Salancik 1978; Morgan 1997). Furthermore, even the demands of external stakeholders that are perceived as important are not necessarily met. Organizational responsiveness ranges from low (resistance) to high (compliance) (Oliver 1991). Besides, demands may first be manipulated or negotiated (on a bilateral or multilateral basis) before an organization formulates a firm response (Oliver 1991; Bacharach and Lawler 1998; Galbraith 1952; Olson 1965; Pfeffer 1992). Oliver hypothesised that low degrees of legal coercion, economic gain, or social legitimacy are conducive to the formulation of resistant organizational responses. Stakeholder demands that entail (the expectation of) high economic returns are obviously compatible with the organizational goal of profitability, so they will be embraced (Oliver 1991). Likewise, demands that considerably enhance the organization's legitimacy are compatible with the organizational objective of being perceived as a socially responsible corporate citizen who has the right of existence (Meyer and Rowan 1977; Oliver 1991; Hoffman 1997). Finally, legal demands that are effective (in terms of enforceability and punitive consequences) may not be compatible with organizational objectives, but simply cannot be avoided. An organization may wish to resist, but has no other choice than to comply (Oliver 1991). So stakeholder demands that are compatible with organizational objectives or incompatible but unavoidable entail a high degree of organizational responsiveness.

A business organization is, however, not a monolithic entity that responds with one voice to external pressures: internal actors have their own interests (Cyert and March 1992; Schein 1996; Cohen et al. 1979; Mintzberg 1983b). Besides, important demands may emanate from internal stakeholders (cf. Mintzberg 1983b; Pfeffer 1992), for instance top management's commitment to an environmentally benign world. This implies that intraorganizational dynamics have to be considered (Prakash 2000). Schein (1996) argued that operators aim at the human control of operational activities. In the field of environmental management, operators are in charge of the actual control of emission levels and the concrete realization of green products. Technical support staff pursues technical sophistication. The environmental coordinator wants to have environmental state-of-the-art technology. Top

management is concerned with broad strategic objectives and financial performance. Environmental activities should fit within the strategic profile and should not significantly deteriorate- if possible even improve- the organization's financial rate of return. So the interests of major internal actors are dissimilar. Yet, cooperation is required in order to respond effectively to stakeholder demands. When the actions of internal actors are not aligned, organizational responses are half-hearted or ambiguous (Pfeffer 1992; cf. Argote 1999), especially in large organizations with their complex interdependencies (Simon 1973). When the actions of different internal actors are not mutually reinforcing or even offset one another, the organization as a whole has failed to act (Pfeffer 1992). Managerial decisions that fail to be implemented are a clear example. Concerted actions occur when stakeholder demands are compatible with the aims of all major internal actors (i.e., organizational members see their interests (largely) satisfied), or when they are incompatible but unavoidable (i.e., organizational members may disagree but recognize that resistance would negatively affect their personal careers or their organization's continuity).

Concerted actions appeal to the organizational behavioural capacities. Meeting stakeholder demands may require actions which use and reinforce existing behavioural capacities, giving rise to exploitative learning (March 1991) or classical 'learning curve' effects (Argote 1999). Alternatively, stakeholder demands may lead to explorative learning, the search for new knowledge that is unrelated to existing insights (March 1991). In either case, the decision to meet stakeholder demands triggers the engagement in concerted actions that lead to organizational learning. In other words, concerted efforts to comply with stakeholder demands are a manifestation of Cyert and March's (1992) 'problemistic search'.

The preceding argument leads to the following hypothesis:

Hypothesis 1: Organizational learning processes in the field of environmental management are triggered by stakeholder demands that are either compatible with the aims of major organizational actors or incompatible but unavoidable given the organizational (actors') dependence on the stakeholders from which they emanate.

Nonaka (1996), Senge (1999), and Tushman and Nadler (1996) identified typologies of critical stakeholder roles in the fields of organizational learning, organizational change, and innovation, respectively. These typologies show considerable similarities. Nonaka's frontline employees, Senge's local line leaders, and Tushman and Nadler's internal entrepreneurs use their detailed local knowledge to solve operational problems. Nonaka's middle managers, Senge's internal networkers, and Tushman and Nadler's boundary spanners acquire salient information from external and internal sources, and disseminate it throughout the organization. Nonaka's senior managers, Senge's executive leaders, and Tushman and Nadler's

sponsors set strategic and normative frames, and allocate resources to foster the obtention of new insights. Tushman and Nadler's role of idea generator does not have an equivalent in the other typologies. Yet, I regard it as an important role, because it stresses the origin of fundamentally new ideas. I adopt Tushman and Nadler's typology, because it best covers the area of organizational learning.

Tushman and Nadler argued that successful innovations require the concurrence of all four roles. The role of sponsor is indeed indispensable. Without a clear strategic orientation and without the allocation of sufficient resources, the organization lacks both the direction and the means to acquire, share, and retain new knowledge (Mintzberg 1983b; cf. Argote 1999; Gersick 1994). Therefore, it is not surprising that top management commitment is part of a formal environmental management system (Kolk 2000). The boundary spanner fufils a critical role in the (external) acquisition and the (internal) dissemination of information. Without effective information transfer, an organization has 'sticky' local knowledge (Von Hippel 1994). Information exchange facilitates the realization of synergies. These occur when actors have to join forces to solve complex problems (Simon 1973) and when the transfer of locally existing solutions avoids the necessity of costly experimentation (Argote 1999). As to the other roles, the presence of either an idea generator or an internal entrepreneur suffices in the context of organizational learning. An idea generator offers fundamentally new knowledge, which- by its nature- tends to be unrelated to the existing body of organizational knowledge. When such novel ideas are followed up, an explorative learning process takes place (March 1991). An internal entrepreneur tries to adjust and apply new information. As the existing organizational context is (largely) taken for granted, the internal entrepreneur's efforts tend to be part of an exploitative learning process (March 1991). This suggests that organizational learning occurs when three key roles concur: sponsor, boundary spanner, and idea generator or internal entrepreneur.

Stakeholders who fulfil critical roles should be sufficiently influential. This is by no means guaranteed because of prevailing power relations (Coopey 1996; Romme 1999). First, a sponsor may be 'overruled' by other senior managers or the organization's board of commissioners (cf. Mintzberg 1983b). They may, for instance, reject a proposed beyond-compliance policy for financial reasons. Alternatively, top management's discretionary power may be constrained due to a high external dependence, such as formal commitments or an adverse economic tide (Pfeffer and Salancik 1978). An organization may have long-term contracts with suppliers or buyers of environmentally harmful inputs or products. Likewise, a poor business cycle does not create a favourable climate to engage in costly environmental initiatives that are not strictly necessary. Second, a boundary spanner risks to be stuck between the devil and the deep sea. An environmental coordinator typically fulfils a

staff function, and thus does not have the formal power to impose sensitivity to his or her information (cf. Mintzberg 1983a). Operators may only obey the orders of their superiors, while top management may think that a boundary spanner does not really understand operational problems. Besides, operators and managers may not wish to 'waste' their precious time with extensive communication (cf. Hansen et al. 2001). Furthermore, they may not wish to share information, believing that an information monopoly enhances their power (Argote 1999). Third, an internal entrepreneur may be urged by (top) management to engage only in directly productive activities and to abstain from experimenting with (slightly) new practices, especially in times of high customer demand or financial crisis (cf. Levitt and March 1995; March 1991). Fourth, an idea generator's suggestions may be ignored because of a too large cognitive distance (Nooteboom 2000; Argote 1999). Alternatively, innovative ideas may be rejected because of a presumed lack of external legitimacy: if they are so valuable, why would others not have exploited them before? (Menon et al. 2001 ; cf. DiMaggio and Powell 1983). Furthermore, new ideas may be dismissed as unrealistic or 'environmental humbug', especially when their realization would upset existing power configurations or decrease the predictability of business environments (Cyert and March 1992; Valley and Thompson 1998; Nelson and Winter 1982; Argyris 1996; Pfeffer and Salancik 1978).

Thus, the following hypothesis can be formulated:

Hypothesis 2: Organizational learning processes in the field of environmental management are most effective when influential stakeholders simultaneously fulfil the roles of: sponsor; boundary spanner; idea generator and/or internal entrepreneur.

A business organization may decide to enter an area in which it is not knowledgeable, for example because it is confronted with an unavoidable demand without precedents. In order to meet this novel demand, the organization has to acquire new behavioural capacities. The organization may decide to acquire these capacities by itself, thus involving in 'learning by doing' (Argote 1999; Levitt and March 1995) or 'experiential learning' (Huber 1991). Alternatively, the organization may externally acquire existing information, thus engaging in 'vicarious learning' (Huber 1991; Miner and Mezias 1996). Using first-hand information is advantageous in terms of avoiding dependence on external parties (Pfeffer and Salancik 1978), as well as the development of organization-specific, tacit, hardly imitable knowledge, which may involve a competitive advantage (Barney 1991; Hart 1995). Applying second-hand information is beneficial when little time is available, when the organization wants to avoid costly errors by simply copying successful solutions, and when the organization is not capable of developing the required knowledge (Huber 1991; Miner and Mezias 1996).

An organization that enters a new area widens its scope, because its existing behavioural capacities fall short (Nooteboom 2000). Contacts are established with new stakeholders, preferably with those whose behavioural capacities show relatively little redundancy with existing organizational capacities (Burt 1998; Granovetter 1973). Non-redundancy offers the opportunity to get access to a large number of informational nodes, which enhances the probability of acquiring suitable information. There should, though, be at least a critical minimum of redundancy among different network members in order to create the trust, collective norms, and common interpretative frames that are required to motivate and enable effective information sharing (Coleman 1988; Hargadon and Sutton 1997; Nahapiet and Ghoshal 1998).

Apart from having contacts with new informants (and having access to large information networks), group composition is a critical issue. Demands that cannot be solved with the help of existing behavioural options call for creative solutions. Heterogeneous groups, consisting of actors with dissimilar educational and experiential backgrounds, have different perspectives and capacities. Combinations of these heterogeneous inputs are likely to lead to creative solutions, provided the cognitive distance between members is not so wide that it impairs effective communication and assimilation (Argote 1999; Nooteboom 2000; cf. Cohen and Levinthal 1990). So group heterogeneity is conducive to the creative solution of novel problems, and hence to explorative learning (Weick and Westley 1996).

When a new area is explored, initial contacts are likely to concern strategic issues (cf. March 1991; Coopey 1996). The area's broad contours have to be discovered (and possibly negotiated), organizational objectives have to be established, and different directions of possible solutions have to be debated before an organization engages in the elaboration of operational issues. So initial contacts are primarily concerned with clarifying and setting broad strategic outlines.

With the evolution of time and the organization's behavioural capacities, a part of the newly established contacts will be irrevocably discarded. Some of the new contacts are only relevant for a strategic option that the organization has not chosen. Other contacts involve highly uncertain, initially disappointing, or timely distant benefits. These contacts are also likely to be discarded, because the organization does not expect them to yield reasonably certain and quick benefits, while they involve certain and immediate costs (time and human resources) to be maintained (Denrell and March 2001; Hansen et al. 2001; Nooteboom 2000; Levitt and March 1995). Contacts that lead to immediate or fairly certain pay-offs are likely to be intensified.

While some of the initially established contacts in a particular area fade, virtually no new contacts are likely to be added. Given the tendency to acquire new information that is close to the existing body of knowledge (Cohen and Levinthal

1990), preference will be given to existing contacts, which provide familiar information that can be easily acknowledged and assimilated. This cognitive lock-in or relational inertia is also the result of the established trust among actors in existing networks and the uncertainty as to the reliability and added value of new actors (Gargiulo and Benassi 2000; Valley and Thompson 1998; Hendrikse 2002). Organizations prefer to avoid uncertainty (Pfeffer and Salancik 1978), which involves a status quo bias: stakeholders have a strong psychological commitment to well-known situations (Rabin 1998; Laibson and Zeckhauser 1998). Furthermore, a power truce may thwart the consideration of new stakeholders. Existing stakeholders may perceive their part of the power pie endangered when it has to be shared with new actors. They are likely to resist, for example by ignoring the new actors or by making others believe that they add no value (Cyert and March 1992; Nelson and Winter 1982; Valley and Thompson 1998).

When an organization becomes increasingly knowledgeable in an area, group heterogeneity tends to decrease. While heterogeneity is important to creatively craft new solutions, homogeneity is conducive to the efficient exploitation of adopted solutions (Argote 1999). Stakeholders with similar backgrounds- in terms of education, experience, and industry- easily understand one another (DiMaggio and Powell 1983; Nahapiet and Ghoshal 1998). Mutual understanding facilitates coordination, which is important when (tacit) exploitative tasks are highly interdependent (Weick and Roberts 1993; Argote 1999). Besides, exploitative activities thrive in standardized task environments (Weick and Westley 1996). A common cognitive denominator facilitates this standardization (Mintzberg 1983a). Heterogeneity also decreases because stakeholders who (are believed to) significantly contribute to the success of a novel enterprise use their increased power to (further) marginalize stakeholders with heterodox views (Miller 1993).

When an organization's behavioural capacities increase, its stakeholder relations become of an increasingly operational nature (cf. March 1991; Coopey 1996). The adoption of a strategic direction that is successful- in terms of meeting stakeholder demands- is likely to be continued (Cyert and March 1992; Tushman and Romanelli 1985). This leads to path dependence and the repetition of similar activities. With the accumulation of experience, an organization progresses on its learning curve (Argote 1999). The more an organization becomes competent in a certain area, the less it is inclined to rediscuss the adopted strategic path (Levitt and March 1995; Leonard-Barton 1992). Besides, once strategic choices have been made, they need to be implemented to become effective (Pfeffer 1992). So initial contacts are likely to be of a strategic nature, while subsequent contacts become ever more operational. Furthermore, the continuous defiance of the adopted strategic direction would meet resistance, because it involves new uncertainty and the reshuffling of existing interests

(Nelson and Winter 1982; Cyert and March 1992; Tushman and Romanelli 1985). Stakeholder contacts thus become increasingly concerned with marginal changes, refinements of well-established routines (March 1991; Nelson and Winter 1982).

The combination of the different elements leads to the following hypothesis:

Hypothesis 3: The more a business organization learns in a particular field of environmental management, the more its relations with stakeholders become stable, operational, and homogeneous in nature.

This chapter has reviewed literature that pertains to the three focal areas (stakeholder influence, organizational learning, and environmental management). After a separate review of each field, I have modelled and hypothesised important interrelations. In the next chapter, I will discuss methodological issues. I will start with some broad reflections on the assumptions and the design of this research. Next, I will describe the empirical method and the data sources. Thus, the methodological chapter will bridge this chapter, in which hypotheses have been formulated, and the subsequent empirical chapters, in which the hypotheses will be tested.

3   Methodological considerations

The previous chapter provided the theoretical framework of this study. I reviewed issues of stakeholder influence, organizational learning, and environmental management from a variety of theoretical perspectives. The integration of the three fields led to the development of a process model and several hypotheses. This chapter consists of two parts. First, I explain the philosophical perspective and the design of this research. I reflect on the ontological and epistemological positions that I have adopted, and on the connections between the differents elements of this research. Second, I describe the empirical methods used to test the hypotheses that arose from the theoretical chapter. The section on methods highlights the rationale for using case studies, the pilot study, the criteria for selecting cases, the different data sources, and the analysis of the collected data. Thus, this chapter has two purposes. It links the theoretical analysis of the previous chapter to the empirical study of the next two chapters. Besides, this chapter explains the deeper underlying assumptions and the architecture of this research.

The term *'methodology'* is ambiguity-ridden. It conventionally refers to (knowledge of) the techniques or methods used to study empirical phenomena (Lehaney and Vinten 1994). In a broader sense, methodology pertains to the philosophy of science (Kaplan 1964). It indicates the ways in which theories, methods, models, and assumptions are interrelated (Kuhn 1970; Blaug and Boumans 2000). I adopt both meanings of methodology, starting with the broader purport.

3.1   Research paradigm

Paradigms are "universally recognized scientific achievements that for a time provide model problems and solutions to a community of practitioners" (Kuhn 1970: viii). A scientific paradigm combines a fundamental vision, theoretical principles and standards, models, and research techniques in a compatible way (Gerrard 1990; Backhouse 1998; Girod-Séville and Perret 1999; Davis 1998; Corbin and Strauss 1990). This paragraph covers the issues of vision, theory, and modeling, while the next paragraph deals with empirical techniques.

3.1.1   Ontology and epistemology

A way of seeing is a way of not seeing (Morgan 1997; Krugman 1995). Taking a particular stance and following a particular path precludes the adoption of other

options. Scholarly findings are thus framed to a considerable extent by the conception of and approach towards the phenomenon of interest (Mir and Watson 1999). Therefore, I find it important to explain the basic underlying assumptions of this research.

In the present study, I take a *critical realist* perspective. The ontology- or nature and form of reality- of critical realism is that (a finite number of) objective realities exist (Tsang and Kwan 1999; Guba and Lincoln 1994; Davis 1998; Tsoukas 2000). The positive or received view also assumes the existence of objective realities (Girod-Séville and Perret 1999; Guba and Lincoln 1994). Social constructivists take a (partially) different view by assuming that either objective reality does not exist (radical constructivism) or that it exists but cannot be attained objectively because of observer-specific interpretation (moderate constructivism) (Girod-Séville and Perret 1999).

Critical realism thus assumes the existence of an objective reality. At the same time, critical realists argue that our capacity to understand this reality is infinitely small in comparison with the complexity of the social phenomena that we study (Sayer 1992; Guba and Lincoln 1994; cf. Simon 1976). This has important implications for the nature of knowledge (or epistemology) (Davis 1998; Guba and Lincoln 1994; Girod-Séville and Perret 1999). According to critical realists, findings should be interpreted with caution. Due to the (multi-dimensional) complexity of (social) phenomena, our understanding of reality is at best an approximation of the actual phenomena at hand. Our perception is incomplete and may be incorrect; it should thus have the status of temporary truth. Social constructivists take a similar view. They argue that our understanding of social phenomena is mentally constructed and results from dialogue between different observers (Guba and Lincoln 1994; Girod-Séville and Perret 1999). The stance of positivists is quite different. They argue that (quantitatively significant) research outcomes have the status of firm, univocal proofs, provided the research has been conducted in a valid and reliable way (Gerrard 1990; Girod-Séville and Perret 1999).

Critical realism thus strikes a middle ground between positivism and social constructivism (Guba and Lincoln 1994). It is close to the interpretative or hermeneutic paradigm, which also regards findings as partial understandings of complex, multidimensional realities (Noorderhaven 2000; Girod-Séville and Perret 1999). But whereas different interpretations of phenomena fulfil a central role in hermeneutics, critical realism is concerned with deeper, conjunctural causes. Critical realists argue that phenomena are caused by the co-occurrence of a variety of factors, which may change over time (Sayer 1992; Tsang and Kwan 1999; Mir and Watson 2001; Whitley 1984).

3.1.2   Research design

Theory can be defined as "the symbolic dimension of experience, as opposed to the apprehension of the brute fact" (Kaplan 1964: 294), "the negotiat[ion of] the conceptualization [of observations]" (Sayer 1992: 84), "a set of lawlike assertions" (Hausman 1992: 77), "the attempt to push categorization as far as possible and to find general propositions which can be applied to specific situations" (Lindblom 1959: 86), or simply "the answer to queries of why" (Sutton and Staw 1995: 375). It is argued that theory should explain and predict a phenomenon in a logically coherent and consistent way (Sutton and Staw 1995; Blaug 1992; Kaplan 1964; Eisenhardt 1989). Besides, theory should be phrased a priori and be empirically testable. Otherwise, it would be immune to refutation. Blaug (1992: 238, 241) powerfully conveyed this view:

"…The central weakness of modern economics is, indeed, the reluctance to produce the theories that yield unambiguously refutable implications. (…) Unfortunately, much of [empirical research] is like playing tennis with the net down: instead of attempting to refute testable predictions, modern economists all too frequently are satisfied to demonstrate that the real world conforms to their predictions, thus replacing falsification, which is difficult, with verification, which is easy. (…) It is no secret that success in such endeavors frequently relies on "cookbook econometrics": express a hypothesis in terms of an equation, estimate a variety of forms for that equation, select the best fit, discard the rest, and then adjust the theoretical argument to rationalize the hypothesis that is being tested."

A *model* is conventionally defined as a simplified representation of a process or system with the purpose of explaining or simulating a phenomenon (Charreire and Durieux 1999). In the light of a complex reality, a model is always the result of an inevitable trade-off between parsimony and completeness (Kim et al. 1995; Krugman 1995; Gibbard and Varian 1978; Meyer et al. 1993). Simple models are attractive because they are easy to grasp. Parsimonious models are powerful to the extent that they explain much with little. Extensive models tend to be more complete and reflect reality more faithfully, but have drawbacks in terms of understanding and management.

As the purpose of modeling is to represent reality and as theory consists of statements about empirical phenomena, models are rooted in both theory and practice (Morgan 1998). At the same time, however, models should have a certain autonomy. This leaves room for other sources of inspiration, like introspection (personal reflection), conjecturing (personal intuition), or brainstorming (collective idea generation). A partial detachment from theory and practice offers the mental room to fish outside existing pools of thought, which is conducive to the acquisition of

creatively new models and insights (Morrison and Morgan 1999; Polanyi 1966; Blaug 1992).

The way in which theory, reality, and model are *interrelated* has important implications for the design of research. General propositions based on empirical observations can be formulated inductively. Alternatively, logical deduction can be used to derive explanations and predictions from theoretical propositions (Charreire and Durieux 1999; Sayer 1992). Deduction may lead to creatively new insights when different theoretical strands are combined in novel ways. Moreover, new ideas may arise during the abductive or adductive stage, which precedes the deductive stage. Abduction consists of intuition, introspection, and unstructured observations. It may lead to the formulation of creatively new propositions, which can subsequently be empirically tested (Charreire and Durieux 1999; Blaug 1992).

Figure 3.1 summarizes the research process that was used. At the outset of the study, I had no clear idea about the relations between influence and learning. A pilot study (see next paragraph) was conducted to formulate some first ideas. These were combined with insights from the literature, introspection, and dialogue (including some exploratory discussions with environmental experts) to craft the basic model (as

Figure 3.1: Research process
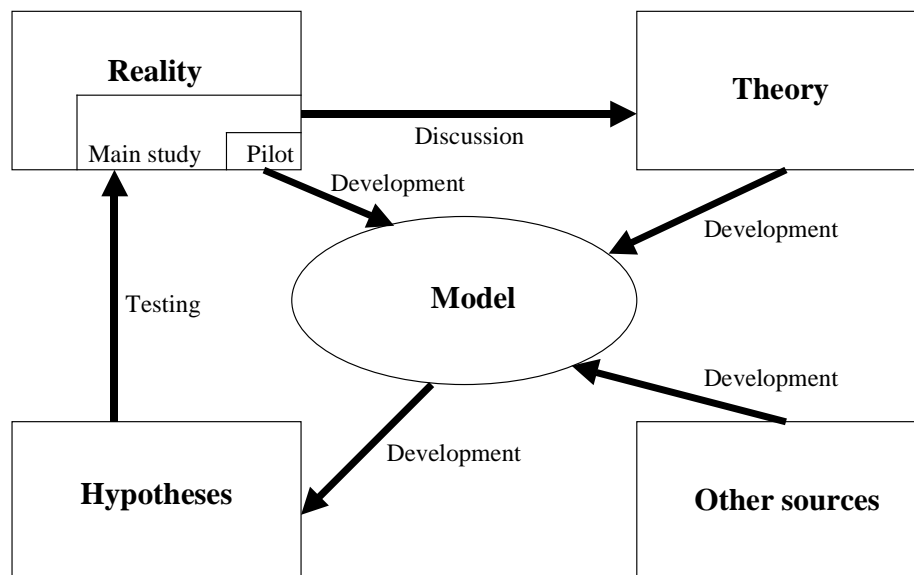
explained in chapter 2). Three hypotheses were derived from this model, which were tested during the main study. The outcomes of the empirical test (see chapter 5) were confronted with the existing literature (chapter 6).

3.2 Empirical method

3.2.1 Why case studies?

In a complex reality, a host of factors interact (Morgan 1997). In order to understand complex phenomena, it is necessary to simultaneously consider their main causal factors. When factors of interest are affected by other factors, the study should thus focus on configurations of relevant explanatory factors (Meyer et al. 1993; Ragin 1987). The analysis of individual factors provides inadequate explanation when their importance cannot be understood without simultaneously considering other factors. Statistical analysis is well suited to highlight the importance of individual factors, but is often less appropriate to account for the simultaneous presence of different causally related factors. First, correlation does not imply causation; other variables may underlie patterns of correlation (Gujarati 1995; Kline 1998). Second, a regression model that analyses the added value of an explanatory variable to a model with several other explanatory variables falls short in case of high multicollinearity (i.e., different explanatory variables are strongly interrelated), as is often the case with social phenomena (Gujarati 1995).[16] Third, the use of statistical interaction terms (i.e., multiplications of different explanatory variables that constitute a new explanatory variable that accounts for their co-occurrence in relation to a dependent variable) may be problematic (cf. Gujarati 1995). This is the case when sample size is small in comparison to the number of variables (Ragin 1987). The multiplication of variables with different signs and the multiplication of interval variables with critical minimal values before they affect the dependent variable are also problematic.[17] Fourth, structural equation modeling (which is a statistical technique that considers simultaneous correlations among several variables) may not be feasible because of

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[16] Models that are extended with explanatory variables that are highly correlated with existing explanatory variables may not lead to significant model improvements. Yet, the newly included variables may account for or be conducive to the occurrence of other, specified explanatory variables. Omission of such variables would misspecify the model, although omission would be statistically justified. I thank Sjoerd Beugelsdijk for this insightful point.

[17] The use of interaction terms is inappropriate when the high value of one variable cannot compensate for the low score of another variable (because of the occurrence of a threshold level) or when variables have different signs. I am grateful to Arjen Slangen for providing this significant point.

non-identification (Kline 1998). Studying complex phenomena thus requires an alternative method, which is better able to cope with multiple conjunctural causation.

A *case study* is "an empirical inquiry that investigates a contemporary phenomenon within its real-life context, especially when the boundaries between phenomenon and context are not clearly evident" (Yin 1994: 13). The case study is well suited to deal with causal complexity, because it relates a phenomenon to a configuration of causal factors (March 1979). Because of its scrutiny of sequences of interaction at the micro level, the case study is also an appropriate technique to inquire into processes, to observe (sequences of) interactions among factors. The case study is thus a good instrument to study static and dynamic complexity, to scrutinize queries of 'why' and 'how' (Ragin 1987; Noorderhaven 2000; Yin 1994; Simon 1991).

Internal validity measures the extent to which an empirical analysis shows causal mechanisms. A study with a high internal validity goes beyond mere correlation, and differentiates between causal and spurious relations (Yin 1994; Drucker-Godard et al. 1999; Miles and Huberman 1994). The case study analyses causal relations among relevant factors in detail, and thus has a high internal validity (Eisenhardt 1989; Yin 1994).[18]

Construct validity indicates the degree of congruence between an empirical model and the actual phenomenon of interest (Yin 1994; Drucker-Godard et al. 1999; Miles and Huberman 1994). A high construct validity implies a high degree of congruence between (the variables of) the model and (the concepts of) the underlying phenomenon (Yin 1994; Drucker-Godard et al. 1999; Kline 19989). The case study is able to take account of the complexity of reality, often through qualitative evidence. Qualitative evidence provides extensive opportunities to express ideas through words, while even quantitative models require verbal explanation (Mc Closkey 1983). Qualitative models are more flexible than formalized, quantitative models, and are thus better able to capture phenomena which do not consist of a small number of neatly ordered and quantifiable factors.[19] It is also claimed that qualitative evidence may be preferable to highly formalized models, because "it is better to be vaguely right than precisely wrong" (Gerrard 1990: 199).[20] The case study tends to use multiple sources of evidence, which capture different facets of reality. When different

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[18] Case studies thus have a definite advantage over cross-sectional statistical analyses, which do not go beyond mere correlation (Kline 1998; Gujarati 1995).

[19] Reducing science to quantitative modeling is similar to reducing art to black squares. The other side of the coin is that qualitative models tend to score poorly on the parsimony dimension (see paragraph 3.1).

[20] The quasi-certainty of precise quantitative outcomes can be questioned. For example, parameter and partial correlation values of regression analyses are contingent on model specification; omitted variables lead to misspecified models (Kline 1998; Gujarati 1995). Statistical significance is contingent on sample size; statistically significant variables are not necessarily practically meaningful indicators (Mc Closkey 1983; Kline 1998).

sources are used in conjunction (i.e., when data are triangulated), the case study thus has a high construct validity (Yin 1994; Miles and Huberman 1994; Eisenhardt 1989).

The present research deals with the simultaneous influences of different stakeholders, reactions to these influences, and the ways in which learning processes are triggered, created, and sustained by stakeholder influences. The study is dynamic, because the focal phenomenon is observed at different points in time. A longitudinal analysis is imperative in tracing changes of configurations (Meyer et al. 1993). The case study is a highly appropriate technique for my empirical analysis, because it captures both static and dynamic causal complexity.

3.2.2 Pilot study

The literature on the links between stakeholder influence and organizational learning is not well developed. Consequently, I started the empirical study without a clearly specified theoretical framework. Instead, a pilot study was used to *explore* possible relations (Yin 1994). I conducted a pilot study in a large chemical business organization in the Netherlands. I conducted 13 interviews, involving 6 internal actors (at different levels and in different functions) and 4 external constituencies (public bodies and trade associations).[21] The interviews were of an open-ended nature. Respondents were invited to tell about their environment-related contacts in and with the focal company. Detailed interview reports were sent to the respondents for verification. Besides, I perused 42 secondary documents, including policy plans, annual environmental and financial reports, magazines, organization profiles, and organigrams. Besides, a field visit was made on the premises of the focal company. The pilot case was analysed in depth, and salient outcomes have been reported elsewhere (De Groene and Wijen 1999). They contributed to the specification of the basic model, which was crucial to conduct the main study.

The pilot was also used to test the practical *feasibility* of the envisaged interview method. At the outset, it was not clear to what extent respondents would be willing to share sensitive information (including naming and telling about other stakeholders). Neither was it obvious if a coherent set of stakeholders could be identified. Another misty factor was the level of analysis. The pilot also had to reveal, how a variety of persons- inside and outside the focal organization, in divergent functions, and at different levels- would respond to a universal questionnaire. The pilot suggested that respondents tended to be very cooperative and candid, that a coherent set of

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[21] Important stakeholders were identified by the head of the environmental department. Some respondents were interviewed several times.

stakeholders and an appropriate level of analysis could be identified, and that a universal questionnaire could be used.

The pilot study thus provided rich insights with respect to both the process of empirical investigation and the content of the study.

3.2.3 Selection of cases

Statistical analysis tries to avoid bias due to selective sampling. In contrast, case studies are carefully selected to ensure that the data match (the complexity of) the research topic (Yin 1994; Eisenhardt 1989). In the present study, I used three selection criteria. First, the *environment* had to be important to the focal organizations. Low environmental relevance would render organizations relatively insensitive to environmental issues and its stakeholders (cf. Pfeffer and Salancik 1978), and thus be of little interest to the present study. So the focal organizations had to perceive environmental issues as important. Environment was relevant as a market opportunity, a constraint on the ordinary business operations, and an ideal.

Second, the *size* of the focal companies had to be large. Large organizations are likely to have relatively complex sets of stakeholder relations and less straightforward learning processes than smaller ones. The more actors and entities are involved, the more complex interaction processes are (cf. Simon 1973; Mintzberg 1983a). The selected companies employed between 2,000 and 200,000 persons. Their overall sales ranged from EUR 250 million to EUR 40 billion.

Third, apart from the preceding criteria, the organizations should be as different from one another as possible. When similar phenomena occur in the presence of an important contextual *variety*, then the same causal mechanisms are likely to be effective. A wide variety among case studies implies that specific factors (like sector, geographic market, profit orientation, or age of creation) can be ruled out as causes. When findings from contextually divergent cases converge, they can be more easily generalized than settings in which situation-specific factors may hamper the applicability of conclusions to other cases (Ragin 1987).[22] External validity measures

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[22] This is the application of Mill's direct method of agreement (specifying the common explanatory factors that concur across contextually different cases, in conjunction with the occurrence of the focal phenomenon) and Mill's indirect method of difference (specifying the absence of common explanatory factors across contextually different cases, in conjunction with the absence of the focal phenomenon) (Ragin 1987; Romme 1995).

One may argue that a large cross-case variety violates the ceteris paribus principle, because variation occurs not only with respect to the explanatory variables but also with respect to other, non-specified factors. A large cross-case variety enhances indeed the probability of coming to inconclusive findings because of the interference of non-specified factors. But cross-case variety is also likely to entail a relatively large variety of scores on specified variables, thus enhancing the explanatory power of conclusive findings.

the extent to which empirical findings are applicable to other settings (Drucker-Godard et al. 1999; Yin 1994). When findings converge despite contextual variety, then their external validity is high. The focal organizations differed from one another in terms of product type (material goods versus services), sector of activity (electronics, financial services, food, health care, power, and waste), geographic market (from local to global orientation), age of creation of the focal unit (from 1 to over 100 years), profit orientation (profit versus non-profit), ownership structure (private versus public ownership), and position in the product chain (partial coverage versus complete integration). Chapter 4 provides more ample information on the focal organizations.

The *unit of analysis* or explanatory unit defines the boundaries of an empirical phenomenon, and accounts for empirical patterns found (Yin 1994; Ragin 1987). My intention was to analyse each focal organization as a whole, which would yield a clearly defined analytical unit with a high level of complexity. In most cases, this turned out to be impossible. Most organizations did not have one set of stakeholders that was relevant for the whole organization. For example, corporate environmental stakeholders tended to be different from those at the subsidiary level. Therefore, in all but one cases I had to choose a suborganizational level of analysis. I selected the highest level that showed a coherent stakeholder set. So one company was studied as a whole, two cases were analysed at the corporate level, two at the divisional level,

Figure 3.2: Empirical levels of analysis
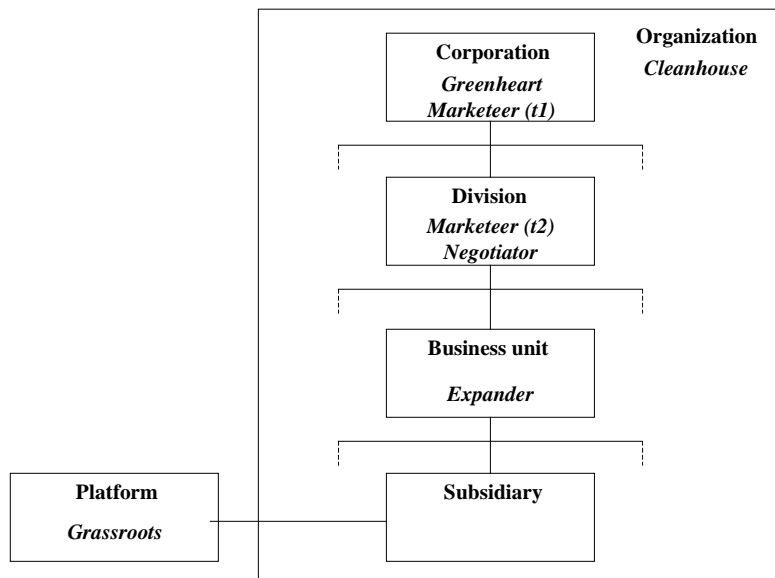
one at the business unit level, and the final case at the project level.[23]

Figure 3.2 depicts the levels of analysis of the six focal organizations.

3.2.4 Data sources

The main sources of data were interviews, documents, and direct observation. As dicussed above, these different sources were used for reasons of convergence (triangulation) and complementarity (construct validity)

According to Yin (1994: 85), *interviews* are "an essential source of case study evidence because most case studies are about human affairs." I took the position that actors who are involved in the phenomenon at hand are capable of providing valuable information, thus rejecting Friedman's (1953: 31) view that "answers given by businessmen to questions about the factors affecting their decisions [is] a procedure for testing economic theories that is about on par with testing theories of longevity by asking octogenarians how they account for their long life." In the present study, interviews provided the means to collect sensitive, specific, unambiguous, and in-depth information. The interviewees would probably not have conveyed much confidential information without the trust that was installed due to the interviewer's physical proximity. Trust and the promise to anonymise the informants and organizations were important conditions to obtain sensitive information (as is often the case in power issues). Interviews were also important to acquire specific information, which cannot be easily obtained from other sources. Secondary documents are not tailored to the research issue at hand, so they generally fail to provide sufficiently specific information. Stakeholder-specific information was also required to assess individual objectives and behaviour, which could not have been collected at a higher level (cf. Klein et al. 1994).

Open-ended surveys would be an alternative option to ask specific questions. However, interviews confer a number of advantages. Respondents find it easier to speak at length than to write extensively. Besides, the interviewer's presence creates a social commitment to reply. Furthermore, because of their interactive nature interviews offer the opportunity to immediately clarify statements when their meaning is ambiguous. When statements are not clear, their meaning can thus be 'negotiated' (Mishler 1986). Finally, interviews have the flexibility to discuss unforeseen but relevant issues in detail. So interviews provided an important source of information.

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[23] One organization was analysed at the corporate level during the first round of data collection, and at the divisional level during the second round. This shift was due to an organizational restructuring, because of which the environmental centre of gravity shifted from the corporate to the divisional level.

I conducted the interviews with the help of a semi-structured *questionnaire* that addressed the basic model's main issues: the number and nature of stakeholder relations; the forms and frequencies of stakeholder contacts; the reasons of having these relations; claims and expectations held by major stakeholders; the reaction to these claims and expectations; and the evolution of stakeholder relations. The complete interview questionnaire is shown in appendix 3.1. These questions were first submitted to the central actor(s) of the focal unit of analysis: the person(s) who, at least initially, was (were) deemed to fulfil a pivotal role in environmental management on behalf of the focal organization. In four cases, this was the environmental coordinator. In the two remaining cases, it concerned top managers. The central actors were also asked to name the internal and external actors that they perceived as important, and to rate their importance on a 3-point scale (1: "slightly important to me"; 2: "quite important to me"; 3: "very important to me"). Important stakeholders were thus identified through this 'snowball sampling' (Simon and Burstein 1985) or 'names generators' (Angot and Josserand 1999) method. Peripheral actors that were regarded as quite or very important were subsequently interviewed. They were exposed to a mirror version of the questions asked to the central actors (see appendix 3.2).

I thus interviewed 6 central actors and 49 peripheral actors (20 internal and 29 external stakeholders).[24] Table 3.1 provides more details on the nature of the respondents. Interviews with central actors lasted on average one-and-a-half hours, while those with peripheral actors took about one hour. All but one interviews occurred on a face-to-face basis, at the premises of the different respondents. In order to encourage interviewees to respond candidly (and not in a socially or commercially desirable way), all informants were told in advance that their statements would be anonymised. I tape-recorded the interviews and took notes of salient statements and visual observations. One respondent would only be interviewed by telephone; detailed notes were taken of this conversation. When additional information was needed after the interviews, I contacted the respondents by phone or e-mail.

All interviews took place between May 1999 and October 2000. An average period of 4.5 months separated the initial interview from the final one. But as some initial interviews were exploratory (aiming at getting access to the organization, determining the most suitable unit of analysis, and tracing the central actor), the average lapsed time for the study- which would ideally be close to zero- was less than three months.

In order to cover the *longitudinal* dimension of the research topic, I contacted the central actors again some 21 months after the initital interviews. This time span of

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[24] Five respondents were not identified as important stakeholders, but nonetheless interviewed because I expected to obtain important information from them.

almost two years allowed for the assessment of longitudinal developments. At the start of the second interview round, I submitted the central actors a short (500- 1,000 words) description of the case at the time of the first interview round. This description contained the following elements: the reasons of environmental importance; environmental measures taken by the focal entity; the names and importance of internal and external stakeholders; forms and frequencies of contacts with major stakeholders; the reasons of having contacts; and reactions to stakeholder inputs. I asked the central actors to check the accuracy of the description.[25] In three cases, however, new central actors had made their appearance. In those cases, the descriptions served to inform the new central actors on the initial situation. I subsequently used a semi-structured questionnaire concerning the *changes* that had taken place in the meantime with respect to the same issues: stakeholder importance; forms and frequencies of contacts; reasons of having contacts; and reactions to stakeholder issues. In addition, I asked about upcoming environmental issues. Appendix 3.3 represents the full second-round questionnaire. I conducted 5 interviews with central actors. In the remaining case, the central actor decided not to participate again; in his stead, a senior member of the same department was interviewed. The 6 interviews- which lasted on average one hour- were tape-recorded, and complemented by field notes and observations. Due to time constraints, I did not interview the peripheral actors during the second round. This was no major problem, as hypothesis 3- which covers the dynamics of stakeholder relations- could be adequately tested on the basis of the interviews conducted in both rounds.

Secondary documents constituted another importance data source. Documents tend to provide relatively broad and quantitative information over a large period of time (Yin 1994). Internal documents (i.e., documents that had been issued by the focal organizations) included enivronmental plans and reports, financial reports, web-sites, magazines, and organigrams. Documents that emanated from external sources comprised governmental policy plans, external stakeholder profiles, covenants, consultancy reports, environmental movements' magazines, and items that appeared in a major national newspaper (NRC Handelsblad). Overall, I collected 264 (111 internal and 153 external) relevant documents. Table 3.1 provides their frequencies. After perusal, I highlighted the relevant passages of these documents.

The oldest document dated back to December 1996. The most recent documents had been published in March 2002. The average lapse between the oldest and most recent documents was 3.6 years. Though this period does not match the interview

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[25] Only in one case, some minor adjustments to the case description had to be made.

Table 3.1: Data sources

Case:	Greenheart		Expander		Marketeer		Negotiator		Cleanhouse		Grassroots		TOTAL:
Time of observation: *Data source:*	t1	t2	t1	t2	t1	t2	t1	t2	t1	t2	t1	t2	
INTERVIEWS													
Internal stakeholders:													
Top management	1		1	1	1		1		1		1	1	*8*
Functional/ Area management	1						2						*3*
Operating staff/ Personnel					1				1				*2*
Technical staff/ R & D	1				2		3	1			2		*9*
Environmental coordinator	2	1			2	1	1		1	1			*9*
Other			1										*1*
External stakeholders:													
Owner/ Major shareholder			1		1								*2*
Business partner/ competitor	1		2		1		1		2		1		*8*
Consultant/ Knowledge platform			1						2		2		*5*
Government	1		1		1		2		1		1		*7*
Environmental movement	1		1								1		*3*
Other			1		1				1		1		*4*
Subtotal:	*8*	*1*	*9*	*1*	*10*	*1*	*10*	*1*	*9*	*1*	*9*	*1*	*61*
OTHER PRIMARY SOURCES													
Phone call (follow-up)	1	1	1			1			1		1		*6*
E-mail (follow-up)			2	1		1							*4*
(Production) site visit	1		1		1		1		2				*5*
Subtotal:	*2*	*1*	*3*	*1*	*1*	*2*	*1*	*0*	*3*	*0*	*1*	*0*	*15*
SECONDARY SOURCES													
Internal sources:													
Environmental policy plan		1	2			1			2				*6*
Annual environmental report		1			2	1	3	1			3		*11*
Annual financial (& environm.) report	5		3	1	2	1	2	1	3		1	1	*20*
Brochure/ Magazine	4		8	5	4		10		3		2		*36*
Web-site				1	1	1					1		*4*
Other	3	6	7		4		7	1	5		1		*34*
External sources:													
Business partner/ competitor's publ.	1		2	1	3		1		2		1		*11*
Consultancy report/ Platform public.	3								2		7	2	*14*
Governmental publication	2		4		8		5		1		3		*23*
Environmental movement's publ.	1		3	3									*7*
Newspaper (NRC Handelsblad) item	6	3	13	21	7	2	5	3		1	18	5	*84*
Other	2		2	1	1		4		3		1		*14*
Subtotal:	*27*	*11*	*44*	*33*	*32*	*6*	*37*	*6*	*21*	*1*	*38*	*8*	*264*
Total:	**37**	**13**	**56**	**35**	**43**	**9**	**48**	**7**	**33**	**2**	**48**	**9**	**340**
Timing and elapsed time (months):													*Average:*
Date first interview	Oct. 1999		May 1999		Jan. 2000		Feb. 2000		Jun. 2000		Jun. 2000		
All first-round interviews	2		11		4		4		2		4		*4.5*
Major first-round interviews	2		6		4		1		2		2		*2.8*
First-second interview rounds		24		24		22		19		20		16	*20.8*
All secondary sources		57		50		35		39		39		39	*43.2*

periods, the documents contained complementary information that was relevant to the situations during the first and second interview rounds.

Finally, I made *direct observations.* During interviews, I took notes of salient non-verbal expressions of the respondents. Besides, I made 5 tours on the premises of

focal organizations: 4 production sites and 1 research laboratory. I made reports of interesting visual and oral information.

3.2.5 Data analysis

The tape-recorded interviews were first *transcribed*. The transcripts consisted of both quotes and paraphrased statements. Relatively concise, salient statements were literally transcribed. Redundant statements, for example unnecessarily long statements with frequent repetitions, were paraphrased for reasons of efficiency. Superfluous statements, such as misinterpreted questions or obviously irrelevant information, were not transcribed. Besides, I made detailed reports of other primary sources (phone calls, e-mail exchanges, and site visits). Finally, I made reports of salient secondary data. Relevant secondary information was quoted or paraphrased.

All primary and secondary information files were analysed with the help of the *qualitative software* tool Atlas/ti. This is one of the most effective qualitative software packages. As compared with Nud-ist, another major software tool, Atlas/ti offers a large flexibility during the data processing. Besides, Atlas/ti easily moves from the original documents to the coded data and backward, which is important when contextualizing selected chunks (Weitzman and Miles 1995). I established a list of *codes,* categories that represented the different elements of the basic model. Categorization structures different cases in similar ways, and is thus an important tool in assessing cross-case patterns (Eisenhardt 1989). The categories were used as labels, to which relevant chunks of data were attached. During the coding of the first case, the categories were slightly adjusted when it turned out that they were too broadly or narrowly defined. I ended up with a list of 46 categories (see appendix 3.4), which involved problems of manageability. Therefore, I narrowed down the focus of my empirical analysis with the help of hypotheses.

The three *hypotheses* which I crafted cover important parts of the basic model, though they are more focused than the overall model. The reduced scope eliminated 11 coding categories. Furthermore, I merged categories with a substantial degree of overlap. I thus retained the 24 categories that are displayed in appendix 3.4. I recoded the first case and coded the other five main cases. I marked an average number of 474 'hits' (i.e., labeled chunks of data) per case. These hits contained substantial redundancy, as all relevant chunks had been selected. Therefore, I reduced the number of hits by retaining no more than one hit per respondent per interview for the same issue. So when a respondent had made the same point five times, the initial coding file showed five hits but the second file only one. The average number of hits was thus reduced to 278. The 24 categories were subsequently clustered according to themes

(see appendix 3.5). The eight clusters were: antecedents; environmental management structure; overview of stakeholders; stakeholder influences; organizational learning; compatiblity or unavoidability of stakeholder inputs; stakeholder roles in organizational learning; and the evolution and focus of stakeholder relations. The first two clusters provided mainly contextual information. The third cluster summarized main elements of the fourth cluster. Clusters four and five dealt with the causal factors of interest. Each of the three final clusters was related to one hypothesis.

The non-redundant, coded, and clustered hits served as inputs for the *reports* which I wrote per individual case. Each report was structured according to the eight identified themes. Each of these broad headings contained a number of specific issues, which are named in appendix 3.6. The retained hits thus served as building blocks for the individual case reports. Apart from editorial adjustments, I left their contents unaltered. Appendix 3.7 shows an excerpt from a case report. The original references, attributed by Atlas/ti, were mentioned in all reports for reasons of transparency: one can always trace the original source of information.

Completed case reports were converted into final *case analyses*. Information that might reveal the identity of the respondent or the focal organization was removed or hidden. Furthermore, terminology was streamlined for reasons of readability (for example, the terms 'corporate president', 'general director', or 'chairman of the board of directors' were replaced by 'CEO'). The case analyses were finalised after further editorial adjustments, which aimed at improving the fluidity of reading. Appendix 3.8 shows an excerpt from a case analysis.

The same procedure was followed with the *second-round* interviews and other data that were gathered after the initial analysis. Only the coding scheme was different, as the purpose of the longitudinal data was to assess the changes in stakeholder relations that had occurred during the lapsed period. The confrontation of the second-round data with the new coding scheme (displayed in appendix 3.9) yielded an average score of 56 hits per case, which were reduced to 52 after eliminating redundant hits.

Finally, the outcomes of the individual case analyses served as inputs for the *cross-case analysis.* As I had used identical protocols in all cases, their outcomes could be easily compared. Findings from the different cases were aggregated and confronted with the predictions of the respective hypotheses.

Qualitative research is *reliable* when stable instruments are applied in a consistent and transparent way (Miles and Huberman 1994; Drucker-Godard et al.

1999; Yin 1994).[26] In qualitative studies it is, in my view, important to publish a detailed account of the procedures followed, as no uniform protocols exist to analyse them (Yin 1994; Miles and Huberman 1994). By transparently showing and rigorously applying uniform protocols for the collection, recording, and analysis of my data, I have tried to obtain reliable results.

In this chapter, I have explained why I adopted a critical realist perspective and how I designed the present study (i.e., how I interrelated theory, practice, other sources of inspiration, and the basic model). I have also described the empirical method followed (including the rationale of case studies, the pilot study, the selected cases, the data sources, and the analysis of the data). The present chapter serves as a bridge between the preceding, theoretical chapter and the following, empirical chapters. In the next chapter, I will describe the contexts of the different cases. In the second empirical chapter, I will analyse the cases and test the different hypotheses.

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[26] I disagree, though, with Yin that reliable research should yield the same outcomes when replicated. A particular interpretation of a complex reality is by definition of a partial nature. Replication may lead to another partial understanding of the same phenomenon.

4   Setting the stage

Chapter 3 indicated the connections between the theoretical and the empirical parts of this study. It also described how the empirical evidence was gathered and processed. The outcomes of the empirical study are presented in this and the following chapter. The present chapter provides the backgrounds of the different cases, while the next chapter will analyse and test (interrelations among) influence and learning.

In this chapter, I start with a broad overview of the nature, size, and environmental relevance of the different cases. Next, I provide a description of each focal organization at different points in time. The cases are presented in a chronological order, starting with the case of which all data were first collected and analysed. Each case study has the same format, including a description of antecedents (i.e., environmentally relevant historical developments) and the environmental management structure. The description of antecedents includes the following elements for each focal organization: the creation and evolution of the organization; sales and employees; reasons why environmental issues are relevant; environmental policy, mission, and/or objectives; environmental measures taken; environmental performance; environmental certification and/or environmental covenants; communication with external stakeholders. The description of the environmental management structure has the following elements for each focal organization: the formal internal relations; the environmental decision-making bodies; the environmental decision-implementing bodies; the communication of environmental issues.

In order to complete the picture, I also provide an overview of major stakeholders. This overview consists for each case of the names, roles, and perceived importance of the different stakeholders. These descriptions pertain to the first assessment.

Afterwards, I describe longitudinal changes, developments that occurred between both assessments. They include new events, modifications of the environmental management structure, and an overview of stakeholder changes. These descriptions pertain to those elements of the antecedents, the environmental management structure, and the overview of stakeholders that changed in the periods that lapsed between the two assessments. Finally, I summarize major contextual characteristics of the different cases.

4.1 Overview of case companies

The focal organizations were selected in order to obtain a *diversity* of situations and characteristics. Each of the six companies operated in a different sector: electronics, financial services, food, health care, power, and waste. Three of them were marketed physical goods, while the other three provided services. Four organizations covered virtually the whole product chain (apart from consumption), while two covered a smaller part of their respective product chains. Two companies predominantly served local markets, two had a national orientation, and two were global players. Five organizations had a profit orientation, and one organization was not-for-profit. Three companies were publicly owned, while three had private shareholders. Although the organizations had been founded between three decades and over a century ago, most of the focal units were created more recently: between one year and several decades prior to the first interviews.

All organizations were *large,* employing between 2,000 and 200,000 persons (with an average of 45,000 and a median of 7,000). The number of persons in the focal units ranged- by approximation- from 20 to 80,000 (with an average of 15,000 and a median of 2,000). Overall sales ranged from EUR 250 million to EUR 40 billion per annum (with an average of EUR 8 billion and a median of EUR 2 billion).

The *environmental relevance* was in four cases a combination of market opportunity and constraint. Four focal organizations identified environment as an opportunity to enhance their sales and/or to improve their (corporate or brand) image. At the same time, all six organizations perceived environment as a constraint that affects their decisions about 'ordinary' economic activities. In one case, this constraint was self-imposed (i.e., inspired by the discretionary commitment of top management). In five cases, external stakeholders (mostly governments) imposed restrictions on business activities. Three organizations recognized the importance of environment as a source of resources.

4.2 Greenheart

The unit of analysis in the case of Greenheart was the corporate level. The first assessment took place between October and December 1999. The second round was held in October 2001. During this period, Greenheart was taken over by another company. While the second-round assessment took place after the take-over, it focused on the 'pre-take-over' part of the new organization.

4.2.1 Antecedents

During its century of existence, Greenheart evolved from a small, craftsman-like company into a large corporation with over 20 subsidiaries on 4 continents. In the course of 1999, it increased the number of employees by 14% (compared with 1998). Some 70% of all employees are located outside the Netherlands. Greenheart produces and markets its branded products around the globe. In 1999, its sales were 11% higher than the year before. Over the previous years, sales and the number of employees grew progressively.

Greenheart has been a family business for many generations. Although the company is now listed on the public stock market, the family still has a major financial interest. The current chief executive officer (CEO) is a family member. He has held his present position for 25 years but will shortly retire. His personal deep conviction that nature is in a very critical situation has had far-reaching implications for the corporate values. Environmental concern is one of the four major values mentioned in the corporate mission statement and is a recurrent theme in the annual corporate report. In 1990, the CEO embraced the conclusions of the Brundtland report (concerning the worrying condition of globally interrelated ecosystems). The company created a fund for environmentally benign investments which do not meet the corporation's normal financial standards. It also started to transfer 1% of its net annual profit to societal initiatives that aimed at the creation of environmental awareness at large. Within the highest strategic forums, the CEO fulfils the role of environmental value-keeper.

In 1995, the corporate mission was stated as follows: "We care for the environment, and are dedicated to reduce our impact to a sustainable level." Greenheart interprets sustainability as conducting business activities without negatively affecting the environment. This was translated into an environmental policy stating that "all production and sales units, regardless of location, must comply with, or preferably exceed, the highest environmental standards, regulations, and legislation." The policy further mentioned that the company will "systematically measure the *direct* impact of all [its] activities on the environment." (emphasis added). This implies that the organization focuses only on its own environmental impact, disregarding other actors in its product chain. The environmental impact is measured through a quantitative, tailor-made environmental barometer, which focuses on 5 global areas of environmental disruption: greenhouse gases, acidification, water consumption, effluent water, and solid waste. For each of these areas, the barometer measures the distance to the final target, which is a zero impact.

Greenheart's environmental distance to target- as measured by the barometer-dropped from 25 in 1992 to 15 in 1996 and 12 in 1999. A host of internal environmental measures have been taken to reduce the company's environmental impact, starting with measures that were easy to realize and cost effective. Measures have included: the installation of solar panels and wind turbines; the purification and recycling of effluent water; the use of surface water for cooling purposes; the separation and recycling of solid waste; a green office plan (including the use of recycled paper, the use of LPG for company-owned cars, and the separation of solid waste); the use of thinner packaging materials; and the local procurement of materials by an overseas subsidiary (to avoid long-distance transport). External compensation measures are envisaged and- when possible- applied to reduce the company's impact in areas where further internal measures are not technically feasible. Examples are a reforestation project and the purchase of 'green electricity' (i.e., energy generated in an environmentally neutral way, for example solar energy) to compensate for excess emissions of a greenhouse gas.

Apart from these technical measures, Greenheart has engaged in initiatives to create environmental awareness ("the 6th environmental theme"). This is fostered at all levels, ranging from the highest strategic levels to the shop floor. Awareness recurs on the agenda of the company's strategic forums, is part of corporate training programs, and is propagated through an internal, bimonthly environmental pamphlet. Furthermore, special environmental days are organized to clean up the environment. And there is social pressure among employees. A marketing manager notes: "When I leave my office while the light is on, someone else will turn it off, and say: watch it." It should be noted, however, that environmental values are upheld by a minority, which has to activate a benevolent but passive majority of employees. A field visit leaves the impression that operating personnel in particular seems to lack environmental awareness.

The CEO is reluctant to laud the company's environmental performance: "I am not at all satisfied. A lot more must and can be done." However, other organizational members are far more assertive about the company's environmental achievements. According to the corporate environmental coordinator, "One has to ascertain that we are unique, compared to the rest of business. We are considered to be a precursor." External constituencies, including national government and the environmental movement, share this opinion.

In 1999, the company does not have a formalized environmental management system (like EMAS or ISO 14000), though it considers the obtention of certification. The company practices total quality management (TQM), and envisages extending TQM principles to the environmental field.

Greenheart finds open dialogues with internal and external stakeholders important in order to reach understanding, acceptance, and support for its environmental activities.

4.2.2 Environmental management structure

Environmental objectives are initiated and ratified at Greenheart's strategic apex. Environmental issues are a recurrent agenda point of meetings between the CEO, who is the environmental value-keeper, and other members of the corporate Management Team (MT), each of whom represents either a geographic cluster of markets or a key functional area. An environmental policy group, consisting of representatives from different functional disciplines and headed by the corporate environmental coordinator, prepares advice for the corporate MT. Once the MT has ratified environmental proposals, its decisions are conveyed to the managers of the respective subsidiaries. The managers are formally responsible for the implementation of MT decisions by their subsidiaries.

There are also annual, information meetings between the highest corporate levels and representatives of subsidiaries who are responsible for functional areas (like environment, finance, or human resources).

The corporate environmental coordinator discusses the implementation of MT decisions with the managers of the different subsidiaries. The function of the subsidiary manager "is then no more than the official who delegates his responsibility to the environmental coordinator, who is then responsible for environmental issues at the level of the subsidiary." The subsidiary coordinator, who combines this function with another function, subsequently convenes an environmental working group. Such a working group consists of representatives from the different functional disciplines concerned, as well as a corporate technical staff member and an external adviser. The environmental working group brainstorms different options for improvement projects and retains the most viable ones. It should be noted that these groups are not yet fully operational in 1999, and that environmental initiatives tend to occur on an ad hoc basis.

Generic environmental objectives are formulated and ratified by corporate bodies, with subsidiaries responsible for their implementation. The corporate environmental department employs only two persons, so it lacks operational capacity. Besides, it is felt that ultimate responsibility for environmental performance should reside in the subsidiary. The latter adopts projects, but it needs to regularly report to

Figure 4.1: Environmental management structure of Greenheart
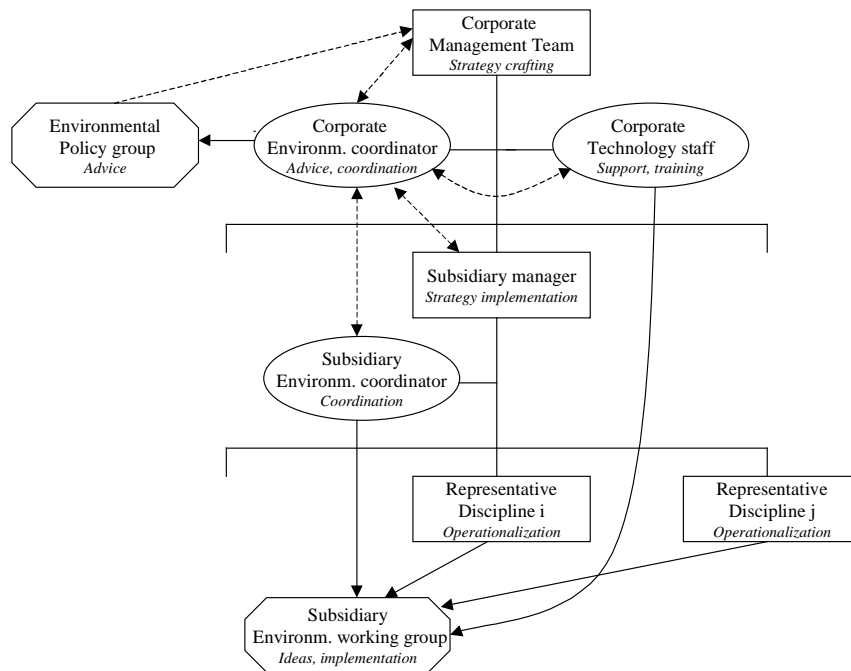
and get approval from corporate bodies for projects with substantial financial implications. Approved proposals are converted into action plans for the next year.

The corporate technical staff provides specialized support in different fields, including environment. A technical staff member is part of the environmental working groups, and helps finding solutions to practical problems. The staff also exchanges technical information with the corporate environmental coordinator. In addition, the technical staff provides corporate environmental training, is in charge of setting up a company-wide interactive database (to share environmental knowledge among subsidiaries), and is responsible for eco-efficient sourcing of materials.

Figure 4.1 summarizes Greenheart's main structural tenets. The solid lines indicate formal relationships, while the dashed lines represent information flows. The rectangular boxes are line functions, ovals represent staff functions, and octagons indicate (permanent or ad hoc) working groups.

4.2.3 Overview of stakeholders

Table 4.1 provides an overview of the names, roles, and perceived importance of Greenheart's main internal and external stakeholders. These stakeholder influences will be extensively discussed in chapter 5.

Table 4.1: Overview of Greenheart's stakeholders

Stakeholder	Role	Importance
Corporate environmental coordinator	• Disseminates and coordinates environmental information within the organization • Proposes corporate environmental targets • Maintains external environment-related contacts	Central actor
CEO	• Is the corporate environmental value-keeper • Is the highest corporate decision-maker	Very important
Subsidiary environmental coordinators	• Operationalize the corporate environmental strategy • Coordinate environmental issues within their subsidiaries and with other levels	Quite important
Corporate technical staff	• Provides technical environmental standards and solutions • Advises on eco-efficiency • Sets up a corporate environmental database	Quite important
National government	• Coordinates a sustainability project • Provides important insights into sustainability	Very important

Table 4.1, continued

Stakeholder	Role	Importance
Environmental pressure groups	• Affect the corporate image	Slightly important
Transport companies	• Have an important environmental impact	Slightly important

4.2.4 New events

During the period of the case study, between October 1999 and October 2001, a number of contextual events took place. In 2000, Greenheart's sales rose by 17%. In 2001, Greenheart was taken over by another major player in its industry. Greenheart's shares- which used to be traded at the stock market- were bought by this new owner. The sizes of the new owner and Greenheart are roughly the same. The integrated company has become one of the world's largest organizations in its industry.

The new owner does not share Greenheart's ambition to achieve sustainability. A new mission statement is now in the making. At present, the future role of sustainability is not yet clear. As long as Greenheart is not told otherwise by its new owner, the company will continue to pursue its present sustainability policy- though the time planning of becoming fully sustainable has been shifted from 2005 to 2010.

Greenheart's corporate environmental coordinator studies the possibilities to replace the present batch technology production method with continuous process technology. Continuous production would involve lower energy and water consumption, and lower emission levels of solid waste and effluent water. The environmental coordinator: "[Our product] is now produced in batches, with much solid handling. (…) Coming from [another] industry, [my idea is that] there should be continuous production, closed systems, better process control."

In order to attain its environmental objective, Greenheart has taken the following new environmental measures: the provision of a considerable annual budget for environmental projects, which is controlled by the corporate environmental coordinator; stock-taking of short-term environmental improvement possibilities (which showed that much progress can still be made); the consideration of active chain management, involving qualitatively and quantitatively different supplies (this is important, because 60% of the environmental impact of Greenheart's main product is situated elsewhere in the product chain); a thorough discussion of the relation between an organization's production size and its level of sustainability (within a

sectoral platform of companies which pursue sustainability); the development- in conjunction with national government and other companies- of a sustainability management system (which aims at crafting concrete performance indicators to which managerial bonuses are related); a more systematic approach to environmental problems (including the introduction of ISO 14001 at Greenheart's largest subsidiary); making a sustainability game part of an introductory program for new employees to the company (to enhance environmental awareness); the closing of water loops through the use of advanced membrane systems and reverse osmosis; the full-fledged functioning of an environmental working group at Greenheart's largest production subsidiary, which convenes regularly to discuss the progress of concrete projects (environmental working groups at other subsidiaries perform less well, because the respective environmental coordinators have to do their job on top of other activities); the cleaning up of their own materials and workplaces by operators (more attention for the micro working environment is expected to lead to continuous improvement processes).

In 2001, Greenheart changed the composition of its main product, following an external crisis related to one of the product's components. This change led to significant production problems, including a high rate of defective products. The side effect of the production problems was an unfavourable corporate environmental performance (because the overall production required a substantially higher amount of inputs).

Since the take-over, Greenheart's shares have no longer been traded on the stock market, so public information is no longer required by law. The new owner has decided not to publish annual financial or environmental reports.

4.2.5   Changes of environmental management structure

Greenheart has a tradition of consensus-based decision-making. This contrasts sharply with the way in which the new owner makes decisions. During the rare top management meetings that the new owner holds, decisions are taken autocratically by the person who holds all the shares of the company that bought Greenheart. The integration of two such different companies may complicate the realization of an effective new decision-making structure.

Late in 2001, the MT of the newly integrated company consists of three representatives of the new owner (including the large shareholder, who chairs the MT) and three Greenheart representatives. A relative of the former CEO represents environment in the new MT. Greenheart's former CEO (who was also the

environmental value keeper) is presently a member of the new Board of directors, which fulfils an advisory role.

The new owner is organized in a 'lean and mean' way. It has a very limited corporate structure, whereas Greenheart has relatively large corporate bodies (i.e., an extensive support staff). The integrated organization will have a smaller corporate structure- with staff functions fulfilled by the different subsidiaries, involving for example the slimming down of Greenheart's corporate technical staff.

By the end of 2001, all Greenheart production subsidiaries develop environmental action plans and make annual environmental performance reports, which are brought together by the corporate environmental coordinator.

4.2.6 Overview of stakeholder changes

The following table represents the major changes of Greenheart's stakeholder relations. These changes will be extensively discussed in the next chapter. When the roles or importance of stakeholders have remained unaltered, they are not reported.

Table 4.2: Overview of Greenheart's stakeholder changes

Stakeholder	Role	Importance
New corporate environmental coordinator	• Brings insights from another industry • Focuses on (major) technical improvements	Central actor
New CEO	• Does not (actively) pursue the sustainability objective	Very important
Corporate technical staff		Slightly (instead of quite) important

4.3 Expander

The Expander case was analysed at the business unit level. The first-round data were predominantly collected between October 1999 and February 2000. The second interview round took place in October 2000. During the first period of observation, Expander was engaged in a process of merging with another company. The first-

round analysis dealt with the pre-merger company ("Expander"), while the second-round analysis concerned the post-merger organization ("Expander Plus").

4.3.1 Antecedents

Expander has a long experience in the main sector in which it operates. The company has a dominant market position in a particular region of the Netherlands. Its shares are in the hands of some 100 public organizations, which a company representative describes as "a whole political circus." Nonetheless, the company was characterized by a major shareholder as very market-oriented: "I find them very strong at exploring markets. But always given the necessity to run a company, to meet a rate of return." In 1999, Expander's main sector was the subject of a fierce parliamentary debate on new governmental regulation. The aim of the national government was to use this regulation to intensify competition. In order to have a strong position after these regulatory changes, the company began a merger with another major player in its sector. The merged company would cover a substantial part of the Dutch market. At the same time, the merger decreases the relative say of Expander's present shareholders. An independent controlling agency was created to safeguard fair competition.

Expander's environmental activities used to be scattered throughout the company. Some 3 years ago, Expander Environment was created as a separate business unit in order to deal with Expander's environmental challenges and to create a green image around the company as a whole. The new business unit was "exclusively dedicated to products which are expected to become commercially and economically profitable within a reasonable period of time." It employs less than 100 people, but also uses services from other divisions. Expander Environment has discretion in crafting its own strategy, provided it is compatible with the corporate framework. It seems to have a low degree of formal structure. There are hardly any documents related specifically to the business unit. Neither does it have a formal environmental management system.

Expander's major challenge in the environmental field is to cope with the commitments that stem from an agreement between the sector of which it is part and national government. According to an external stakeholder, Expander was ambitious in the commitments it made with government. The agreement covers the period 1991-2000, and aims at reducing a predetermined amount of particular emissions. This objective was to be achieved by environmental measures elsewhere in the product chain (related to both production and consumption), and by Expander's sustainable production (which is interpreted as emission-free production with closed substance

loops). The objectives to be achieved were clearly specified per category of customers.

In 1999, Expander Environment spent 1% of its overall sales on activities related to the sectoral agreement. Of this total figure, one third was devoted to its own sustainable production and two thirds to external measures. This expenditure comes mostly from levies on consumption goods, though these activities also entail costs for Expander. The present, levy-based system will stop by the end of 2000, after which Expander Environment will need to have a competitive edge on this sustainable market. By the end of 1999, Expander is well on schedule to realize the overall amount of emission reductions agreed in the sectoral agreement.

The sector also committed itself to generate 3% of its output sustainably in the year 2000. This percentage should more than triple in the two decades to follow. By the end of 1999, the sector has realized only half of the objective for 2000. All major suppliers, including Expander, are well behind schedule. According to an expert, the realization of sustainable products will become even more difficult in a liberalized market, in which cheap, environmentally harmful products will be imported at the expense of the more costly sustainable ones.

Expander was the first company in the Netherlands to develop and operate a particular type of sustainable products on a large scale. This type has now become prominent to Expander. Many different parties are involved before a new installation becomes operational. This explains why its realization takes a long time. Though the physical construction of a sustainable production unit is only 4 months, the whole process may take up to 10 years because of lengthy permit procedures. In addition, there have been numerous technical problems, which has involved a temporary halt of a sustainable production unit. Expander now tries to catch up its delay by installing large-scale sustainable production units. For one year, it has been involved in a large project with a local governmental body. Expander is also engaged in a pilot project of another type of sustainable production, which involves many different parties. This type of production is now too costly to be operationalized commercially because of the lack of a critical mass. Expander is also engaged in other types of sustainable production.

Apart from the sectoral agreement, Expander has adhered to several environmental covenants. Expander does not have an environmental report. There has been an environmental paragraph in the financial report for the last 9 years. Because of the new governmental regulation trend of its major market, Expander has become less open to external stakeholders. It fears that sensitive information will slip away towards competitors. This precludes, for example, the possibility for outsiders to check, whether revenues related to the sectoral agreement were spent appropriately.

4.3.2 Environmental management structure

The Expander holding contains six business units, of which Expander Environment is one. The others consist of both related and unrelated activities.

Since 1997, all activities related to the sectoral agreement have been bundled into Expander Environment. This has greatly enhanced the company's operational strength. Expander Environment conceives agreement-related plans, which are subsequently submitted to the corporate Management Team (MT), advisory councils, the Board of directors, and finally the Board of shareholders. In practice, these bodies hardly ever amend the plans proposed to them by Expander Environment.

Expander Environment's manager has a considerable discretion to craft his own strategy, provided it fits within the corporate strategy and within the sectoral agreement with national government. He maintains high-level external contacts, while lower echelons execute concrete projects and maintain frequent operational contacts with external parties. As the business unit is fairly small, the internal structure is simple and communication lines are short. There seems to be a low degree of formal structure. The manager delegates and coordinates the activities of his personnel, using what he describes as "well-functioning routines."

Figure 4.2: Environmental management structure of Expander
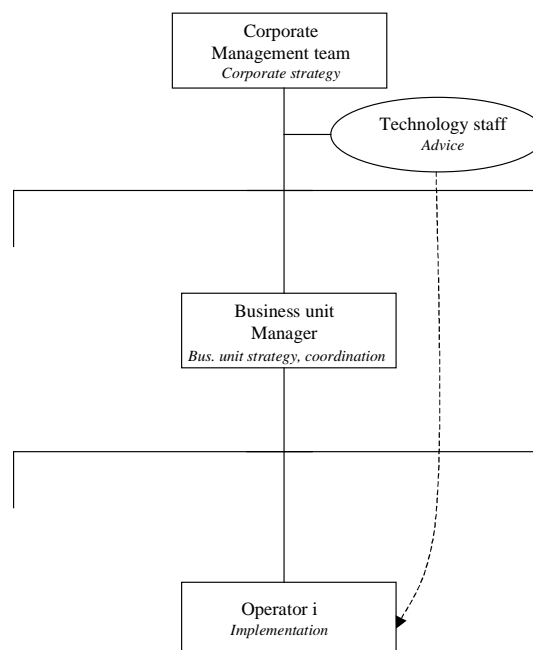
Expander Environment does not have an environmental coordinator. For specific technical questions, business unit operators may address themselves to members of the corporate technology staff.

The main aspects of Expander's environmental management structure are outlined in figure 4.2.

4.3.3 Overview of stakeholders

Expander's major stakeholders are represented in the following table. Again, the influences of different stakeholders will be extensively discussed in the next chapter.

Table 4.3: Overview of Expander's stakeholders

Stakeholder	Role	Importance
Manager of Expander Environment	• Crafts Expander's policy with respect to the sectoral environmental agreement • Maintains external contacts • Delegates and coordinates internal environmental activities	Central actor
Local environmental pressure group	• Protects a natural reserve in which Expander wishes to operate	Quite important
Political body of local government	• Has concluded an agreement with Expander on large-scale sustainable production • Holds shares of Expander and is a member of Expander's Board of directors	Very important
Official body of local government	• Crafts and enforces the local policy on sustainable production	Very important

Table 4.3, continued

Stakeholder	*Role*	*Importance*
Official body of local government	• Holds shares of Expander • Crafts and enforces the local policy on sustainable production	Quite important
Environmental body of local government	• Manages an innovative environmental project	Slightly important
Association of customers	• Is a member of an advice council within Expander	Very important
Real-estate developer	• Realizes sustainable production projects	Slightly important

4.3.4 New events

During the period of the case study, between October 1999 and October 2001, the following changes occurred. In December 1999, Expander officially merged with another major company in the same sector, which was about twice its size. Expander used to have a local orientation, while Expander Plus has an increasingly national focus (with a very dominant market position in certain regions of the Netherlands). According to the manager of the business unit Expander Plus Environment, "Expander was a pure distribution company. (…) It had no production [facilities]. It implemented programs that had generally been initiated by government. This has disappeared. We are now a fairly professionalized company. We develop our business in accordance with the market. Within two years, this [situation] has rotated 180 degrees. (…) I have virtually no involvement in any governmental programs. We just do business in areas where we can make money. (…) Image and such things play, of course, a role. We present ourselves as a company that is good for society. We devote ourselves to [the achievement of] a sustainable society. But we do this from a commercial perspective, not because of philanthropical considerations."

For years, there has been a fierce debate in the Dutch parliament on the status of the sector in which Expander Plus operates. In 2001, this resulted in a law which allows for a partial privatization of the sector. This was unexpected, as the general feeling was that a full privatization was likely. As a consequence, Expander Plus has abandoned the idea to go to the stock market and its shares have remained in the hands of local governmental bodies. In 2001, another regulatory change involved the

liberalization of the market for Expander Plus' sustainable products. Consequently, there may be more intensive competition.

During the year 2000, Expander Plus' overall sales increased by one third. The main market in which the company operates grew by one third during the last decade of the 20th century. The market of sustainable products is an increasingly important sales generator for Expander Plus. In 2001, it represents 5% of the company's overall sales in this sector (against 1% in 1999).

In 1999, Expander's main environmental objective was to meet the requirements of a sectoral agreement with national government, which aimed at the reduction of a particular kind of emissions. By the end of 2000, this sectoral agreement expired. National government refrained from launching a new sectoral plan. Instead, the plan was replaced by market incentives: for producers a lump sum subsidy per sustainable product sold and for customers the exemption of an environmental tax. Government aims to increase the market share of sustainable products (as a percentage of total sales), using these market-like measures. In the future, they may be supplemented by mandatory measures. The intent is to move the market share of sustainable products from about 2% in 2000 to 5% in 2010 and 10% in 2020. According to the manager of Expander Plus Environment, "This [fiscal regime] is a huge stimulus [for customers] to buy our [sustainable products]. Through these fiscal instruments, the market has taken over the role of the [sectoral agreement]. (…) So in that sense, as a company we no longer have an environmental objective but a market objective. We just want to sell more and more [of our sustainable products]." This statement is confirmed by the company's annual report of 2000: "[Expander Plus] aims at acquiring a leading position in the Dutch market of [these sustainable products]. (…) The objective for the coming years is to increase the production capacity and sales of [these sustainable products] by 300%."

At present, Expander Plus produces several types of sustainable products. Expander had already developed and marketed one type of sustainable products, which presently accounts for 25% of the company's overall sales of sustainable products. Expander Plus developed plans to increase its capacity of this product type by 400% in the coming years- both through technical improvements of existing sites and through the realization of new production sites. The company with which Expander merged had opted for another sustainable product type. This has become the dominant technology in the market, because it takes far less time to acquire a production permit. This reduction in the lead time is an important consideration, given Expander Plus' plans for expansion. In 2000, Expander Plus opened two new sites for the production of its main sustainable product type.

Overall, Expander Plus has four types of sustainable products. Expander Plus is presently studying the technical possibilities to acquire and develop more innovative

and effective methods of producing its two major sustainable products. The company also has other sustainable product types, but these are of a very limited importance (because of technical constraints and economic considerations). For instance, Expander Plus stopped the construction of a new sustainable production site because of an unfavourable change of the fiscal regime for this type of product. The company fears to face an insufficient production capacity given the expected boom of the demand for its sustainable products.

Expander Plus produces its sustainable goods exclusively in the Netherlands. In 2000, the company still studied the possibilities of realizing production capacity in Eastern Europe. This idea has now been abandoned, because Expander Plus wants to closely monitor production to make sure that the products it sells are really sustainable. (An independent, external controlling party has stated that this claim is justified.) The business unit manager: "We first want to manage things well in the Netherlands. Only afterwards we will go abroad." Internationalization is, however, expected to become important in the future.

The market of Expander Plus' sustainable products has increased sharply. During the year 2001, Expander Plus more than doubled the number of customers. For 2002, the company expects a growth of 50%. These growth figures are in line with the overall increase of the sustainable product market, of which Expander Plus has a share of some 40%. It should be noted, however, that the majority of Expander Plus' total product portfolio consists of non-sustainable products, which are increasingly produced in an environmentally harmful way (mainly because foreign production is more polluting than domestic production).

The World Wildlife Fund and the Dutch treasury monitor Expander Plus to determine if its sustainable products are in conformity with the prevailing standards of sustainability.

4.3.5   Changes of environmental management structure

By late 2001, Expander Plus had six divisions, four of which are relevant to sustainable products. They cover different aspects of the sustainable product cycle: the procurement of sustainable inputs, the production of (different types of) sustainable products, the sales of sustainable products (to different markets), and the exploration of international markets. The business unit Expander Plus Environment comes under one division. The business unit coordinates and optimizes the whole sustainable product chain. It also develops new sustainable business opportunities. Furthermore, the business unit owns sustainable products. Though Expander Plus

Environment takes production and marketing decisions, it does not own the assets to perform these activities.

4.3.6 Overview of stakeholder changes

The following table represents the major changes of stakeholders. Again, only changes of roles and/or importance of stakeholders are reported.

Table 4.4: Overview of Expander's stakeholder changes

Stakeholder	Role	Importance
New manager of Expander Plus Environment	• Manages and develops sustainable products • Maintains strategic contacts with external parties • Maintains contacts with different divisions	Central actor
Expander Plus' divisions	• Acquire sustainable inputs • Produce sustainable products • Market sustainable products	Very important
Market parties	• Are customers of Expander Plus' sustainable products • Supply sustainable inputs	Very important
Society	• Shapes Expander Plus' public image	Very important
National environmental pressure groups	• Affect Expander Plus' public image	Very important
(Supra)national governments	• Issue environmental regulation and permits	Very important

Table 4.4, continued

Stakeholder	Role	Importance
Shareholders	• Want to receive high dividends • Want to see a favourable public corporate image	Quite important
Local environmental pressure group		No more (instead of quite) important
Political body of local government	• Is only important as a shareholder	Quite (instead of very) important
Official body of local government		No more (instead of very) important
Official body of local government	• Is only important as a shareholder	Quite important
Environmental body of local government		No more (instead of slightly) important
Association of customers	• Influences Expander Plus' public image	Quite (instead of very) important
Real-estate developer		No more (instead of slightly) important

4.4 Marketeer

During the first interview round, which started in January 2000, Marketeer was analysed at the corporate level. In November 2001, the focal unit of analysis was a division. This change was the outcome of an important restructuring of Marketeer, as a result of which the focus of environmental activities shifted from the corporate to the divisional level.

4.4.1 Antecedents

Since the early seventies, Marketeer has been a major provider of environmental services. For the last few years, it has considerably extended the breadth and depth of its product assortment. Marketeer serves both private and public customers. Its

markets are still fairly regionalized and will open up in 2-3 years. On a nation-wide basis, Marketeer is the only company that can provide particular kinds of environmental services. A part of Marketeer's sales are assured by 10-yearly cost price-plus contracts, "strangling contracts" for customers, according to a Dutch newspaper. Marketeer is growing strongly. In 1999, it acquired several companies and engaged in many instances of cooperation. Marketeer is one of the largest Dutch suppliers of specific environmental services. In 1999, its sales rose by 20 %, while the number of employees increased by 46%.

Nation-wide, Marketeer has 50 subsidiaries and a large number of production sites. It also has 4 foreign subsidiaries and is represented in 50 countries. The company's main production site has the world's largest capacity for providing particular environmental services. A site visit leaves the impression that working relations at the shop floor are mediocre; operators do not seem to get along with one another. The company's shares are in the hands of a public organization. The company intends to go to the stock market in 3 years.

The national borders have recently opened up for this environmental market, which has sharply increased competition. Legislation in the different European markets has, however, not been harmonized. This makes Marketeer's exploitation costs high compared with competitors who do not have to meet such stringent regulation. Because of important legislative differences, the environmental markets in which Marketeer operates are artificial. Marketeer's legislative environment is subject to frequent changes. It also tends to shift from the national to the EU level.

Marketeer's commercial slogans are: to be reliable and innovative; to sell integrated solutions rather than separate products; and to add value to certain products by converting them into other products. The chief executive officer (CEO) resumes: "To us, environment is business." Marketeer's services involve a considerable environmental impact, especially in terms of emissions. Environment is, therefore, also important in terms of process and emissions control.

According to the company's environmental policy, "The Marketeer companies guarantee that their activities take place with the greatest possible respect of security, environmental protection, quality, and continuity of service provision." The corporate mission states: "Marketeer offers its customers tailor-made, integral solutions to virtually all environmental problems. Continuity of the company, based on growth and maintenance of independence, are highly important. We want to contribute in an innovative way to the solution of environmental problems in the Netherlands and Europe." Marketeer's commercial ambition is to be among the industry's three largest players in the Benelux . At the same time, Marketeer's objective is to reduce emissions as far as possible below the permit norms, given existing installations. To

achieve this objective, line officials are expected to stimulate a sense of environmental responsibility in their own employees. The company considers compliance with legal environmental prescriptions as its minimal standards.

Marketeer has had a corporate Quality, Labour conditions, and Environment (QLE) coordinator (labelled here as "corporate environmental coordinator") since 1991, when the present coordinator was appointed. At the divisional level, QLE departments were created in 1999. These departments tend to be overloaded with work.

Six years ago, Marketeer installed an expensive emission reduction installation under external pressure. Marketeer is still busy optimizing it. The major components of different types of emissions are continuously measured in a standardized way. Emissions of a set of other substances are assessed once every three months. Excesses have to be immediately reported to the responsible persons. Laboratory analyses are done on a completely routine basis. Most of them are ignored by the persons who receive them.

In its early years, Marketeer's services were completely unregulated. In the 1980s, a process of dramatic emission reductions started due to pressure of public opinion. A long-lived staff member: "To reduce [emissions] has always been a discussion between [Marketeer] and governments." Throughout the years, a considerable know-how was built up as to the provision of particular services. In 1998, Marketeer had emissions of a dangerous substance that were too high. This led to a public scandal. The company was sued. Relations with different governmental bodies were seriously disturbed, and the controlling authorities complained (and still complain) that they had (have) to spend so much time on checking the company. The corporate environmental coordinator: "We had really messed things up, after which they became difficult." A process technologist adds: "I have to admit that in the past (3 to 5 years ago) we made a [bad] name, especially as far as [particular] emissions are concerned, which were [due to] operational blunders." Marketeer's costly emission reduction system presently functions fairly well. In 1999, Marketeer complied with most of its permit prescriptions. There were 5 charges because of non-compliance with legislative prescriptions. Marketeer is presently being sued for too high emissions of a particular substance.

The holding company requires every subsidiary to implement the environmental management system ISO 14001. The certification process, which combines quality and environment, started in 1992. By the end of 1999, most Marketeer sites were ISO 14001 certified. Marketeer is not a party to covenants, though its trade association signed an agreement on efficiency improvements. Marketeer spends considerable efforts to communicate with external stakeholders. Initiatives include numerous guided tours, open days, several publicly available magazines, and participation in a

sounding-board group of neighbours. According to an annual environmental report, "There is open communication on safety, environment, and quality, both inside the organization and towards third parties." According to Marketeer's CEO, "Marketeer strives for an open culture."

4.4.2 Environmental management structure

Marketeer's organizational structure, which was installed one-and-a-half years ago, concurrently divides the company into 5 divisions (the primary criterion), 2 product chains, and 50 subsidiaries. Divisions have a high degree of autonomy with respect to environmental affairs. Every division or major subsidiary crafts its own environmental plans, which are to be approved by the holding. Corporate direction occurs on the basis of these plans. The divisions execute, monitor, and report their own environmental affairs, while the holding confines itself to auditing. Environmental responsibilities are borne by line officials, not by staff members. Small investments are done directly by the respective divisions, but large investments have to be approved by the CEO.

Environmental problems are solved by individuals or groups of 3-20 persons. Written action plans, including deadlines, are established. When problem-solving groups meet, ideas are brought to bear, tasks are assigned to individuals, and progress is reported during subsequent meetings.

Divisions interact directly with external parties. The CEO: "If things go well, we [the holding] do nothing." The corporate environmental coordinator is a staff member, whose task is to align the environmental behaviour of the different divisions.

There are monthly environmental platform meetings, where divisional and holding environmental coordinators discuss general policy affairs. Besides, there are monthly meetings among individual sites and divisional environmental representatives, during which site-specific environmental problems are discussed. There are also three-monthly divisional environmental meetings that involve the divisional management, the divisional coordinators, and the holding coordinator.

Operators may make suggestions for technical improvements, which are dropped in a suggestions box. A committee assesses the value of the suggestions made and rewards the selected ideas with a premium of 10 % of the amount saved. Environmental incidents are only reported to higher (divisional or corporate) organizational levels when they are serious.

Figure 4.3 represents the main aspects of Marketeer's environmental management structure.

Figure 4.3: Environmental management structure of Marketeer
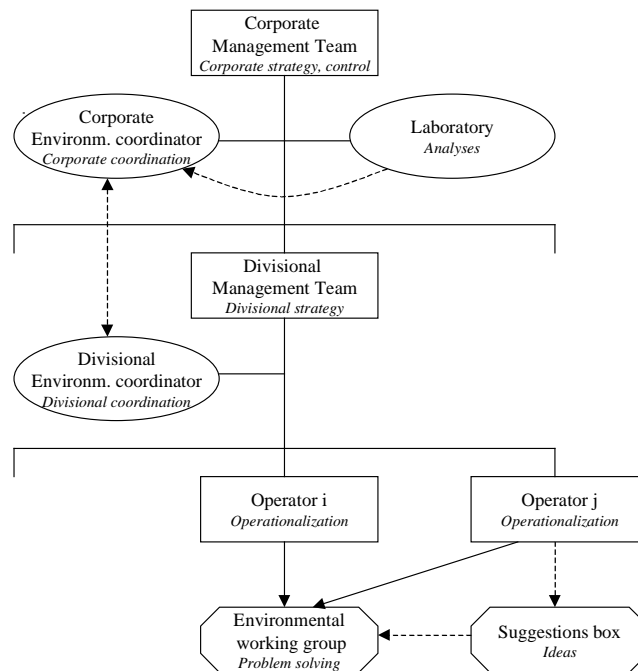
4.4.3   Overview of stakeholders

The following table identifies the major internal and external stakeholders, their roles, and their perceived importance.

Table 4.5: Overview of Marketeer's stakeholders

Stakeholder	Role	Importance
Corporate environmental Coordinator	• Coordinates corporate environmental affairs • Communicates with external parties	Central actor
CEO	• Crafts and imposes corporate environmental and commercial policies • Endorses large investments	Very important

Table 4.5, continued

Stakeholder	Role	Importance
Divisional environmental coordinators	• Coordinate within divisions • Communicate externally	Very important
Laboratory	• Analyses internal production processes	Quite important
Personnel	• Executes decisions related to environment	Quite important
Customers	• Buy environmental services	Very important
Official bodies of local government	• Issue and maintain environmental permits	Very important
Neighbours	• May complain about nuisance	Slightly important
Political body of local government	• Holds Marketeer's shares • Chairs Marketeer's Board of directors	Very important

4.4.4 New events

By late 2001, the following changes have taken place. Marketeer's sector has become increasingly concentrated. The company has pursued an active acquisition policy to become one of the largest actors in the Benelux. In 2000, Marketeer's sales increased by 45% (in comparison with 1999). This important growth stems largely from the acquisition of other companies in the same sector. In 2000, Marketeer's employees increased by 27%.

According to the new environmental coordinator of Marketeer's focal division, "[Marketeer]'s [environmental] policy has become much more important. (…) Especially last year, [Marketeer] had a number of unfortunate incidents, which shed a very negative light on us. The company realized that the negative environmental performance had major consequences for the company [as a whole]. (…) A [company in our sector] that does not comply with all environmental requirements does not have the right to exist. This is and will remain the case."

The importance of environment, both as a market opportunity and a constraint, is reflected in the new corporate mission: "The [Marketeer] companies provide reliable

and innovative solutions to environmental problems in the Netherlands and Europe. (…) We do our utmost to comply with national and European legislation and regulation in the fields of quality, environment, and labour conditions." By the end of 2000, the corporate environmental policy was extended. The new statement includes premises and measures to realize the environmental mission: compliance with all legal and permit prescriptions as a minimum standard; the development, implementation, and maintenance of nationally and internationally recognized standards (ISO 9000, ISO 14001); open communication on environment, both within the organization and towards third parties; careful investigation of and response to complaints; the investigation and resolution of environmental incidents to prevent recurrence; the responsibility of line managers with respect to environment in order to stimulate the sense of responsibility of their employees; the stimulation of employees to fulfil an active role; striving for a continuous improvement of environmental protection; the assurance of product continuity through a reasonable financial return on business activities. The new environmental policy concludes with the following statement: "The Management Teams of the [Marketeer] companies consider themselves responsible for the achievement of the aforementioned guarantees according to the premises chosen. To this end, they will allocate sufficient means, actively stimulate developments, and correct where necessary."

Marketeer's CEO explains the trigger behind the company's adjusted environmental attitude: "Marketeer wants to perform above the [prevailing] norms of quality, safety, and environment. The sentence of [a particular] court of justice [in June 2000]- stating that we did not comply with a number of our permit requirements in the preceding years [1997-1999]- has set much in motion in [2000]. We not only appealed [against the sentence], but also questioned ourselves and investigated, what activities could be further improved. (…) A concern-wide improvement program, which we call compliance program, has to make sure that we comply at least with legislation and regulation at all concern levels." The divisional environmental coordinator adds: "We then [after the negative publicity] started a compliance project, (…) aiming at complying with legislation and regulation in the broadest possible sense. This implies that the holding has paid much more attention to environmental aspects, that divisional managers do much more about it, that more environmental coordinators were employed. Because of this, environment has become much more important at [Marketeer]. (…) There are steering groups, including [the CEO] and [the corporate environmental coordinator], which discuss such issues (…) and which try to shape them well. (…) The compliance [program] is the first agenda item of every business meeting. (…) It is the basis of our existence."

The main points of Marketeer's compliance program are: the investigation of environmental bottlenecks and the introduction of a monitoring system to prevent

recurrence of earlier problems; the appointment of a corporate environmental coordinator with more decision-making power; the introduction of a sounding board group, consisting of Marketeer and several (local and national) governmental bodies; the appointment of an environmental auditing committee (consisting of members of the Board of directors) to check annual plans and reports; the allocation of new investments and budgets for environmental activities; and having internal information sessions to involve employees. In 2000, the implementation of the compliance program resulted company-wide in an increase of environment-related employees from 12 to 32. Furthermore, over a hundred bottlenecks that showed up during assessments were solved in 2000, while plans were made to solve the remaining ones. An internal communication program was set up to increase awareness among employees.

In 2000, Marketeer had over 50 cases of norm violations that involved environmental damage. The company was charged for 13 violations of regulation [in the fields of safety, environment, and quality]. In August 2001, a local environmental body forced Marketeer to close down a part of its main production site for over a week, because of the prevalence of a situation with a high environmental risk. In November 2001, a court of justice acknowledged that Marketeer was operating in contravention of the prevailing norms of carbon monoxide emissions, and decided that the company had to comply in the course of 2002. Furthermore, European regulation is becoming increasingly important to the company. It comes in addition to the prevailing strict national regulation.

In order to seize new market opportunities, Marketeer has opened new, innovative facilities to serve particular environmental markets.

Marketeer's ISO certificates were maintained after audits. Most subsidiaries already have ISO certification. Most of those without certification have plans to acquire it.

4.4.5   Changes of environmental management structure

Due to Marketeer's strong expansion and the accumulation of environmental incidents, its organizational structure was radically modified in the course of 2000. The five existing divisions were dissolved and two new divisions were created to replace them- each one focusing on a particular market. At the same time, the new divisions acquired more decision-making power than the former divisions.

Environmental issues are presently managed through a matrix structure: contacts between different environmental persons (at the corporate, divisional, and subsidiary

levels) are perpendicularly situated to (corporate, divisional, or subsidiary-specific) hierarchical lines. The responsibility for environmental issues is in the line. Subsidiary managers direct their own environmental coordinators and are settled according to the environmental performance agreed for their respective subsidiaries. They are held to respect the corporate environmental policy.

The corporate environmental coordinator still combines environment, quality, and labour conditions. But the corporate coordinator has much more decision-making power over environmental issues than previously, even though he is not a member of the corporate Management Team (MT). He crafts the corporate policy, which specifies the boundary conditions that divisions have to respect, and maintains corporate contacts with external constituencies. The two new divisions have environmental coordinators, who initiate and control the environmental policy of their respective divisions and who have external contacts. The divisional environmental coordinators also deal with quality and labour conditions. All individual subsidiaries have full-time environmental coordinators, who are also in charge of quality and labour conditions. They come hierarchically under subsidiary managers. The coordinators have subsidiary-specific contacts with governmental bodies.

The subsidiary environmental coordinators have direct functional contacts with the divisional environmental coordinator. Shortly, there will be regular multilateral meetings, involving the environmental coordinators of all subsidiaries and the division, to share environment-related information. The environmental coordinator of the focal division has regular contacts with the corporate environmental coordinator.

4.4.6 Overview of stakeholder changes

The following table outlines the major changes of stakeholder roles and/or importance.

Table 4.6: Overview of Marketeer's stakeholder changes

Stakeholder	Role	Importance
New divisional environmental coordinator	• Implements the corporate environmental policy • Initiates and controls the divisional environmental policy	Central actor

Table 4.6, continued

Stakeholder	Role	Importance
	• Maintains internal and external divisional contacts	
CEO	• Has taken more distance from regulatory environmental issues	Quite (instead of very) important
New corporate environmental coordinator	• Crafts the corporate environmental policy • Audits the performance of divisions • Maintains corporate external contacts	Very important
Subsidiary environmental coordinators	• Execute the corporate and divisional environmental policies • Maintain operational contacts with governmental bodies	Very important
Laboratory		Slightly (instead of quite) important
Operating personnel	• Is very involved in environmental issues • Systematically follows environmental procedures	Very (instead of quite) important
Official bodies of local government	• Have increased the pressure to comply with regulation	
Political body of local government	• No longer actively seeks to sell its shares	Slightly (instead of very) important

4.5 Negotiator

The Negotiator case was analysed at the divisional level. The first round of interviews took place between February and June 2000. The second round was held in November 2001.

4.5.1 Antecedents

Negotiator was created more than a century ago. It started with the manufacture and marketing of one product, and gradually expanded its activities into numerous other fields. Over the last four years, however, Negotiator has reduced the range of its activities. The company presently manufactures a wide range of quality products for different target markets. Negotiator's shares are traded at several stock exchanges.

The division studied is Negotiator's largest division. In 2000, this division represents 40% of Negotiator's overall sales. The division's headquarters are situated in the Netherlands. A visit to Negotiator's largest location in the Netherlands leaves the impression of a well-spread bureaucracy (a characterization that is shared by an external stakeholder). All production activities of the division take place outside the Netherlands. The different business units and production sites of the division are situated all over the world.

By the end of 2000, Negotiator has considerably reduced the size of its staff and the countries in which it exerts activities. Over the past two years, its overall sales have risen by 25%. Europe is the dominant market, followed by North America and Asia. The division is one of the largest in its field world-wide. The value of external purchases represents 60-70% of Negotiator's overall sales.

Negotiator has had an environmental focus since 1993. Negotiator's environmental orientation has evolved from fairly defensive (highlighting legal compliance) to eco-efficient cost reduction and the improvement of its 'green' brand image and sales. As compared with its competitors, Negotiator is seen as relatively environmentally proactive (not only according to a divisional representative but also according to the division's largest competitor). Within the division, the interest in environment has increased over the last few years. When all persons involved in environment (including coordinators at the country and subsidiary levels) are considered, environment represents a very widespread activity at Negotiator's division.

Negotiator's main environmental issues include the toxicity of inputs, energy consumption, packaging, waste, and recycling. Products that perform well from an

environmental viewpoint are eligible for intensive green marketing efforts. The environment supports Negotiator's brand image, but is not a major sales argument because customers primarily value other product characteristics.

Since 1970, Negotiator has had corporate environmental guidelines. The first full-fledged environmental policy was formulated in 1987. The present corporate environmental policy reads as follows: "[Negotiator] establishes technically and economically viable objectives to optimize the environmental performance of the organization's products, services and activities. (…) Product development objectives include: evaluating the environmental impact over the total product life cycle; taking steps toward more efficient use of materials, including packaging; reducing, or eliminating, hazardous substances; reducing energy consumption; and contributing to improving recycling and disposal. (…) [Negotiator] is committed to complying with all applicable laws and regulations, and will promote international harmonization of applicable laws and regulations, and is prepared to enter into voluntary agreements. (…) [Negotiator] educates its employees to work within its environmental policy."

Negotiator's environmental mission stipulates: "The company is committed to continuously exploring solutions to successfully balance economy and ecology." The company has the ambition to become the leading eco-efficient organization in its sector. The company's environmental targets include: the reduction of packaging by 15% by 2000 (as compared with the respective predecessors); a production waste reduction of 35% by 2002 (as compared with the general reference year, 1994); a 25% reduction of water consumption by 2002; a reduction of 98% of the most toxic inputs by 2002; an energy efficiency improvement of 25% by 2000.

Negotiator's environmental measures have shifted from end-of-pipe mitigation via controlled production to green product design. The current action program runs from 1998 to 2002, and takes products with an outstanding environmental performance as its cornerstone. In the sense of environment as a market, Negotiator started integrating green aspects into its marketing activities in 1999. The company conducted environmental market and SWOT analyses. Major production-related measures are efficient product design (which aims at the minimization of the total environmental impact of materials throughout the entire life-cycle), the use of secondary instead of virgin materials, careful production planning, efficient engineering, good housekeeping, and interrogating all suppliers on the environmental aspects of procured goods (the division's 1,500 suppliers provide 45,000 different inputs).

In 2000, the combined environmental performance of this division and a small related division is as follows: a 50% reduction of energy consumption (as compared with the general reference year, 1994); a complete elimination of the most toxic

substances; a 60% reduction of water consumption; a 60% decrease of solid waste; a 15% reduction of packaging (this figure is only available for all divisions together).

By the end of 2000, 85% of all production sites are ISO 14001 certified (the ambition of 100% has not been achieved).

According to its environmental policy, Negotiator communicates on environment with employees and other stakeholders; the company wants to cooperate with governmental and non-governmental organizations. Negotiator has been a member of the World Business Council for Sustainable Development since 1993. In 1998, Negotiator published its first external environmental report.

4.5.2   Environmental management structure

The division consists of 5 business units. In conjunction with sales, which are organized according to geographical zones, and purchasing, which are organized functionally, this yields a three-dimensional matrix structure. The division's bottom-line responsibilities are geographical. Environmental responsibilities are in the line. The environmental strategy is crafted centrally (at the divisional level), while its implementation is decentralised to local levels.

The division has a central environmental coordinator. He is the head of an environmental staff group of some 10 technical experts who prepare divisional environmental plans and who provide support (training, facilities, technical advice, writing of manuals) to business units and others in the division. The environmental staff group's revenues accrue from the sales of its services to the different business units.

A member of the divisional Management Team (MT) chairs environmental steering group meetings on behalf of his business unit. These steering groups are standing committees that also include representatives from other relevant disciplines: the environmental staff group (often represented by the divisional environmental coordinator), purchasing, and marketing. The steering group considers the overall environmental progress and stumbling blocks from different perspectives. During the three-monthly steering group meetings, the divisional environmental coordinator brings in environmental proposals. Environmental targets (such as a quantified reduction of packaging materials or energy consumption) are negotiated within the steering group and, upon acceptance, incorporated for implementation into the environmental action plan. When establishing targets, information is used that derives from national marketing departments on the environmental interest of customers, a crucial constituent.

The environmental targets are subsequently communicated to (the division-wide 1,500) product developers, who have to respect the agreed targets in their product specifications. Developers specify the components to be used for production. Because of the important financial implications, product development is a well-organized process in which there is little place for surprises. Experts become responsible for specific issues (such as packaging reduction) and create teams to reach agreed targets. Project groups are responsible for the realization of environmentally improved products. They consider all relevant aspects (such as finance, purchasing, and product development) and craft short-term action plans. With the help of manuals, which show examples of how to tackle environmental problems, solutions are tailored to the specific problems at hand. In case existing technical knowledge falls short, a business unit asks for input from one of the corporate research laboratories.

These laboratories focus on break-through innovations. They negotiate quantitative research objectives with the respective business units, specify the agreed objectives in the respective action plans, and evaluate progress every three months. At the outset of a project, which takes on average 2-3 years, a research team of technical specialists brainstorms on possible solutions, and decides by consensus (following-generally implicitly- considerations of cost, utility, and risk) which ideas to pursue. One or two persons subsequently elaborate the most promising ideas, ever more by means of computer simulations. According to a researcher, this occurs "under the very difficult boundary condition of [finding low-cost solutions]." The end products of research consist of concepts and prototypes, which are documented. They serve as inputs for product developers, who integrate and fine-tune the research outputs before coming to new product specifications.

Steering groups meet once every three months to discuss progress and roadblocks to agreed environmental targets. The members of steering groups communicate the outcomes of these meetings within their respective disciplines. The divisional environmental coordinator meets individual members of the steering committees about once a month on an ad hoc basis. Project groups coordinate short-term actions through biweekly plan-do-check-act meetings. Research groups meet on ad hoc basis, to brainstorm on new research problems and to select the most promising possible solutions. There are three-monthly meetings between research groups and product management on the progress of ongoing research projects.

In a complex organization like Negotiator's focal division, an action plan is an important tool for communicating between different departments. It specifies agreed targets, responsible persons, and time frames. The action plan is communicated throughout the division, to all internal actors involved: managers, product developers, researchers, purchasers, marketeers, and environmental coordinators. There are

Figure 4.4: Environmental management structure of Negotiator
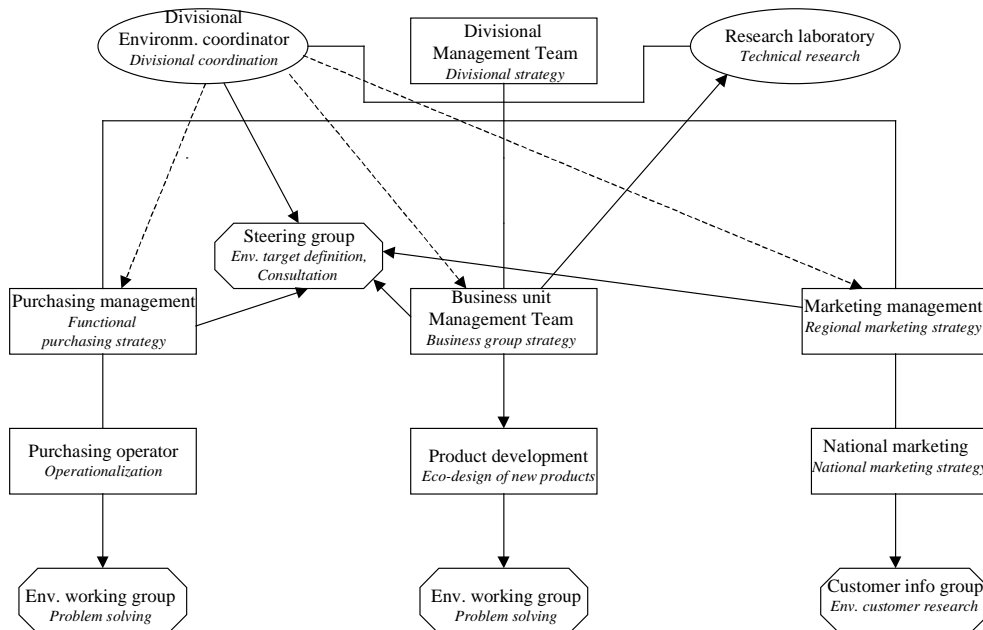
coordinators at different organizational levels: the division, the business unit, the national organization, and the production subsidiary.

Environmental product specifications are written down in bills of materials, which purchasers have to respect when procuring inputs for production purposes. Other documents that are transmitted between different internal parties include manuals, concepts and prototypes, and environmental bulletins. Furthermore, there is a worldwide, computer-based monitoring system to quantitatively assess environmental performance. This system is fed by returned questionnaires from subsidiaries.

Figure 4.4 represents the main tenets of the division's environmental management structure.

4.5.3 Overview of stakeholders

The following table provides an overview of Negotiator's major internal and external stakeholders.

Table 4.7: Overview of Negotiator's stakeholders

Stakeholder	Role	Importance
Divisional environmental coordinator	• Coordinates and advises on environmental affairs within the division • Proposes environmental targets • Represents Negotiator in external contacts • Chairs a supranational trade association	Central actor
Business unit management	• Co-decides about environmental targets • Steers implementation of environmental targets within the business unit	Very important
Purchasing department	• Co-decides on environmental targets • Realizes environmental purchasing objectives	Very important
Marketing department	• Does market research on customers' environmental attitudes • Co-decides on environmental targets	Quite important
Customers	• Pay attention to environmental product characteristics	Very important
Associations of customers	• Influence customers' purchases through tests of environmental product characteristics	Quite important
Environmental pressure groups	• Influence customers and government	Quite important

Table 4.7, continued

Stakeholder	Role	Importance
Supranational government	• Influences customers • Initiates and negotiates regulation	Very important
National government	• Influences customers • Co-lobbies for supranational regulation	Quite important
Competitors	• Want to outperform Negotiator by having better environmental product characteristics • Are allies within a supranational trade association	Quite important

4.5.4 New events

By the end of 2001, the following changes have taken place. Over the last year, Negotiator's sales and personnel have decreased by 15%. The company has made the largest loss of its history. Negotiator's recent financial crisis- followed by a major restructuring- has had no major consequences for the environmental staff group.

New environmental issues relevant to Negotiator's division include: (governmental regulation of) chemical substances which are potentially toxic (in case of release after product disposal); the incompatibility of different governmental objectives (a higher recyclability, for example, may hamper dematerialization); the bookkeeping of carbon dioxide emissions.

According to the senior environmental advisor of Negotiator's focal division, the environmental objective and action program have remained basically the same. In 2002, the current program will come to an end. The new program will remain largely as the present one, though it will also consider the new environmental issues.

The position of the environmental action plan has become more important. In order to measure the division's environmental impact better, action plans presently include elaborate quantitative targets and assessments of the environmental performance of business units. The targets and performance are specified per product type, because different types affect the environment differentially. Half of the overall

performance consists of technical indicators, the other half of organizational yardsticks. Managers- mainly those at higher levels- are now rewarded to a certain- though modest- extent by the environmental performance of their respective business units. This performance should show a constant progress. The senior environmental advisor summarizes: "The [quantitative assessment] was first intended to make environment communicable to management outside the steering teams. Now, it also has another function: to make environment visible in the paragraph of societal results. (…) This [link between environmental performance and managerial remuneration] is the indirect drive for management to increase the results in the societal field."

In comparison with the preceding year, the environmental performance of the focal division has changed as follows in 2001: energy consumption has been reduced by an additional 2% points; the least toxic chemical substances have been reduced by another 22% points; water consumption has diminished by another 11% points; solid waste has been cut back by another 4% points; packaging has increased by 3% points (in all cases the reference year is 1994). By the end of 2001, an additional 6% of all divisional subsidiaries are ISO 14001 certified. In 2001, Negotiator follows the sustainability reporting guidelines, issued by the Global Reporting Initiative.

4.5.5   Changes of environmental management structure

In 2001, the formal internal structure has not changed. Environmental decision-making bodies have not changed either. But unlike in the past, the remuneration of key decision makers has become partially related to the environmental performance of their respective (business) units.

4.5.6   Overview of stakeholder changes

The following table represents the major changes of stakeholder influences, which will be elaborated in chapter 5.

Table 4.8: Overview of Negotiator's stakeholder changes

Stakeholder	Role	Importance
Divisional environmental coordinator	• Has become the vice-present of the enlarged supranational trade	

Table 4.8, continued

Stakeholder	Role	Importance
	association	
Environmental pressure groups	• Have directly targeted Negotiator	
Supranational government	• Has become more sensitive to political motives than technical arguments	
Competitors	• Have become more environmentally active	

4.6 Cleanhouse

The level of analysis of the Cleanhouse case was the organization as a whole. The first interview round took place between June and August 2000. The second assessment was in February 2002.

4.6.1 Antecedents

The core activities of Cleanhouse have remained the same for many decades. In 1992, its identity changed dramatically after an important redefinition of its activities and a relocation of its main operations. Cleanhouse's sales and number of employees have progressively grown over the last few years.

The organization's main environmental aspects are : the production of waste; the use of a toxic gas; the generation and use of energy; water, soil, and air emissions; the extraction and use of a natural resource. An organizational representative observes that waste legislation has become stricter and stricter. With respect to its environmental impact, Cleanhouse is- according to a governmental supervisor- in a relatively 'heavy' category because of the size of its activities and the danger of certain substances it uses. Yet, the overall danger and environmental impact of Cleanhouse's activities are fairly limited. The environmental coordinator phrases the environmental relevance as follows: "We have to deal with the environment, though it is not a hot item. The environmental load of the organization is in itself not that large.

A lot of processes are manageable. By manageable I mean that waste products created, for example, can be disposed of in a good way."

Respect for the environment is part of Cleanhouse's identity. Its environmental mission statement reads as follows: "[Cleanhouse]'s processes (…) cause an environmental load. [Cleanhouse] prevents damage to the eco-system as much as reasonably possible, or reduces it to an acceptable minimum. This is achieved by having an environmental policy which considers social and economic factors." According to its environmental policy, "[Cleanhouse] strives for a continuous supervision and improvement of the quality of [its activities]. [Cleanhouse] takes the view that constant attention to the environmental impact of its activities and processes is highly important. [Cleanhouse]'s policy aims at the systematic and phased implementation of environmental management within the organization, and at its integration within overall management. The environmental management system will be implemented within the entire organization, as much as possible according to the ISO 14001 norm. It will commit everybody. The aim of [Cleanhouse]'s environmental management system is: to continuously improve the organization's environmental performance; to comply with environmental regulation; to reduce the environmental load by minimizing soil, water, and air emissions, with an emphasis on prevention."

Cleanhouse has taken the following measures to accomplish its environmental policy objectives: the application of total energy, leading to an efficiency of 84%; a modern, automated in-house power station; automatic switching-off of lighting and other technical adjustments of energy-consuming devices (such as air conditioning); an advanced, neat waste separation system (with as many as 60 different types of waste streams and an emphasis on recycling) and a pre-processing system for one category of waste; good housekeeping; the organization of environment like the organization's quality management (which has been successful for 9 years and which was recently awarded); an increasingly formal approach to environmental problems (an environmental policy plan was presented lately to Cleanhouse's Management Team (MT)); information and education of personnel; the recycling of refrigeration water for cleaning purposes.

Cleanhouse has nation-wide the lowest energy costs per square meter of all organizations in its sector. Between 1989 and 1995, Cleanhouse's energy consumption dropped by 10%. Energy consumption stabilized in 1998, despite increased activities. Water consumption dropped in 1998, while the pollution level of effluent water decreased. Other quantitative data are not available, because Cleanhouse has not generalized the use of quantitative yardsticks to assess its environmental performance. With respect to waste treatment and the decentralization

of tasks and responsibilities, the organization is regarded by others as a national forerunner in its sector.

Cleanhouse has been working for a few years on a certifiable environmental management system. The organization was the first Dutch organization in its sector to acquire a certified quality system (ISO 9000). Cleanhouse's MT approved a proposal to implement a certifiable environmental management system. An official body of local government bases Cleanhouse's new environmental permit (which will be valid within 3 years) on the establishment of an environmental management system. In 1995, Cleanhouse signed a long-range agreement on energy efficiency with a national ministry. This agreement will last till the end of 2000, and will probably be prolonged.

When the systematization of environmental management practices is achieved, Cleanhouse will actively report to external constituencies. The organization is now in a transition stage.

4.6.2 Environmental management structure

Organizations in Cleanhouse's sector are very much structured by hierarchy and routine. Their decision-making processes tend to be slow.

Cleanhouse's MT has delegated the responsibility for environment to the manager of the directorate facilities, who is the environmental coordinator's superior. The manager, in turn, delegates environmental responsibilities as much as possible to his subordinates. Cleanhouse has a consultative decision-making culture: the voice of those who are concerned is heard when decisions are taken. Imposing decisions would work counter-productively.

Since the beginning of 2000, Cleanhouse has had a new environmental management structure, which has not yet been fully operationalized. The structure of Cleanhouse's Quality, Labour conditions, and Environment (QLE) council is based on the structure of Cleanhouse's former Quality council, which has for years been widely recognized as functioning very well. The quality policy has three pillars: at least two improvement projects a year; the anchoring of improvement in daily practices; and external reporting of the organization's quality performance. The QLE council consists of an independent chairman, top managers from every directorate, and three experts (the coordinators from the three respective areas). The QLE council meets once a month, and officially has the status of an advisory and coordinating body. But as major decision makers are involved in the council, advice implies at the same time

management commitment. Its advice tends to be adopted without modifications by the MT and the works council (the two bodies which have to ratify QLE propositions).

Three basic groups (one for each area) are in charge of the implementation of QLE council decisions. The basic group environment consists of the environmental coordinator (the chairman, who is the linking pin between the QLE council and the basic group environment) and operational representatives from different directorates (who do environment on top of other activities). The basic group meets 6-12 times a year. It initiates and advises on concrete environmental actions. Every directorate consists of several departments, which all have their environmental working groups. The operational representatives at the directorate level are the linking pins between the basic group environment and departmental working groups. The directorate representatives and the departmental representatives (departmental heads or other interested departmental members) meet when concrete improvement projects are to be implemented and coordinated, about twice a year. The directorate representatives supervise the progress of projects at the different departments, while departmental representatives are responsible for the environmental actions within their own departments.

An example of a working group is the group in charge of reducing Cleanhouse's energy consumption. This group brainstorms once a year on energy reduction and retains the best proposals. Proposals with significant financial implications are submitted to the manager of the directorate facilities (under whom energy comes). The latter transmits them to the MT, which has to endorse the financial implications of the proposals. Upon approval, improvement projects are implemented during the next budget period.

External environmental advice is acquired, though to a decreasing extent, from a semi-public organization which specializes, inter alia, in environmental issues.

Information is communicated throughout all organizational levels: from the directorate level to the MT (the QLE council forwards its views to the MT), between different directorates (through the basic group environment), between different departments (through meetings between departmental representatives), and within departments (through meetings between the departmental representative and other departmental members). Specialists communicate theme-specific issues (like energy saving) to all departments. In addition, company-wide training courses deal with environmental issues. There is a considerable degree of documentation, including handbooks, manuals, magazines, and minutes of meetings. Cleanhouse's Intranet will progressively become more important.

Figure 4.5 resumes Cleanhouse's environmental management structure.

Figure 4.5: Environmental management structure of Cleanhouse
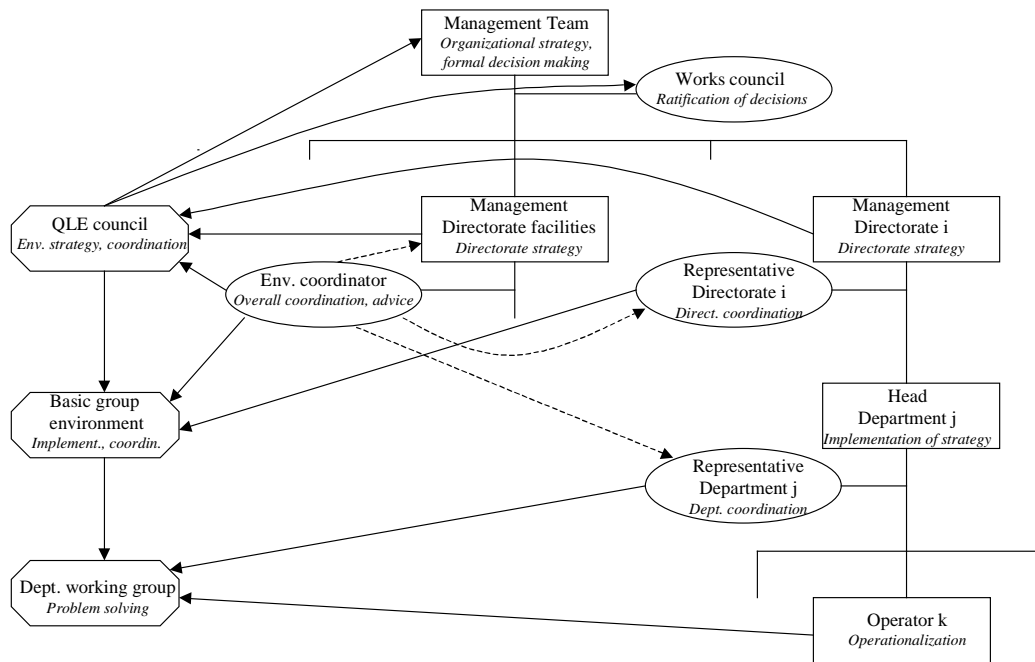
4.6.3 Overview of stakeholders

The main aspects of Cleanhouse's major internal and external stakeholders are depicted in the following table.

Table 4.9: Overview of Cleanhouse's stakeholders

Stakeholder	Role	Importance
Environmental coordinator	• Coordinates internally • Maintains external contacts • Prepares a certifiable environmental management system • Provides know-how	Central actor
Manager of the directorate facilities	• Decides on environmental issues • Provides advice	Very important

Table 4.9, continued

Stakeholder	*Role*	*Importance*
Basic group members	• Initiate and advise on environmental actions • Create operational support for decisions	Very important
Official body of local government	• Issues and supervises the overall environmental permit • Provides advice	Very important
Local public body	• Issues and supervises a specific environmental permit • Provides advice	Very important
Waste processors	• Prescribe and advise on packaging guidelines • Process waste	Very important
Local trade association	• Gives advice • Negotiates collectively with external parties	Very important
National bi-sectoral association	• Provides advice	Very important

4.6.4 New events

Between mid-2000 and early 2002, no important changes have taken place at Cleanhouse. According to Cleanhouse's environmental coordinator, "Not so much has happened over the last year."

The main future issues are the need to obtain a tailored environmental permit and to establish a functioning certifiable environmental management system. A tailored permit would provide more flexibility, which is important in the light of Cleanhouse's plans to extend its premises. It will take another 2-3 years to arrange these issues well.

Early 2002, the Minister of Environmental affairs decided that a costly, sector-specific type of waste should be processed centrally during the coming 10 years. All organizations in the sector opposed this decision, stating that in-house pre-processing of this type of waste- such as occurs at Cleanhouse- reduces costs substantially. For

Cleanhouse, the ministerial decision may involve the end of in-house waste pre-processing (and, hence, lead to higher waste processing costs).

Cleanhouse's environmental policy plan was formally accepted- without any changes- by its MT and Works council. This policy plan acts throughout the company as the connecting theme of environmental actions.

The environmental measures are still roughly the same as before. A new measure is the preparation of an environmental awareness course for shop floor personnel. At all departments, environmental coordinators have been appointed. The corporate environmental coordinator notes, though, that "the awareness creation process still has to gain momentum." Another new measure is the finalization of the construction of an installation that stores excess heat.

4.6.5   Changes of environmental management structure

Following the MT's approval of the environmental policy plan, a number of formal measures have been taken in the meantime. Environmental tasks, responsibilities, and competencies have been attributed to individuals, such as departmental environmental coordinators. Besides, commitment has been arranged for the environmental education of employees.

4.6.6   Overview of stakeholder changes

The following table represents the changes of roles and/or importance of Cleanhouse's stakeholders.

Table 4.10: Overview of Cleanhouse's stakeholder changes

Stakeholder	*Role*	*Importance*
Official body of local government	• May issue a more flexible environmental permit	
Local public body	• May exempt Cleanhouse from the obligation to asess a specific type of emissions	

4.7 Grassroots

The analytical focus of this case is not (a part of) the company but an external platform in which a local unit of Grassroots is actively involved. Although this 'local platform' is the analytical unit, its impact on the whole Grassroots organization is considered wherever possible. When the term 'Grassroots' is used, reference is made to the organization as a whole, while 'local units' applies to independent local Grassroots units. Grassroots' focal local unit is referred to as 'focal unit'. The terms 'national organization' and 'national staff group' indicate the overarching national Grassroots structures. 'Focal sector' refers to the crisis sector around which the focal local platform (referred to as 'Local platform' or 'Platform') was erected; it is not Grassroots' own sector but one with which Grassroots is intimately connected. The term 'focal region' refers to the geographical region in which the Local platform operates.

The first round of interviews took place between June and October 2000. The second assessment occurred in December 2001.

4.7.1 Antecedents

Grassroots was created over a century ago. Its activities are confined to one specific sector. Grassroots has traditionally had strong ties with another sector. From its very beginning, the organization has also had a strong focus on (the well-being of) local communities. Grassroots' overall sales experienced double-digit growth rates in 1999 and 2000, while the number of employees increased slightly. Over the last three decades, Grassroots' total number of local units diminished by 65%. At present, some 75% of all employees work at local Grassroots units. Grassroots' focal unit realized one third of its sales in 2000 in the focal sector (a decade earlier, this share was still 50%).

Environmental issues concern Grassroots in three areas: the marketing of green products, the engagement in societal activities, and internal environmental management. The present analysis focuses on societal activities. Through its organizational structure, Grassroots is well rooted in the local community. According to a national Grassroots representative, "Societal activities are characteristic of [Grassroots]. It is not a product but a type of activities that is not purely commercial (…) and that is related to the way we are situated in the world." He adds: "Local [units] are very much inspired by things that occur in local governmental bodies, governments, and local volunteer groups." Part of the profits realized by local units

are ploughed back into the respective local communities. Societal activities cover a wide range of divergent areas. Societal projects are initiated by local Grassroots units. Some of them are very proactive, others are more reactive.

The focal project is one of Grassroots' societal areas for special attention; it is related to the sector with which Grassroots has traditionally had strong ties. It is a local platform, which started one-and-a-half years ago. The Platform is presently in a pioneering stage; it has not yet engaged in concrete projects. The Local platform, which is about to be founded officially, aims at the socio-economic reinforcement of a specific region. Because of huge production-related problems, adverse market conditions, and highly restrictive environmental regulation, the focal sector has gone through a major crisis that necessitates a restructuring of the entire industry. This sector represents- directly and indirectly- some 50% of the economic activities of the focal region. So far, the crisis has forced one third of all local companies in the sector to stop their activities. Overall, some 50% are expected to cease their activities in the coming 6-7 years, partially through governmental buy-outs.

According to the manager of the local Grassroots unit, "Environment was the very reason for everything. A national reassessment of [this sector] would not be necessary without a reason. The reason for this whole circus is environment. (…) Government took a number of [environmental] measures that prevent [this] sector from doing business as usual." Because of the crisis, the socio-economic livability of the focal region is seriously threatened. Inspired by its societal orientation, Grassroots decided to intervene. According to the focal unit manager: "[Grassroots] is an important economic party in [the focal region], and is also socially and societally involved. Especially the latter [aspect] has played an important role. We do a lot of such activities for free." Grassroots' social commitment is confirmed by an external stakeholder. The organization also has an economic stake: Grassroots' activities are heavily intertwined with those of the affected companies. In case this pilot platform functions well, it may be replicated in other regions that face a similar problem.

Grassroots' current mission statement, formulated in 1999, is valid for all units (local and national units, domestically and abroad). The statement reads as follows: "[Grassroots] finds that a sustainable development of welfare and well-being requires a careful treatment of nature and the natural environment." Sustainability is also part of Grassroots' code of conduct. The official aim of the Local platform is "to foster the organizing capacity of all possible local parties in order to create a structural basis for a strong socio-economic structure." The Platform wants to realize this aim "by looking for, helping, stimulating, and guiding entrepreneurs (…) to develop profitable initiatives which foster the creation of employment and social development." The creators of the Local platform recognize that the crisis that strikes their region can only be solved by building a community-wide coalition.

Several local units are involved in local initiatives, such as this Local platform. The focal unit donated a substantial amount of money to start the Local platform's activities. The Platform stimulates the organization skills, network creation, and knowledge creation of entrepreneurs. It tries to come up with innovative economic activities. The focal unit manager: "Hundreds of people of all parties concerned (including educational establishments, local governmental bodies, (…) organizations [in the focal sector], trade associations, and knowledge centres) brainstormed on the future of [this region]. The project organization tests the ideas on their feasibility and implements them." Grassroots' national staff group Sustainability tries to disseminate the insights from local projects throughout the organization. It organized a meeting on this type of regional innovation for local units. The national staff group has also developed a blueprint for local units that want to engage in innovative local activities.

The Local platform has not yet realized concrete projects, though one will soon be launched. A major problem encountered when starting novel economic activities is the vacuum and ambiguity of national and local environmental regulation.

Grassroots signed a considerable number of national covenants, as well as a declaration by the United Nations. Since 1993, Grassroots has had annual environmental reports, first internally oriented and later for external parties. Grassroots is a member of several international and supranational forums, and maintains contacts with different national environmental pressure groups and other societal bodies.

4.7.2 Environmental management structure

Grassroots consists of hundreds of local, independent units, as well as overarching structures (both domestically and abroad). Local units have a considerable decision-making autonomy. This is related to Grassroots' historically decentralized organizational structure. In the field of societal developments, local units are completely autonomous.

Grassroots' national organization provides general guidelines and supports local units. The chief executive officer (CEO) of the national organization is formally in charge of sustainability. The national staff group Sustainability comes directly under Grassroots' national Management Team (MT). The staff group undertakes societal activities at its own initiative or reacts to external constituencies. Intermediate levels between local units and the national organization exist but play no role of importance.

The Local platform is an independent foundation. It is a public-private cooperation. The Platform has a General board of administration ('General board'),

which consists of the highest representatives of the different member bodies: 7 local governmental bodies, a local public body, a chamber of commerce, a development company, several educational establishments, knowledge centres, 2 trade associations, a general employers' association, and (local units of) Grassroots. The Local platform also has an Executive board of administration ('Executive board'), consisting of three representatives of local government, a local trade association, a local public body, and (local units of) Grassroots. Furthermore, the Platform has a professional manager and an administrative support staff. The General board is the highest strategic decision-making body of the Local platform. Operational decisions are made by the Executive board. Both boards follow a consensus model of decision making. They also act as sounding boards. Important decisions have to be ratified by the organizations that make up the General board, which tends to be a lengthy process. The General board convenes once every two months. The Executive board meets twice a month. The Platform's manager is in charge of implementing the Local platform's policy. He detects, coaches, and advises local entrepreneurs who elaborate new economic activities.

Grassroots' staff group Sustainability facilitates for local units throughout the country. The staff group communicates sustainability-related knowledge, connects

Figure 4.6: Structure of Local platform and Grassroots
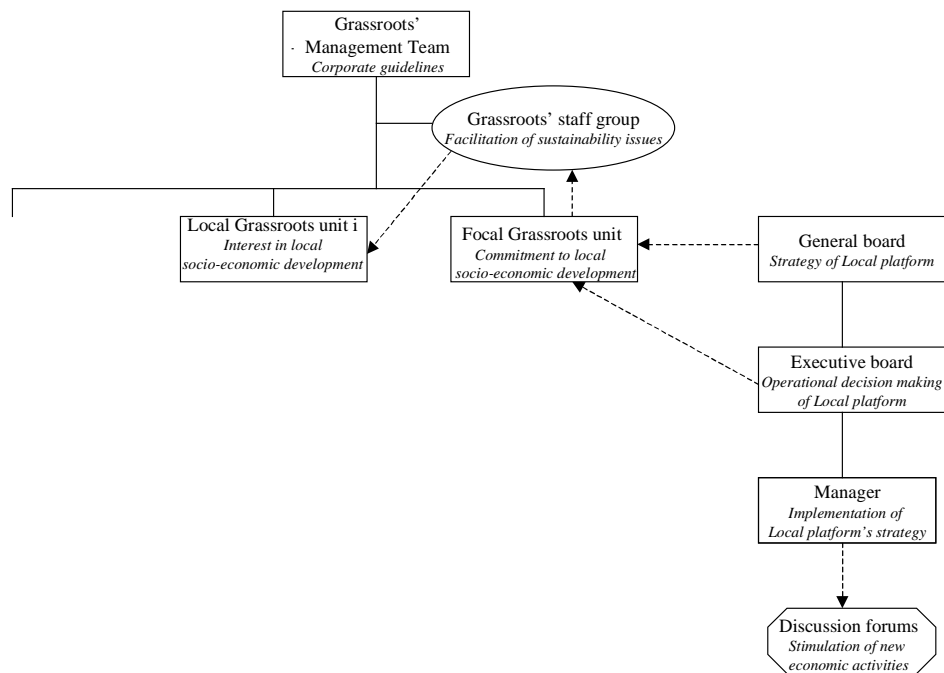
external constituencies with internal parties, and establishes links between different local units. A staff group representative: "It is like a sandglass, with us in the middle." The staff group also develops new instruments and showcases. Local units have their own communication networks. There is little feedback from local units to the national level. Connections between different entities are established through personal networks. A staff group representative: "There are no real organizational structures, no data banks within [Grassroots] that automatically [establish] exhaustive connections. So it is very much based on personal networks."

Figure 4.6 represents the Platform's organizational structure and its relation with Grassroots' structure.

4.7.3 Overview of stakeholders

The following table highlights the main tenets of the Local platform's stakeholder relations.

Table 4.11: Overview of the Local platform's stakeholders

Stakeholder	Role	Importance
Focal unit manager	• Is a member of the General and Executive boards of the Local platform • Has strong ties with and knowledge of the local focal sector • Steers people and processes	Central actor
Local governmental bodies	• Are represented in the General and Executive boards of the Local platform • Mobilize resources to improve the local socio-economic conditions	Very important

Table 4.11, continued (1)

Stakeholder	*Role*	*Importance*
Local trade association	• Is a member of the General and Executive boards of the Local platform • Represents the collective interests of local companies in the focal sector	Very important
Local public body	• Is a member of the General and Executive boards of the Local platform • Coordinates and executes the focal sectoral policy of local governmental bodies • Provides secretarial support and project leadership to the Local platform	Quite important
Local educational establishments	• Are represented in the General board of the Local platform • Provide project-related advice and knowledge to the Local platform • Provide education to prospective entrepreneurs	Quite important
Local environmental association	• Tries to reconcile the local focal sector and nature • Executes the policy of the local trade association and creates	Quite important

Table 4.11, continued (2)

Stakeholder	Role	Importance
	a basis among entrepreneurs in the focal sector • Reflects on new economic initiatives	
Local Platform manager	• Searches for new business opportunities • Coaches innovative entrepreneurs • Fosters the realization of local socio-economic projects	Very important

4.7.4　New events

By the end of 2001, the following changes have taken place. The Local platform has come under a national law which regulates structural reforms of the focal sector. In May 2001, a Dutch Minister announced a radical reform of the focal sector.

In December 2001, national government issued a restrictive law for many companies in the focal sector in order to better protect nature reserves. At the same time, government sketched new, environment-related opportunities for entrepreneurs in the focal sector.

The environment-related objectives of the Local platform and Grassroots have not changed. According to the focal unit manager, space is an important future environmental issue: "Space is one of the largest future factors of power, (…) especially in this [small] country."

By the end of 2001, the Local platform spent most of its time on concrete projects (as compared with a mere 10% at the outset). The Local platform has taken the following new measures: the observation of a pilot project that may serve as a flywheel for local socio-economic development, and transmission of salient outcomes of this pilot to local governmental bodies; involvement in a local product chain that wants to market a controlled environmental product; the arrangement of subsidies for a few entrepreneurs in the focal sector who want to engage in novel activities, outside the focal sector (this may be an important stimulus for other entrepreneurs); the

execution of a cultural program, which united all cultural activities in the focal region; a study of the possibilities for local companies to join forces and have a common export product; the stimulation of entrepreneurial initiatives in both the focal and another sector; the support of entrepreneurs in the focal sector in enlarging and renewing their relational networks; the conduct of projects to improve the social livability of the focal region; support for the optimization of information and computer technology; (political) interventions in order to solve regulatory bottlenecks; the preparation of data collection on regional economic activities, which would serve as inputs for plans to significantly increase local employment in targeted sectors.

In 2001, Grassroots' overall sales increased by almost 9% (as compared with the previous year). The number of employees grew by 5%. In 2001, Grassroots' national staff group developed indicators for local units to quantify sustainable entrepreneurship. These indicators facilitate target setting and performance assessment. Early 2002, Grassroots announced in a position paper that it intends to use societal criteria on top of economic yardsticks when selecting partners in the focal sector. Societally benign partners would receive preferential treatment. Grassroots also indicated that salvation of the focal sector would necessitate a more integrated management of the whole chain.

4.7.5 Changes of environmental management structure

The formal structure of Grassroots and the Local platform have not changed in 2001. The General board of the Local platform includes three new members. The Executive board has not changed.

Information exchange within Grassroots is still confined to the local level, involving local units in the focal region. There is no structural feedback to other levels and no storage of salient information in data banks.

4.7.6 Overview of stakeholder changes

The following table highlights the most significant changes of stakeholder influences.

Table 4.12: Overview of Local platform's stakeholder changes

Stakeholder	*Role*	*Importance*
Local governmental bodies	• Officials at all levels presently consider the Local platform	
Local trade association	• Has activated the local environmental association • Considers the inclusion of members outside the focal sector	
Local environmental association	• Actively seeks new socio-economic initiatives • Has broadened its geographical scope	
Local Restructuring committee	• Is responsible for structural socio-economic adjustments in the focal region	Very important
Local Restructuring pilot project	• The Local platform learns from its experiences	Quite important

4.8 Summary of case contexts

The antecedents, new events, and (modifications of) the environmental management structures of the different cases can be summarized as follows.

In 1999, Greenheart is a century-old multinational company that is controlled by a family. Inspired by the personal conviction of its CEO, environmental sustainability has become a corporate core value. Greenheart has progressively reduced its direct environmental impact. It has taken several technical, mainly internal measures, which aim at increasing its eco-efficiency. Environmental objectives are initiated at the corporate level and are implemented by the different subsidiaries. Technical support is

given by the corporate technical staff, while the corporate environmental coordinator fulfils a liaison role.

In 2001, Greenheart has been taken over. The new owner does not share the existing sustainability drive, though the environmental mission has not yet changed. Many new organizational and technical measures, aiming at important changes, are under consideration. The representation of the environment has lost significance in the corporate decision-making structure. The corporate support staff has slimmed down.

In 1999, Expander is a publicly owned company with a long experience in its main sector. It has a regionally dominant market position. Its main environmental concern is to respect an agreement with national government on the reduction of particular emissions and the increase of sustainable production in the company's overall portfolio. Expander has taken emission-reducing measures elsewhere in the product chain. The increase of its sustainable production capacity has encountered technical and regulatory problems, especially the obtention of exploitation permits. Expander's environmental activities are bundled in a business unit, in which its manager fulfils a pivotal role.

In 2001, Expander has merged with another large company. The post-merger organization, Expander Plus, has a nationally dominant market position. The environmental agreement with national government has expired and has been replaced by a market-oriented system. The new environmental objective is the realization of profitable business with sustainable products. Expander Plus' sustainable production capacity has increased significantly, especially because of the use of another production type.

In 2000, Marketeer has been a publicly owned supplier of environmental services for three decades. The company has a regionally dominant market position, and wants to become a major international supplier of environmental services. Marketeer also wants to reduce its emission levels. The company has taken capital-intensive technical measures to control its production process, but has not fully succeeded in respecting its permit norms. Environmental objectives are established at the corporate level and are implemented by the divisions. The corporate environmental coordinator has a liaison function.

In 2001, Marketeer has sharply grown through acquisitions. The company has adjusted its environmental policy to ensure regulatory compliance. Though Marketeer has taken new technical measures and steps to increasingly involve its employees, it still does not fully comply with regulatory requirements. A major change of the organizational structure has led to a more important role of the division (which is the new focal unit) and a more extensive communication structure.

In 2000, Negotiator is a century-old, privately owned company with multiple product lines. The focal division has a leading position on its global markets. Negotiator's environmental mission consists of leadership in eco-efficiency and green market positioning. The division has an extensive action program that has involved many technical measures, including eco-design. Consequently, the division's environmental impact has been reduced dramatically. Environmental decisions are taken in a steering group, in which different functional areas, business units, and the environmental coordinator are represented. Implementation takes place at the business unit level.

In 2001, no important changes have occurred. The environmental action plan presently fulfils a more important role. Environmental performance is increasingly quantified. The remuneration of top management is presently (slightly) related to the realized environmental performance.

In 2000, Cleanhouse has been operating for many decades in its market, in which it has a regionally dominant position. The company's environmental aims are the compliance with environmental regulation, the systematic organization of its environmental practices, and the continuous improvement of its environmental performance. Cleanhouse has taken a several technical measures to comply with regulation and to reduce its environmental impact. The company has also introduced a new environmental organization, which is based on its successful quality control system. Strategic decisions are, de facto, taken by the quality, labour conditions, and environment council, which involves decision-makers from all directorates. Environmental decisions are implemented at the departmental level.

In 2002, no major changes have taken place. The company seeks to meet its regulatory requirements in a more flexible way. The environmental management structure has been fine-tuned.

In 2000, Grassroots is a privately owned organization with over a century of experience in its sector. Concern for the environment is part of the company's engagement in societal activities. As such, a local unit of Grassroots participates in a Local platform, which aims at regional socio-economic development within a restrictive environmental frame. The Platform was created a year ago in order to maintain the livability of a region that was severely struck by an economic crisis. The Local platform is still in a pioneering stage. It has not yet produced concrete results, though many new ideas on regional development have been generated. The Platform consists of public and private parties, which collectively make strategic decisions. These are implemented by the Platform's manager and a small support staff.

In 2001, the Local platform has become embedded in a regulatory structure that pertains to regional development. The Platform presently spends most of its efforts on the realization of concrete projects, including pilot projects.

This chapter has extensively described the contexts within which the focal organizations operated at different points in time. I have indicated the events that shaped the environmental activities of the organizations prior to and during the first assessment, as well as during the time that elapsed between the two assessments. I have also described the structure(s) that existed during the two assessments in order to deal with relevant environmental issues. To complete the picture, I have provided overviews of internal and external stakeholders that were perceived as important during the two assessments. The descriptions of this chapter serve as contextual inputs for the next chapter, which will extensively analyse the influence of different stakeholders and the occurrence of organizational learning at two points in time. Afterwards, I will test the hypotheses for the individual cases. Finally, I will test on a cross-case basis.

5 Empirical results and analysis

Chapter 4 provided the contexts within which processes of stakeholder influence and organizational learning took place in the focal organizations. I described environmentally relevant antecedents and the environmental management structure of each case. I observed the situations at two points in time to assess longitudinal developments. This background information, summarized in the final section, is important in order to understand how the processes of influence and learning were embedded. The previous chapter also provided overviews of environmental stakeholder sets during the two assessments.

The present chapter elaborates these overviews. I discuss the influence of internal and external stakeholders on the environmental management practices of the focal organizations. I use the same structure to report the different stakeholder influences. This structure includes the stakeholder's objective(s), the stakeholder's source(s) of influence, and the organizational response to the influence(s). Afterwards, I describe the nature and extent of organizational learning related to environmental issues. I use the same structure to report the learning processes of the different cases. This structure includes the objective(s) of organizational learning, the realization of the learning objective(s), and the different stages of the learning process (the acquisition, sharing, and retention of knowledge). Processes of influence and learning are reported for two assessment periods. After an extensive analysis of the situations that prevailed during the first rounds of interviews, the changes that occurred between the two assessments are indicated. The structures I use to report processes of influence and learning during the second assessments are similar to those of the first observation periods. The structures are different in the sense that I only report the changes that differentiate the two assessments. The cases are discussed in a chronological order, as I did in chapter 4.

Next, I confront the empirical results with the three hypotheses that were developed in chapter 2. I discuss the results from individual cases for each hypothesis. I analyse the different elements that make up a hypothesis (for example, for the first hypothesis I analyse the realization of learning, the compatibility or unavoidability of stakeholder demands, etc.) and make inferences on the status of a hypothesis for the case in question. Finally, I make a cross-case analysis. I aggregate and compare the results from the different cases, and make inferences about the status of the hypotheses.

5.1   Results from the Greenheart case

5.1.1   Stakeholder influence

Greenheart's *corporate environmental coordinator* has fulfilled a major role in coordinating company-wide environmental actions since he acquired his present function, some 3 years ago. He conveys information from subsidiaries to the corporate environmental policy group. The latter advises the corporate Management Team (MT). The environmental coordinator ("actually I am a bridgehead") also attunes with general managers and environmental coordinators, how to implement the corporate environmental policy at their respective subsidiaries. Furthermore, he maintains occasional informative contacts with the technical staff and has regular consultations with the Chief Executive Officer (CEO) on environmental actions to be taken. The environmental coordinator is also present at annual strategic forums, during which corporate and subsidiary representatives from different functional areas gather.

Among the environmental coordinator's external contacts is a brainstorm group on corporate sustainability that is coordinated by national government. An open dialogue is held with environmental pressure groups. And there are contacts with technical universities on environmentally friendly technologies. The corporate environmental coordinator also has regular meetings with 3-4 external advisers and he gives outside lectures.

Furthermore, he communicates new (technical) information among different subsidiaries. A subsidiary environmental coordinator notes: "[The corporate environmental coordinator] can learn from our experiences, and forward [them] to other production units. Alternatively, through my contacts with him, I can pick up signals of what is going on elsewhere in the world, and use them here at [my] production unit."

The environmental coordinator's internal and external contacts tend to be stable. Over the last few years, there have been no major changes in the existing relations. No important new contacts have been established.

Greenheart's *CEO* is perceived by the corporate environmental coordinator as a very important stakeholder. He fulfils two roles. First, "As value-keeper, I am in charge of guarding and stimulating environmental values within the company." His personal conviction of the necessity to stop environmental degradation is a major driving force and leads to high expectations of the environmental coordinator: "I gave [the corporate environmental coordinator] a hard time at many occasions, because I believe I am very demanding concerning [environment]."

Second, as CEO he is the highest corporate decision maker. He chairs the Management Team (MT), which crafts the business and environmental strategies of all subsidiaries. During MT meetings, he presents environmental initiatives to other MT members. The CEO does not hesitate to use his formal power to put the environmental agenda forward: "Fortunately, I am the [CEO], which gives me a certain influence. If I had been any of the other colleagues, it would have been much more difficult."

The CEO also argues that environmental and financial objectives are compatible: "Of all environmental investments, some have an above-average return, while others have a mediocre or poor return. But on average, there is a very acceptable return. Especially if the soft part, the added value to our image, is considered." The economic pay-off of environmental investments is also a recurrent theme in the company's annual financial report.

The *subsidiary environmental coordinator* of Greenheart's largest subsidiary is characterized by the corporate coordinator as a quite important actor, because "These [operational people] are employees who enable me to realize the physical implementation. On an individual basis, it cannot be carried through." The subsidiary coordinator is responsible for the operationalization of the corporate strategy at the shop floor level, for which the commitment of the operational staff is indispensable: "If I do not have the commitment of the other 500 people over here, I cannot realize those plans."

Commitment is, however, compromised because of different objectives, involving competitive time claims. The subsidiary environmental coordinator sighs: "The main purpose of almost anyone in the production organization is to produce. When we come with our environmental activities, a choice has to be made: Do I let someone [make our products] (…) or save water? The choice, then, is made quickly: let the person make [a high volume of our products]." He concludes: "We see some struggle, some conflict of interest between [the holding] and [the subsidiary]." The problem of competitive time claims is also recognized by the CEO and the corporate environmental coordinator. The subsidiary coordinator also notes that that blue-collar personnel ("who just come for the money") and white-collar employees embrace environmental values differentially: "It was very striking to see a split between people from offices and those from production units as to how to deal with certain plans. Such very different perceptions." A field visit confirms this impression.

When there is time for environmental problems, the subsidiary environmental coordinator assigns tasks to individuals and coordinates an environmental working group. This group is in charge of finding technical solutions. The coordinator also has to make sure that his subsidiary respects the prevailing environmental permit.

Furthermore, the coordinator exchanges information with the corporate coordinator, both bottom-up and top-down.

The *corporate technical staff* is quite important to the corporate environmental coordinator, because it provides technical standards and innovations. The technical staff also plays a role in more eco-efficient materials procurement, investment decisions, and setting-up an interactive environmental data base. According to a technical staff member, there is no trade-off between financial and environmental objectives: "A good approach towards environment is really a win-win situation. What is regarded as a cost factor often pays off very well."

National government is perceived as very important. A governmental representative coordinates a project on the application of the sustainability concept at the company level with three business organizations (including Greenheart) in divergent sectors. Greenheart's corporate environmental coordinator highly appreciates this "very good dialogue," because "They are in the position to constantly lobby, within other governmental departments and internationally, as to what are or may be the possible developments in the area of sustainability. It concerns then the development of insights from which our own ideas can be distilled, our own strategy can be adjusted. From that perspective, it is often very meaningful." The governmental representative confirms that it is "an open brainstorm session," a long-term, exploratory project in which "classical contradictions between government and companies do not exist at all."

The corporate coordinator regards *environmental pressure groups* as slightly important. They are considered because of their capacity to harm the company's environmental image. "Environmental pressure groups, to put it bluntly, can make or break us." An open communication is maintained with these groups. An environmental representative views the company indeed as very proactive. "For years, [Greenheart] has been an absolute leader in the field of environmental conditions." The corporate coordinator views the attitude of the environmental movement as more cooperative than in the past, though still reactive and lacking inspiring ideas.

The corporate environmental coordinator perceives *transport companies* as slightly important. He has no direct relationship with them, because all contacts that relate to the distribution of Greenheart's products pass through the marketing department. Transport has an important environmental impact. Clean transport can entail important environmental gains, which may also lead to cost savings. The carrier is thus in the position to operationalize the company's policy externally. The

Figure 5.1: Stakeholder relations of Greenheart
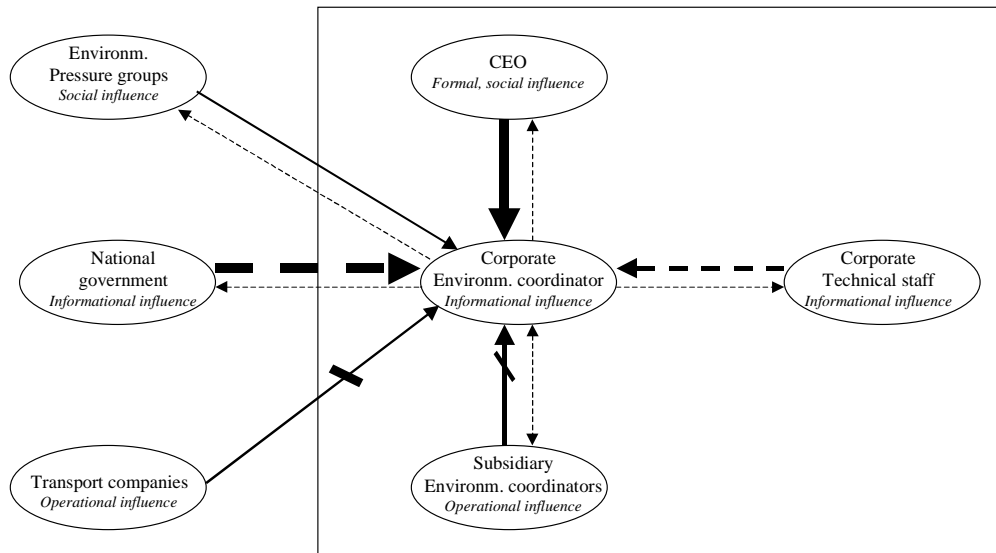
environmental coordinator recognizes, however, that Greenheart does not have much control of the distribution of its products. A representative of the carrier admits that environment is not an issue when distributing goods. The carrier does not necessarily use clean trucks. Delivery schedules are determined by customer demands (timely deliveries may entail partial truck loads). The relationship with Greenheart is viewed as a purely economic one, in which environmental aspects are largely disregarded.

To summarize, Greenheart's corporate environmental coordinator is a central information agent, who maintains stable contacts with a considerable number of internal and external parties. He spreads and coordinates strategic environmental information throughout the organization. Greenheart's CEO combines a strong internal drive and a large formal power to realize the company's sustainability mission. The subsidiary environmental coordinator of Greenheart fulfils the role of communicator and coordinator of operational environmental activities, though he is confronted with a lack of commitment from operators due to conflicting interests and priorities. Greenheart's corporate technical staff reduces the company's environmental load by means of more eco-efficient procurement and investment, and by creating and distributing environmentally benign solutions to practical problems. National government plays a key role in elaborating the company's explorative interpretation of industrial sustainability. The environmental movement's role is

modest and consists of making sure that the company avoids mistakes which would have an adverse impact on its highly proactive public image. Transport companies have a small, operational influence on the company. They do not use their ability to improve Greenheart's external performance.

Figure 5.1 provides a graphical overview of the major internal stakeholders (inside the rectangle) and external actors. Dashed lines represent information flows, while solid lines indicate other relational ties. The thickness of the lines is proportional to the importance of the different stakeholders, such as perceived by the corporate environmental coordinator. Lines with a backslash represent a conflict of interests; the thicker the backslash, the more incompatible the objectives. The eclectic typology from the literature review is used to characterize the influences of the different actors.

5.1.2 Organizational learning

Greenheart's major environmental challenge is the achievement of sustainable business operations. The organization does not yet well understand, how to shift from eco-efficient activities to industrial sustainability. The corporate environmental coordinator spends much time to get conceptual clarity. He acquires important conceptual knowledge from national government. The purpose of his contacts with government is to relate the governmental notion of ecological key stocks (energy, biodiversity, and space) to Greenheart's own yardstick, the environmental barometer. An annual report mentions that the contacts have broadened Greenheart's insights into the issue but have so far failed to lead to operational instruments. It should be noted that the interpretation of sustainability only seems to be of concern to the corporate environmental coordinator; other internal actors did not raise this issue. Nor does the environmental coordinator seem to share his interpretation problem with other organizational members.

It should also be reminded that only two corporate representatives are involved in environment on a full-time basis. This limits the corporate learning capacity.

At the operational level, new knowledge is acquired from different internal sources: the corporate environmental coordinator (acquiring knowledge from outside and elsewhere in the organization); the corporate technical staff (innovating and setting technical standards); environmental working groups (creating knowledge through occasional brainstorm sessions); and experience with total quality

management practices (by applying similar principles). Outside sources of new information include: universities (researching cleaner technology), professional journals (providing detailed technical knowledge), fairs (showing new technology), external consultants (bringing in external insights), and technical specialists at other business organizations (having knowledge of similar problems).

Sharing of new knowledge occurs through: training- including awareness creation- to personnel of subsidiaries; the exchange of technical information on identical but spatially dispersed machinery; the conveyance of local experiences to other settings; the use of a particular production unit as an environmental prototype for other subsidiaries; and an interactive, not yet fully operational computer data base, to which all subsidiaries will be connected. This data base and individual memories are the main repositories to store new information.

Greenheart has taken a lot of internal measures to reduce its environmental impact, including technical efficiency measures and organizational awareness creation projects. In conjunction with external compensation measures, they have led to a considerable reduction of Greenheart's environmental impact. Between 1992 and 1999, the environmental distance to target dropped from 25 to 12 (with 0 being the ultimate target). This important improvement suggests the presence of a high learning capacity. Yet, learning at the operational level seems to take place at a fairly low velocity, given competing demands for resources (time has to be traded off between production objectives and environmental aims). The environmental working groups, for example, are only at the point of becoming operational, due to a lack of time. At the subsidiary level, no persons are involved in environment on a full-time basis. Due to the lack of human resources, few new projects are undertaken, so new operational insights seem to be obtained at a piecemeal rate.

In sum, Greenheart's learning capacity is fairly high. Organizational learning takes place at different levels. At the corporate level, Greenheart explores the conceptualization of industrial sustainability (though this information does not seem to be widely shared and stored). At the operational level, detailed new, exploitative knowledge, which originates from a host of internal and external sources, is acquired, shared, and retained. However, in both cases, but especially at the operational level, time limitations seriously hamper the obtention of new insights.

5.1.3   Changes of stakeholder influence

During the two years that have lapsed between the two observation rounds, the following changes of stakeholder influences have occurred. A *new corporate*

environmental coordinator was appointed early 2000. Since the time that Greenheart was taken over, he has been in charge of the environmental affairs of the integrated organization (in practice, though, his scope is mainly confined to Greenheart). The corporate coordinator's tasks are about the same as those of his predecessor, but he has quite a different vision of the job- which is related to the fact that he comes from a very different industry. The new environmental coordinator heavily focuses on technological innovation. Over the next 5-7 years, he wants to realize an important change of Greenheart's production process. A continuous, closed flow process- as is usual in the industry in which he was previously employed- should substitute the present batch-wise production. In the meantime, the environmental coordinator wants to continue refining the existing technology. The present environmental coordinator also wants to integrate backwards- to control the (environmental) performance of Greenheart's inputs. Besides, he wants to revise the current packing strategy (new packing should be biodegradable). Furthermore, the employee mentality towards sustainability should be improved and considered in conjunction with technology and organization.

The new corporate environmental coordinator strongly pushes the environmental agenda. Despite the lukewarm attitude of Greenheart's new owner, he does not want to give up the sustainability objective. The environmental coordinator also controls a considerable budget to realize environmental progress.

So the new corporate environmental coordinator is a driven person with a holistic view and a technical orientation. His background outside the focal industry has inspired him to suggest major changes of Greenheart's production process.

Environmental issues are not a high priority of Greenheart's *new CEO* (officially he is the President of the integrated organization, but de facto he acts as its CEO). The corporate environmental coordinator perceives the new CEO as a very important party. His exact position towards environmental issues will soon become clear, when the new mission will be officially stated. The main concern of the new CEO is the company's financial performance. The corporate environmental coordinator accommodates to this objective by presenting his ambitious production innovation plans as a way of improving the company's financial performance: "Defining sustainability as the creation of added value appeals most to [representatives of the new owner]; it cocks their ears and makes dollar signs appear in their eyes."

Whereas the former CEO was also the environmental value-keeper, the new CEO delegated this function to another MT member, who is clearly less influential. According to an informant, "[The new environmental value-keeper] is not the powerful advocate that [the former CEO] used to be." The new CEO, who holds the

shares of the company that bought Greenheart, has a very large decision making power, which he tends to wield autocratically.

So the new de facto CEO is a very influential and autocratic person. Unlike his predecessor, he is not (yet) a major driving force behind the organization's sustainability objective.

The importance of the *corporate technical staff* has diminished. This corporate body used to fulfil a quite important role in finding technical solutions for environmental problems. At present, it is only slightly important to the corporate environmental coordinator. The marginalized role of the corporate technical staff is related to the new owner's decision to reduce the importance of corporate bodies, in order to operate in a 'mean and lean' way.

So the corporate technical staff is presently regarded as less important.

A number of new parties have recently appeared on Greenheart's stakeholder landscape: two business platforms which reflect on corporate sustainability; a neighbouring supplier of an important input (with whom Greenheart may engage in a project of industrial ecology); a trade association (to reflect on sustainability in its industry); a local governmental body (to discuss the implementation of sustainability); and another local governmental body (to discuss items of the environmental Agenda 21). It is still too early, however, to assess the importance of these new parties.

The importance and roles of other major stakeholders (environmental coordinators of Greenheart's subsidiaries, national government, environmental pressure groups, and transport companies) have not changed.

To resume, the major changes of Greenheart's stakeholder influences are the arrival of a new corporate environmental coordinator (with a new vision of achieving sustainability), the coming of a new CEO (who does not actively pursue sustainability), and the decreased importance of the corporate technical staff.

5.1.4 Changes of organizational learning

Late in 2001, the objective of organizational learning is still the achievement of environmental sustainability- passing through the stage of eco-efficiency. It should be noted, though, that this sustainability objective may shortly be challenged by Greenheart's new owner.

Greenheart has acquired a number of new insights to improve its environmental performance. Steps on the road to sustainability include the radical reconsideration of its production process, the introduction of a formal environmental management system, the development of a sustainability management system (including novel managerial incentives), the closing of water loops, stock-taking of remaining improvement options, and the consideration of integral chain management.

New sources of acquiring information are Greenheart's present environmental coordinator (who suggests solutions to environmental problems that are applied in another industry, some of which are radically different from those encountered in Greenheart's industry) and several new discussion forums.

In Greenheart's largest production subsidiary, an environmental working group regularly convenes to share (new) solutions to environmental problems. At other subsidiaries, experiences are not (yet) shared on a regular basis. So information sharing remains a delicate point for Greenheart as a whole.

New modes of information storage are action plans and performance reports. All Greenheart subsidiaries make environmental action plans and report their environmental performance to the corporate environmental coordinator (who integrates the information).

Greenheart has thus continued to learn on issues that are related to environmental sustainability, both exploratively and exploitatively. There are important new sources from which information is acquired. Information sharing and retention are less well-developed functions.

5.2   Results from the Expander case

5.2.1   Stakeholder influence

The *manager of Expander Environment,* who has been at Expander for one-and-a-half years, is in charge of running his business unit. An annual environmental report describes the unit's task as follows: "To manage the development of [sustainable] products, to explore related markets, to manage large-scale projects (…) [and to] exploit [sustainable production] units, [whereby] the growth of [sustainable] production capacity is one of the most important areas, [and under the condition that such projects] are expected to become commercially and economically profitable

within a reasonable period of time." Expander bundled its overall environmental commitments into this fairly small business unit, which seems to function like a controlled, well-oiled machine. The business unit manager does not mention any of his subordinates as major stakeholders, because "We have so much influence on them. (…) There are well-functioning routines." He does not mention the corporate Management Team (MT) either. The latter gives the business unit manager full discretion to craft his own strategy, provided it is compatible with the corporate one.

All constituencies that the manager identified as important are external stakeholders. He maintains strategic contacts with a range of external parties, including local governmental bodies, associations of customers, environmental pressure groups, and real estate developers. The manager makes sure that the voice of these key stakeholders is heard and that possibilities to meet their claims are explored and met as much as possible. Unresolved issues may be submitted to independent parties for arbitrage. Ignoring stakeholder claims would seriously delay the execution of Expander's environmental projects. Several external stakeholders consider the manager to be a "good counterpart", "who is damn' well informed on what he talks about."

The aim of a local *environmental pressure group,* perceived by Expander Environment's manager as quite important, is to protect a unique nature reserve. The group has an extensive network of local contacts, which it uses to be informed at an early stage on plans which other parties might have. According to its manager, the pressure group is considered by others "because we made a name through successful legal actions." Expander Environment tries to maintain good contacts with the pressure group, by having extensive discussions prior to decision making, by supplying technical details, and by supporting the group financially. There is a mutual respect for one another. The pressure group is not per se against Expander's sustainable production, but considers that its production units negatively affect the aesthetic value of the nature reserve and the health of certain animals. It argues that the units should only be allowed in industrial zones. Expander Environment has recently focused more on this option. Furthermore, the environmental group would like Expander to take a more innovative stance towards local economic development and the role of local products. The environmentalists would like to have a round-table discussion with a range of actors, but have not yet taken the lead to do so.

A *political body of local government* is regarded as a very important stakeholder. As a major shareholder of Expander and as a member of its Board of directors, this body has a considerable formal power. Expander Environment's manager maintains good contacts with local politicians as a matter of routine. Expander's sustainable

products have become very prominent in the local community's environmental policy, which the political body wants to realize through its position as a shareholder of Expander. A year ago, local government and Expander Environment concluded a contract to realize a large sustainable production capacity, which would almost double Expander's cumulative capacity. Government agreed to facilitate the bureaucratic procedures to install the production units and to lift certain technical restrictions, but also decided that the units could only be placed in industrial zones. Local government also concluded a covenant with Expander Environment to promote other forms of sustainable production, in which both parties pay half of the costs to realize the envisaged measures.

An *official body of local government* is also viewed as a very important stakeholder. It prepares and implements the local government's environmental policy. Though other public bodies issue permits for the installation of sustainable production units, this governmental body sets the boundary conditions that Expander has to meet. In practice, this means that a green light is required from this body before permits can be issued to allow Expander to increase its production capacity. According to Expander Environment's manager, "There are very strict rules with which we have to comply." He continues: "Our policy is just to comply with these rules. We have to, otherwise we won't have that permit. But we do not try and go well beyond that. We do not consider this to be necessary." Expander Environment tries to maintain optimal relations, which is confirmed by a governmental representative. It provides technical and financial details to government, and thinks along on new possible locations of production.

Another *official body of local government* is quite important to Expander Environment's manager. It is Expander's largest shareholder. Local government uses the company to promote its environmental policy, which is in favour of this type of sustainable production. "Being a shareholder allows us to have relatively strong ties with the company. Whenever we have a project in the field of sustainable [production], we ask Expander about its interest." The governmental representative continues: "The core of our relationship with Expander Environment is that we try to execute a [local] policy. They can be an instrument to it." At the same time, local government does not impose its policy: "Deliberation is on the basis of arguments, not on the basis of pressure." To Expander, profitability of projects is an important evaluation criterion. The company has more intensive policy contacts but less concrete projects with this local governmental body than with the previous one, even though the former is the largest shareholder. Expander enjoys some benefit from its

privileged relation with this governmental body when it is in need of local environmental permits.

The *environmental body of a local government,* perceived as slightly important, is a major party in a particular location of sustainable production. For one year, government and Expander have been involved in an innovative pilot project, the aim of which is to create a new form of sustainable production. The financial feasibility of the project is still uncertain. Governmental representatives fulfil a catalysing role. They use their relational networks to bring a number of private and public parties together in this pilot project. The representatives regard the relationship with Expander as excellent.

An *association of customers* favours the interests of customers by providing information on quality and prices of products. The association is perceived as very important. It is one of the societal groups that are represented in one of Expander's advice councils. This council provides advice to Expander's MT on proposals which are related to a particular target group of the sectoral agreement. The council wants to make sure that Expander neither unnecessarily raises its tariffs nor benefits financially from these activities by both collecting levies on its products and by selling sustainable products at relatively high prices.

Expander takes this advisory council very seriously, because it wants to avoid negative publicity. Expander informs the council at an early stage, always sends a high delegation to council meetings, and meets the demands which the council formulates. The company also introduced an Ombudsman to deal with customers' complaints. The only point of non-compliance is the lack of transparency. Because of new governmental regulation (aiming at more competition), Expander is very reluctant to give the council detailed information which might leak to competitors.

A *real-estate developer,* considered to be a slightly important constituency, is specialized in the development of one form of sustainable production. The company played a central role in a major project by connecting different parties, including suppliers, customers, government, and financiers. Expander Environment also did a pilot project with this company and plans for another, larger project. However, Expander does not seem to consider large-scale application of this type of sustainable production.

The real-estate developer and Expander are learning together to better exploit this product type, because much more technical knowledge needs to be developed. Besides, this type of sustainable production is not widespread, which renders its cost

price per unit too high to compete with conventional counterparts. The relationship between the two companies is good.

To recap, Expander Environment's manager has considerable formal power. He spans strategic contacts with the outside world and is dedicated to the implementation of Expander's environmental objectives. The voice of a local environmental pressure group is seriously heard because of its capacity to legally thwart the installation of sustainable production units. A political body of local government is very important to Expander, because its environmental policy helps Expander to realize a substantial increase of its sustainable production capacity. An official body of local government is very important because of its influence on the process of issuing permits to construct sustainable production units. Another official body of local government exerts a moderate pressure as a shareholder to have Expander implement its sustainable production policy. An environmental body of local government is of some importance in the operationalization of Expander Environment's sustainable production objectives. An association of customers is a very important stakeholder, whose demands are mostly met because of possible economic repercussions. The modest influence of a real-estate developer stems from the experimentation with a particular kind of sustainable production.

Figure 5.2: Stakeholder relations of Expander
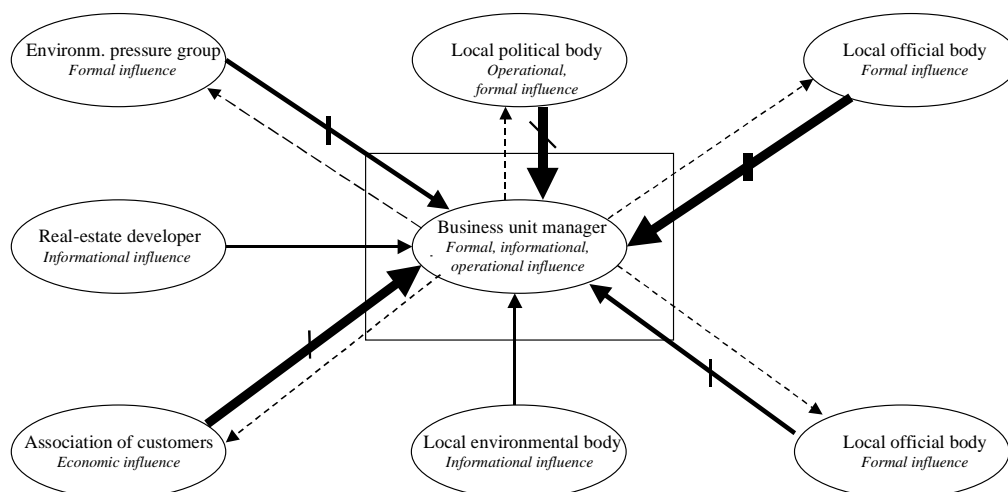
Figure 5.2 provides an overview of Expander Environment's most important stakeholder relations.

5.2.2   Organizational learning

Expander's main environmental challenge is to meet the commitments which flow from sectoral agreements with national government. There are deadlines for respecting maximum levels of particular emissions and for the relative share of sustainable production in Expander's overall production.

The overall amount of emission reduction is likely to be realized in the year 2000 as agreed. Different environmental measures, mostly taken elsewhere in the product chain, represent the lion's share of this achievement. These sources of emission reduction seem to be technically well understood and institutionally accepted. So Expander apparently has both the technical know-how to realize emission reductions through these sources and the social skills to make other links in the product chain accept the proposed measures.

In 1999, Expander Environment is still far from realizing the agreed share of sustainable production. It is below the agreed target of 3% share of the overall production by 2000 and will have a long way to go before realizing the agreed tripling of this figure within the next two decades. A major cause is the lack of an extensive technical knowledge on sustainable production. In a public relations brochure, Expander recognizes its willingness to acquire much knowledge on these new forms of production. The company encounters technical problems with a particular type of sustainable production. Expander Environment realizes a pilot project in another area with a real-estate developer, the purpose of which is to develop new knowledge. With an environmental body of local government, Expander Environment is engaged in an experiment to acquire knowledge about an innovative form of production. So the company has insufficient know-how to deal with its sustainable production challenge, but is engaged in a series of projects to acquire new technical knowledge.

Administrative problems in the realization of one type of sustainable production are another major reason of Expander Environment's falling short of its targets for sustainable production capacity. In the past, it encountered important delays because the company had not exactly followed the prescribed bureaucratic procedures or because it met the resistance of environmental pressure groups. The company has learned from these experiences that relationships with its external stakeholders have to be good to achieve its own objectives. Expander Environment now engages in early discussions with external stakeholders and scrupulously complies with bureaucratic

procedures and legislation. It has also concluded a business contract with a local governmental body, which will almost double Expander's overall sustainable production capacity. Expander Environment has thus rapidly learned how to realize its own objectives by carefully considering external stakeholders.

From the available information, it is difficult to assess, to what extent knowledge is shared and stored within Expander. There is a corporate technology department, from which specific technical information can be obtained. Expander also has a company-wide intranet, on which information from internal and external sources is distributed.

In sum, Expander Environment's exploitative learning capacity is fairly high. The business unit has well learned how to manage its external stakeholder relations. It disposes of a considerable know-how of external sources of emission reductions and is engaged in a learning process about its own sustainable production sources.

5.2.3   Changes of stakeholder influence

In 2001, the (post-merger) *business unit* Expander Plus Environment appointed a *new manager,* who used to work elsewhere within Expander Plus. According to him, "Over the last two years, there has been a very dramatic change [of this function]." At present, the business unit manager fulfils a commercial mission. Whereas his predecessor tried to meet the stipulations (especially realizing prespecified quantities of sustainable products) of the sectoral agreement that expired in 2000, the new manager's ambition is to develop a profitable sustainable business. This has been the case since mid-2001, when fiscal incentives took over the role of the sectoral agreement and when the sustainable market was liberalized. In comparison with the situation during the first assessment, late in 1999, the present manager's task has also changed significantly because of the sharply increased company size since the merger. The company's local orientation has turned into a national focus.

Expander Plus Environment's manager maintains frequent contacts with a number of different internal parties to coordinate and optimize the procurement of inputs, production, and marketing of sustainable products. Different divisions perform these tasks, but the business unit decides on the allocation of means. The manager also maintains strategic contacts with a host of external constituencies, including customers, societal factions, national environmental groups, and national and supranational governmental bodies. He leaves operational issues to his subordinates.

So the activities of Expander Plus Environment's new manager have a strong market orientation, geared towards the development of commercially successful sustainable products.

Different *divisions* are very important to the manager of Expander Plus Environment. One division provides sustainable inputs. Another division is in charge of sustainable production, as well as marketing to particular customers. A third division sells sustainable products to particular customers. A fourth division sets up sustainable production and marketing facilities abroad. The manager of Expander Plus Environment coordinates the activities of the different divisions.

So the importance of the different divisions stems from their provision of the operational means to realize Expander Plus' sustainable products.

Market parties are of primary importance. According to the manager of Expander Plus Environment, "Ultimately, everythings depends on the market. When there is no demand or supply, everything stops." Suppliers provide sustainable inputs, while customers buy sustainable outputs. Expander Plus Environment concludes commercial contracts with its suppliers. The company tries to attract customers by creating the image of a reliable provider of sustainable products.

Market parties are thus crucial, because they are the key to the fulfilment of Expander Plus' new mission.

A related stakeholder is *society* at large, which represents the social context within which Expander Plus Environment operates. The business unit manager: "Society is very important, because our business stands or falls with whatever society thinks. (…) One has to make sure to be well [perceived]. One should not be [in the news] through scandals. We, [Expander Plus], have chosen to be conservative about [these sustainable products]. A bit quiet, not too exaggerated. Say the middle of the road. A reliable profile. To make sure that it all functions, is reliable, and is not too expensive. (…) In society, one starts seeing the image of Expander Plus as not the most progressive supplier but one that realizes what it promises."

So the necessity of a solid public image that supports Expander Plus' marketing efforts explains the high importance of society.

Like society, *national environmental pressure groups* are very important because of their impact on the corporate image. Through regular, open discussions, Expander Plus Environment's manager tries to maintain good relations with national environmental groups. The business unit manager: "When we do things that the environmental movement really does not approve, things just stop. (…) We listen

attentively to those people, find out what bothers them, and consider this as well as possible. We also explain our position to those people. (…) During such discussions, we also create a mutual understanding."

Through regular interactions with the highly important national environmental pressure groups, Expander Plus attempts to build a favourable public image.

National and supranational governments are very important, because they set the regulatory frame within which Expander Plus Environment operates. An example of national regulation is the new fiscal regime, which aims at promoting Expander Plus' sustainable products. Supranational government becomes increasingly important, because it issues most new regulation in this field. Whenever confronted with new regulatory initiatives, Expander Plus conveys its view to the relevant governmental body. The company has a permanent lobbyist at the national level and considers to have one at the supranational level.

So the high importance of national and supranational governments is related to their regulatory framing, which Expander Plus tries to influence.

Shareholders continue to be regarded as quite important because of their formal say. Yet, they have faded into the background, because the company's actions are primarily induced by market considerations. The numerous local public bodies that still hold Expander Plus' shares want to make sure that the company has a favourable public image. Besides, they are interested in receiving substantial dividends. The business unit manager has no contacts with shareholders, because these are maintained at the corporate level.

So shareholders are potentially powerful but passive stakeholders, which explains their intermediate importance.

The *Association of customers* used to be a very important party, that was a member of one of Expander's advice councils. At present, it plays a different role- which is basically the same as society at large: it affects Expander Plus' public image.

The Association of customers, formerly a crucial stakeholder, can now be regarded as quite important because of its impact on the corporate image.

All other previously important stakeholders (a local environmental pressure group, a political body of local government, several official bodies of local government, an environmental body of local government, and a real-estate developer)- most of whom were local parties- are no longer important, except to the extent that they are shareholders.

So Expander Plus' set of stakeholders has almost completely changed. A new business unit manager has made his appearance, who regards different divisions, market parties, society, national environmental pressure groups, national and supranational governments, shareholders, and the Association of customers as important constituencies. All other parties have faded into the background.

5.2.4   Changes of organizational learning

During the first assessment, in October 1999, Expander Plus' environmental objective was to meet its sustainability commitments through the framework of a sectoral agreement with national government. During the two years that lapsed between the two observation periods, the sectoral agreement was replaced by a system based on market incentives. Expander Plus' new objective is to obtain a leading position in particular sustainable product markets, which involves a quadrupling of its sustainable output in the coming years. The new objective is not completely different from the former. In both cases, the company needs to increase its production and sales of sustainable products considerably (both in absolute terms and as a percentage of the overall sales). But the new objective goes beyond the former: the degree of expansion is more important and the activities have to meet profitability standards.

In 2001, Expander Plus has more than doubled its sustainable sales. This has taken major efforts, both at the production side (which used to be a bottleneck) and at the marketing side (where new customers have been attracted through a solid corporate image). The company expects to realize a 50% increase in 2002. This extraordinary growth of both production and sales suggests the presence of a high learning capacity (even though it should be noted that the company rode on the waves of a strongly expanding market).

A major new source of information acquisition is the company with which Expander merged. In 1999, Expander had a considerable know-how of one particular sustainable product (both in technical and legal terms), but the company had no involvement in the sustainable product type that presently predominates. The merging partner's experience in this field- in conjunction with the partner's availability of this type of production capacity- has enabled this increase.

Expander was, and still seems to be, skilled at listening to its major external stakeholders. Its present set of stakeholders is very different from the former, so the company logically acquires information from these new sources (market parties, society, national environmental pressure groups, and (supra)national government).

On the basis of the available evidence, no statements can be made as to novel means of sharing and storing new knowledge.

In sum, Expander Plus' present objective of learning goes beyond the previous one. The business unit has learned more on the exploitation of relevant environmental issues. A major new source of information acquisition with respect to a new sustainable product type is the technical know-how of Expander's merger partner.

5.3   Results from the Marketeer case

5.3.1   Stakeholder influence

The job of Marketeer's *corporate environmental coordinator* is to align the environmental activities of the different divisions, so that the company's activities "take place with the greatest possible respect of… environment" (environmental policy statement), and to have emission levels that are well below the permit norms. The corporate coordinator also maintains contacts with external stakeholders that are relevant to the whole organization, such as neighbours.

As the divisions have a substantial autonomy, coordination is required. The corporate coordinator and all divisional coordinators convene monthly to discuss general policy issues, such as ISO certification. The corporate coordinator also centralizes divisional performance data, because the holding has an environmental auditing task. Though the corporate coordinator's primary task is company-wide coordination, several internal stakeholders deny such a relationship. A divisional coordinator states: "There is no formal relationship between the [divisional] environmental coordinator and the function which [the corporate environmental coordinator] has." A laboratory representative: "My relationship with [the corporate environmental coordinator] is exclusively to provide data on emissions." There is thus an absence of efficient, company-wide coordination and a lack of intensive interactions between actors from different departments.

Marketeer's *Chief Executive Officer (CEO)* is very important, because he has an important say in determining the company's commercial policy (i.e., how the company exploits environment as a market). He also crafts and imposes the company-wide environmental policy and standards. Besides, the CEO has to approve large (environment-related) investments. The CEO clarifies why the corporate policy goes

beyond legislative requirements: "To us, it is very important to compete without accidents or incidents in a very sensitive industry and to maintain our image of [being] reliable and innovative."

Divisional environmental coordinators are perceived by the corporate coordinator as very important, because they have to maintain the environmental performance of their respective divisions. They are the first ones to be informed about environmental incidents, they have to react to them, and decide which of the vast amount of data they transmit to the corporate coordinator. A divisional coordinator confirms that his role is to provide input (information) for the environmental management system, to coordinate divisional environmental activities, and to make sure that compulsory tasks (such as reporting to governmental bodies) get done in time. He adds, however, that divisional coordinators only facilitate; line managers remain ultimately responsible.

The environmental task of Marketeer's *laboratory,* perceived by the coordinator as quite important, is to provide data on the composition of incoming inputs and the company's production-related emissions. Government prescribes analyses of certain substances occur on a continuous basis and others on a periodic basis. Deviations from the accepted permit norms are highlighted and transferred to the relevant environmental coordinators. In case of substantial problems, the latter contact laboratory representatives to trace the causes.

According to the corporate coordinator, *operating personnel* is quite important, because motivated people are indispensable. They solve ad-hoc problems and improve upon structural environmental problems. A workers' representative notes, however, that personnel's involvement in environmental issues is very limited: "To be honest, (…) the works council [which represents workers from all over the company] does very little with respect to (…) the development of the environmental policy." He continues: "[The man on the shop floor] relates his livelihood to the fact that those [installations are operational]. He thinks that (…) purification is a matter to be arranged by legislation, not by himself."

According to the CEO, *customers* are "most important, because they make us live." Customers buy Marketeer's environmental services. The prevailing prices range very considerably; they are contingent on the type of service demanded. Marketeer's prices tend to be higher than those of competitors. The company is preferred by customers who are ready to pay a premium in order to be sure that the service offered is of a decent quality and in conformity with environmental regulation (thus avoiding

scandals that would negatively affect the customers' public image). A long-standing customer notes that Marketeer has a good name, that he has always been well served, and that his trust has never been betrayed by the company. When customers present ideas, these are readily considered.

Marketeer carefully fosters its image of a reliable provider of several environmental services. Colourful leaflets and an elaborate, well-designed website actively support its marketing efforts. They recurrently convey the message of a responsible and reliable company that offers full-fledged solutions for different environmental problems. Marketeer also tries to increase customer dependence on its services, by taking over more and more of the customers' (industrial) environmental activities.

Two *official bodies of local government* are viewed by the corporate coordinator as very important. According to the corporate coordinator, "If we don't have a good relation with [these governmental bodies], we won't get a permit, in which case we have to close down." The official bodies of local government issue permits, control whether they are complied with, and maintain in case of non-compliance. Government also provides advice on environmental management systems. Marketeer's permit specifies all obligations in detail. In case of non-compliance, the official governmental bodies impose Marketeer the duty to investigate and to take corrective action. One body explains that it also provides regular advice to Marketeer and makes joint visits with the company to foreign, proactive providers of environmental services in order to generate new ideas.

Marketeer tries to maintain a good relationship with these governmental bodies. A representative of one body complains, however, about the company's culture: "[Marketeer] is very much outward-oriented, towards the market (…) Worldwide, it has a good reputation. (…) This does not mean that one does not have to look inwards. I find it a pity that they deal in a rather rough way with the (…) installations. To me, those very costly, very advanced installations would have a higher standing." She concludes: "There has to be a complete change of mentality." Her colleague argues that Marketeer's internal communication structure should be clearly improved. He also finds the company too closed: "Their responses to my questions are confined to a bare minimum, hoping that this will suffice." In other words, the company tries to cover up cases of non-compliance with regulation.

Marketeer's *neighbours* are perceived by the corporate coordinator as slightly important. They are organized as a sounding board group, which includes not only citizens and the adjacent municipality but also industrial neighbours. A citizen decided to join the sounding board because of a crisis that was due to dangerous

emissions by Marketeer, about a decade ago. Neighbours want to live in a clean and safe environment, free of stench and calamities. There are two-monthly meetings, in which incidents are reported and preventive measures are announced.

After the emissions crisis, Marketeer made huge investments to reduce the toxicity of certain emissions. The neighbours are satisfied with the results. A sounding board representative is, however, negative about the company's communication policy: "They are very much inclined to keep silent [about incidents]." She argues that the company "[is] still not honest and open", and that little has changed since the sounding board group was created, some 5 years ago.

A *political body of local government* is perceived by the CEO as very important, because it is Marketeer's sole shareholder. A local politician chairs Marketeer's Board of directors, and thus has a substantial formal say on the company's policy. Local government takes, however, a passive stance in the Board. It merely reacts to initiatives that originate from the company's corporate Management Team (MT). Historically, the interest of the local body was to secure particular environmental services within its territory. This is no longer the case, and the political body considers to (partially) divest itself of its shares. The company is eager to go to the stock market, and seems to push local government to go along.

In sum, the role of Marketeer's corporate environmental coordinator is to coordinate internally and to communicate with corporate external stakeholders. Several internal actors deny, however, the existence of (efficient) coordination. Marketeer's CEO fulfils a very important role because of his active involvement in the corporate commercial policy. He also crafts, approves, and tries to impose a corporate, beyond-compliance environmental policy. The very important environmental coordinators of Marketeer's different divisions collect, filter, and transmit environmental information. They also react to environmental incidents and support their divisions in complying with (external) requirements. Marketeer's laboratory is quite important, as it scrutizes the level of Marketeer's inputs and production-related emissions. Laboratory flags deviations, after which corrective actions follow. A wide cleavage exists between the quite high importance attributed to Marketeer's operating personnel, which is supposed to implement environmental decisions, and the personnel's low actual commitment with respect to environmental issues. Customers are very important to Marketeer, because they buy its environmental services. The company fosters and markets its image of a reliable and responsible supplier. Official bodies of local government are crucial stakeholders because of their legal power to affect Marketeer's operations. Though the company tries to maintain good relationships, the governmental body interviewed is very

Figure 5.3: Stakeholder relations of Marketeer
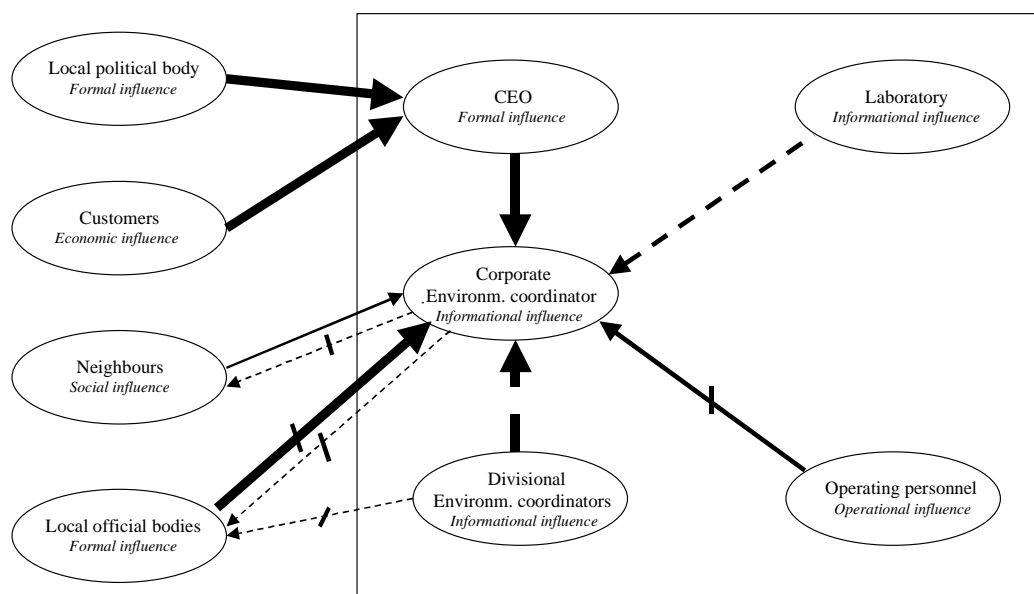
dissatisfied with Marketeer's environmental behaviour. Marketeer's neighbours are perceived as slightly important. The company made substantial (financial) efforts to satisfy them. Corporate communication is as limited as possible, in the hope that the societal watchdog won't wake up. The high importance of a political body of local government stems from its shareholdership. This body does not actively exert its formal authority, and envisages to surrender its shares.

Figure 5.3 represents Marketeer's major stakeholders relations.

5.3.2 Organizational learning

The environment is important to Marketeer in two respects. The environment is in the first place a market on which its services are sold. All of Marketeer's incomes accrue from the marketing of environmental products. Secondly, the environment is a set of boundary conditions, which Marketeer has to meet to keep its permit and to respect the corporate environmental policy. The permit functions de facto as a licence to operate.

Marketeer has been successful in the exploitation of environment as a market. It is one of the largest Dutch providers of certain environmental services. In 1999, the company saw its overall sales grow by 20 %. Several external stakeholders recognize

the company's strong customer orientation and its good commercial reputation. New commercial ideas are, for example, acquired through interaction with customers.

The company has not been successful in coping with environment as a boundary condition. Governmental representatives loudly complain about Marketeer's lack of compliance, its half-hearted communication (as an attempt to cover up environmental failures), and the failure to adopt best practices to solve its environmental problems. Because of its non-compliance with regulation, the company was prosecuted on a number of occasions in 1999. The lack of openness is also mentioned by a member of the local sounding board.

Local government regularly provides environmental solutions to Marketeer's internal problems, but the company does not regard governmental suggestions as valuable. Most new ideas that Marketeer acquires on the control of internal processes are brought to bear by technical operators. However, these ideas are often isolated initiatives. A process technologist describes, for instance, (collective initiatives like) working groups as deathblows to organizations. There is an obvious lack of sharing new ideas with colleagues. Though the company has some institutionalized platforms to do so, these platforms mainly serve to exchange data (on emission levels and customer complaints), to report on the most pressing bottlenecks, and to discuss action points. New practices are rarely discussed. This effect is enhanced by the trend to autonomize the different divisions (also with respect to information transfer), which hampers the exchange of information. No explicit mention is made of information storage procedures. Periodic reports are probably archived, while personal memories are likely to represent the major source of knowledge retention.

So Marketeer has a high learning capacity with respect to the exploitation of environmental markets. The company's exploitative learning capacity to control internal processes is low because of its inability to efficiently acquire and share new knowledge.

5.3.3 Changes of stakeholder influence

Late in 2001, Marketeer's very recently appointed *divisional environmental coordinator* is the new central actor, because the environmental centre of gravity has shifted to a considerable extent from the corporate to the divisional level. The divisional coordinator is in charge of implementing the new corporate compliance policy at the divisional level. In practice, this implies solving high-priority bottlenecks

and making sure to get no more charges for non-compliance with regulation. On top of this, the division- on the initiative of its environmental coordinator- has formulated longer-term objectives, such as the integration of the annual environmental reports of individual subsidiaries.

The divisional environmental coordinator has frequent contacts with the new corporate environmental coordinator on environmental outlines. She also has regular bilateral- shortly complemented by multilateral- contacts with subsidiary environmental coordinators to assess, stimulate, and control the extent to which compliance occurs and progress is made. The divisional environmental coordinator also has external contacts- for example with local governmental bodies- to the extent that they concern divisional issues.

So the divisional environmental coordinator fulfils a central role in the implementation of the company's compliance policy. She maintains external contacts and disseminates information internally, both vertically and horizontally.

Marketeer's *CEO* is perceived by the divisional environmental coordinator as a less important party than before, because he has taken more distance from issues which concern environmental regulation. He still has the ultimate responsibility for them, but the corporate MT has delegated environment to the newly appointed corporate environmental coordinator; Marketeer's high growth probably takes most of the CEO's attention.

So Marketeer's CEO is still a quite important party, but he has focused more on exploring environmental market opportunities than on meeting the company's environmental boundary conditions.

The important redefinition of the function of *corporate environmental coordinator* aims at devoting more attention to environment at the corporate level. This very important function has replaced the job of the former corporate environmental coordinator, whose task was mainly to coordinate between the corporate and divisional organizational levels. The new corporate environmental coordinator- who used to be the CEO of a company that Marketeer has taken over- crafts the corporate environmental strategy, a role which he has taken over from the MT. The corporate environmental coordinator has frequent contacts with divisional environmental coordinators, who are in charge of implementing the corporate policy. The holding also audits the environmental performance of divisions. Furthermore, the present corporate coordinator has external contacts which touch upon corporate environmental issues.

The much more prominent role of the corporate environmental coordinator thus reflects the increased weight that the holding attributes to complying with environmental regulation.

Subsidiary environmental coordinators have taken over the role of the former divisional environmental coordinators. The subsidiary coordinators are regarded as very important, because they implement the corporate and divisional policies at the level of individual subsidiaries, where Marketeer's environmental load is mainly situated. They coordinate and discuss subsidiary-specific environmental bottlenecks and progress, both with colleagues of their respective subsidiaries and with the divisional environmental coordinator. The subsidiary environmental coordinators also have operational contacts with local governmental bodies.

So the high importance of subsidiary environmental coordinators stems from their implementation of the corporate and divisonal environmental policies.

The activities of Marketeer's *laboratory* are still the same. But the present divisional environmental coordinator regards the laboratory as only slightly important. She argues that it is merely a service that happens to be done in-house but that could also have been outsourced.

So the laboratory's perceived importance has diminished.

Operating personnel is presently perceived as crucial, because its operational activities have direct environmental consequences. According to the divisional environmental coordinator, "They [operating personnel] are very much involved in environment. Through the compliance program, they know how important it is for [Marketeer]'s existence to comply with legislation and regulation. When they do not comply, our [production units] can be closed down. (…) Environment is cherished, abolutely. (…) There is a lot of discussion on [environment], also because we had a lot of charges due to non-compliance." Operating personnel follows (ISO) standardized procedures- both with respect to the functioning of installations and its own behaviour- in order to comply with permit requirements. The conformity of its behaviour is audited by personnel from other departments.

Operating personnel has thus evolved towards a higher perceived level of importance and involvement because of the far-reaching consequences of its activities.

Official bodies of local government are still crucial, because they issue and maintain Marketeer's environmental permit, including imposed suggestions to solve prevailing problems. After two environment-related national disasters, which were

completely unrelated to Marketeer, government has increased the pressure on companies to strictly comply with the prevailing regulation. At present, governmental bodies control even more frequently and strictly. This involved, for example, the closing down of a part of Marketeer's largest subsidiary during more than a week.

So the compliance pressure of local governmental bodies has increased.

A *political body of local government* is still Marketeer's sole shareholder. It is now perceived as less important, because this body no longer actively seeks to sell its shares.

So the local political body's more passive role accounts for the decrease of its perceived importance.

The importance of Marketeer's *customers* and *neighbours* has not changed.

In sum, Marketeer's map of stakeholder influences has dramatically changed. The new divisional environmental coordinator is the new central actor, who regards the new corporate environmental coordinator, subsidiary environmental coordinators, and operating personnel as very important. The perceived importance of the CEO, laboratory, and the local political body has diminished. The crucial local official bodies have increased their regulatory pressure.

5.3.4   Changes of organizational learning

Environment is still crucial to Marketeer in two respects. The company's revenues accrue from environmental products. Marketeer's exponential sales growth is a clear sign that the company is highly successful in this respect.

Environment is also a regulatory, increasingly restrictive framework within which Marketeer operates. The company has tightened its environmental policy and has launched a compliance program. Marketeer has obtained the important insight that it badly hurts itself by not effectively responding to the demands from regulatory bodies. This has led to a number of immediate measures, like the introduction of a new environmental management structure and the solution of over a hundred bottlenecks. Though the company does not yet live in complete harmony with its regulatory environment, it is clear that Marketeer has learned about complying with regulatory demands.

In the new environmental management structure, knowledge sharing has received much more attention. The divisional environmental coordinator has regular, in-depth contacts with both subsidiary environmental coordinators and the corporate environmental coordinator. Shortly, she will also organize multilateral meetings with subsidiary environmental coordinators in order to share experiences. Besides, the environmental performance of different departments is audited by other departments, which offers an opportunity for cross-fertilization: department members who audit may learn from experiences in other departments and use them for their own departments (on the basis of the evidence, it is not clear if this already occurs). There are also informative sessions to involve (operating) personnel. This offers a platform for employee commitment and the sharing of novel practices. Furthermore, subsidiary managers are regularly informed about the environmental performance of their respective subsidiaries.

In sum, Marketeer has continued to learn with respect to the exploitation of market opportunities. The organization has considerably enhanced its understanding of internal process control. One of Marketeer's major divisions has applied several novel ways of sharing new knowledge, which used to be a notorious weakness.

5.4   Results from the Negotiator case

5.4.1   Stakeholder influence

The *divisional environmental coordinator,* who has fulfilled his job for many years, is the interface between the outside world and the internal organization. He represents Negotiator's division in different external forums and communicates news from outside to the internal actors concerned. A major activity is his involvement as a chair of a supranational trade association, which orchestrates the environmental behaviour of the sector's main suppliers towards government. The coordinator also heads the divisional environmental staff group, and establishes informational links between different departments. Furthermore, he provides technical support to internal actors.

As an environmental expert in charge of external contacts and negotiations, the divisional coordinator is the most suitable person to propose environmental targets within steering groups. These targets have to be advocated convincingly: "When I communicate very well, they go along. When I communicate very poorly, they

quickly send me back home. I really consider it to be a sales story. When I want to achieve something, I have to sell [my proposal] very well. (…) Selling means here that I am capable of visualising or quantifying the advantages for [Negotiator]."

Major internal parties react positively to the divisional coordinator's environmental initiatives, though they simultaneously recognize that the different interests do not necessarily converge. A senior business unit manager: "I stress profits; environment is a boundary condition with which I have to live. (…) [The environmental coordinator] really stands for environment, which he radiates. He does it in a very pragmatic way. He understands that our organization cannot only take care of environment, that there should be a balance between profit and environmental awareness. Given [these constraints], he constantly pushes towards environment. I find this very good." A senior purchasing manager: "We work closely together. (…) My contacts with [the divisional coordinator] are not conflicting. (…) But I also invented a waiver [which authorizes the purchase of indispensable but banned substances]. I also have to make compromises with suppliers." A senior marketing manager: "I think that he [does] a very good job (…) [Customers] expect that a big division like ours (…) is really very good at [environment]."

The *Management Team (MT) of a major business unit* is perceived by the divisional coordinator as very important. An MT member recently joined the environmental steering group. As such, he co-decides on environmental targets. The senior manager's primary concern is the financial performance of his business unit; he regards environment as an unavoidable boundary condition. The manager endorses targets that have been agreed upon, and bears the responsibility of implementing them throughout his business unit (which includes numerous product developers). The business unit also hires services from the environmental staff group, which creates an economic dependence for the latter.

Getting agreement in the steering group is a delicate process, given the divergent interests of the different members. A steering group member: "A drawback that [the environmental coordinator] has is that the (…) [environmental] objectives (…) often conflict with current business objectives. (…) Within [the division], there is (…) a fight of compromises between costs, market requirements, and environmental requirements." It seems, though, that once targets have been agreed upon, they are implemented as such.

The *divisional purchasing department* is another very important internal actor. The department pursues three environment-related procurement objectives: to abstain from the procurement of legally banned substances; to obtain insights into (potentially) dangerous but authorized substances; and to realize ISO 14001 with

preferred suppliers. The most urgent objective is to buy no more banned substances. To realize this objective, all suppliers (worldwide 1,500) have been asked to provide technical evidence that they do not supply any banned substances and to sign an official no-banned-substances statement. This has been a huge job. The purchasing department is also a member of the divisional steering group, and thus co-decides on environmental targets.

Agreed targets are executed in plan-do-check-act working groups and do not encounter major resistance within the purchasing department. In exceptional cases, where there is no short-term alternative for banned substances, purchasing asks the steering group for a waiver.

The *divisional marketing department,* perceived by the divisional coordinator as quite important, is in charge of commercial planning and performance per geographical region (usually a continent). Marketing consults with the different business units, specifies product characteristics, issues recommended sales prices, and makes delivery schedules. Environmental product characteristics are important to the division when positioning its products in the market. A senior marketing manager: "When you have a good brand in our business, you can't be bad at [environment]." Products with an excellent environmental performance have been identified for every market segment as a way to promote sales and to build a green marketing image.

The marketing department investigates customers' attitudes towards green product characteristics. Press articles are observed, discussions with national resellers are organized, and customer panels are used in several countries. The senior marketing manager is also a member of the steering group, and thus co-decides on environmental targets.

Within the division, there seems to be broad support for green marketing. (Who would be opposed to an instrument which enhances sales?) The present environmental action plan speaks of a green marketing drive. There is, though, the boundary condition that green initiatives should in principle meet stringent financial requirements. This implies that green product characteristics may not lead to substantially higher cost prices, because in very competitive markets they can't be absorbed by significantly higher sales prices.

Customers are very important to Negotiator's division. The environmental coordinator: "To me, the customer is central. (…) We do everything for the customer." Some 25% of all customers are sensitive to environmental product characteristics. These features may, however, not lead to substantial sales price increases, because customers are not willing to absorb them (though it is not exactly known, what the maximum price increase can be). It should also be noted that

environment is never the only reason for customers to buy products. A product's primary utilitarian features are determinant in the purchasing decision; environmental considerations play only a supporting role.

In order to enhance its sales and to maintain a positive marketing image, Negotiator's focal division does its utmost to keep customers happy. The senior marketing manager: "Our target is always to try to be the best.(…) This is what the customer expects from a big brand." The division has products with an excellent environmental performance for every market segment. Apart from stressing technical performance, environment is sold as an emotion. Furthermore, the division tries to be perceived positively by other external actors (including government, environmental pressure groups, and associations of customers). It is believed that a positive perception improves Negotiator's marketing image.

The influence of the quite important *associations of customers* stems from the product tests which these organizations publish. In many countries, customers regard favourable outcomes of product tests as important. When environmental product characteristics are poor, the product cannot achieve the overall "best buy" status. This negatively affects overall sales.

The division responds to these tests by marketing products with a relatively favourable environmental performance. The division has virtually no direct contacts with associations of customers, because they prefer not to have contacts in order to remain independent. The division remains informed on the association's view of the company's products by reading the tests.

Environmental pressure groups are perceived as quite important, because they influence government and customers. This influence affects (stricter) governmental regulation and the marketing image of companies.

Despite the importance of environmental pressure groups, the company has no direct contacts with the environmental movement. The divisional environmental coordinator: "They have a very particular policy, which is to shout from a distance that something is wrong. When they are heard, government starts doing something. But once they stop shouting that something is wrong, nothing happens in society. So they have to remain on the side of the dissatisfied ones, as far as their way of operating is concerned." The coordinator observes in the media what environmental pressure groups want, and translates these indirect claims (such as the ban on certain substances) into internal requirements (such as modified product specifications).

Supranational government, perceived by the divisional coordinator as very important, aims at achieving its share of a global environmental agreement by means

of an active environmental policy. When implementing the policy, government first conducts a study to analyse the prevailing situation in the industry (and for which industry provides empirical data). Afterwards, government sets particular environmental targets. These tend to be well beyond industry's desired levels, because suppliers want to avoid substantial cost price increases. Government then consults with different stakeholders concerned (like non-governmental organizations), and starts a negotiation process with industry on the regulation needed to realize the envisaged targets. Government never addresses itself to individual companies, only to supranational trade associations. The first aim is to come to a voluntary agreement (which government calls a 'negotiated agreement'), because it saves time and resources. In case no agreement is possible with the major companies, supranational government initiates legislation. This is a lengthy and formal process, in which the cooperation of other governmental bodies is required.

Negotiator's divisional environmental coordinator is the chairman of the trade association that is involved in negotiations on regulation, a very time-intensive job. The division recognizes government's regulatory power and wants to be at good terms to realize a favourable marketing image. Negotiator finds supranational government more important than national government, because it wants to achieve a uniform market with harmonized regulation (and thereby avoiding the necessity to produce and market different products because of different technical requirements). The trade association first tries to align its members by focusing on common grounds of a non-competitive nature. Voluntary agreements are the preferred regulatory mode for industry, because they leave ample flexibility as to the realization of the objectives. The trade association then enters- sometimes lengthy and difficult- negotiations with supranational government to reach an agreement on targets which do not entail significant costs. Negotiator's divisional coordinator concludes: "With government, everything is a negotiation game."

A major objective of *national government's* environmental policy is to reduce waste and to process it in a responsible way. At the national level, this has resulted in a waste-related law, in which companies and their trade associations play a central role. National government is seen as quite important, for two reasons. Government is thought to influence the attitudes of customers. The division wants to be at good terms because of its marketing image. National government has also been an ally of Negotiator's division in its attempts to get a national regulatory system accepted at the supranational level. The deal was that national government would raise support for the national system among other governments, while Negotiator- in favour of harmonized regulation- would promote the system among other suppliers. The alliance has been successful, because the national system will soon be adopted at the

supranational level. Harmonized regulation precludes the necessity for Negotiator to manufacture and market different products because of different regulatory regimes.

Competitors are quite important to Negotiator, because they want to sell their products to the same customers. The division's response to this economic influence is straightforward. The divisional environmental coordinator: "We concentrate on what [the competitor] does, and want to outperform him." Green features are embodied into Negotiator's products in order to be at least as good as the best commercial competitor. The division has also launched products with an outstanding environmental performance.

Competitors are also important because they are allies when negotiating with supranational government. Individual companies and national trade associations are members of a supranational trade association, which defends the suppliers' common interests and which negotiates with supranational government on upcoming environmental regulation. As chairman of the trade association, Negotiator's divisional environmental coordinator is intensively involved in negotiations on (harmonized) regulation. In this way, the division is able to have a large say in the formulation of the suppliers' response to supragovernmental demands.

To summarize, the environmental coordinator of Negotiator's focal division fulfils a major role in external contacts (including an active role in a supranational trade association) and internal coordination. He also provides advice and launches new environmental initiatives. These proposals tend to go a long way because of the coordinator's drive, communication skills, and recognition of different internal interests. The MT of a major business unit of Negotiator pursues profits, while facing and acknowledging environmental boundary conditions. Its importance to the environmental coordinator stems from the business unit's co-decision power within the steering group, its implementation of agreed targets throughout the business unit, and its financial contribution to the environmental staff group. Negotiator's divisional purchasing department is a very important party, which co-decides on and implements environmental procurement targets. A senior marketing manager of Negotiator supports green targets in the environmental steering group. The promotion of its products is a major drive for Negotiator's division to green its products, though this drive is constrained by cost considerations. Customers have a very high influence on Negotiator's environmental behaviour. The division offers low-cost green product features, intensively markets the greenness of its products, and maintains good relations with other external stakeholders to build a green marketing image. Associations of customers are quite important because of their product tests, which influence purchasing decisions of customers. Because of its ambition to acquire

Figure 5.4: Stakeholder relations of Negotiator
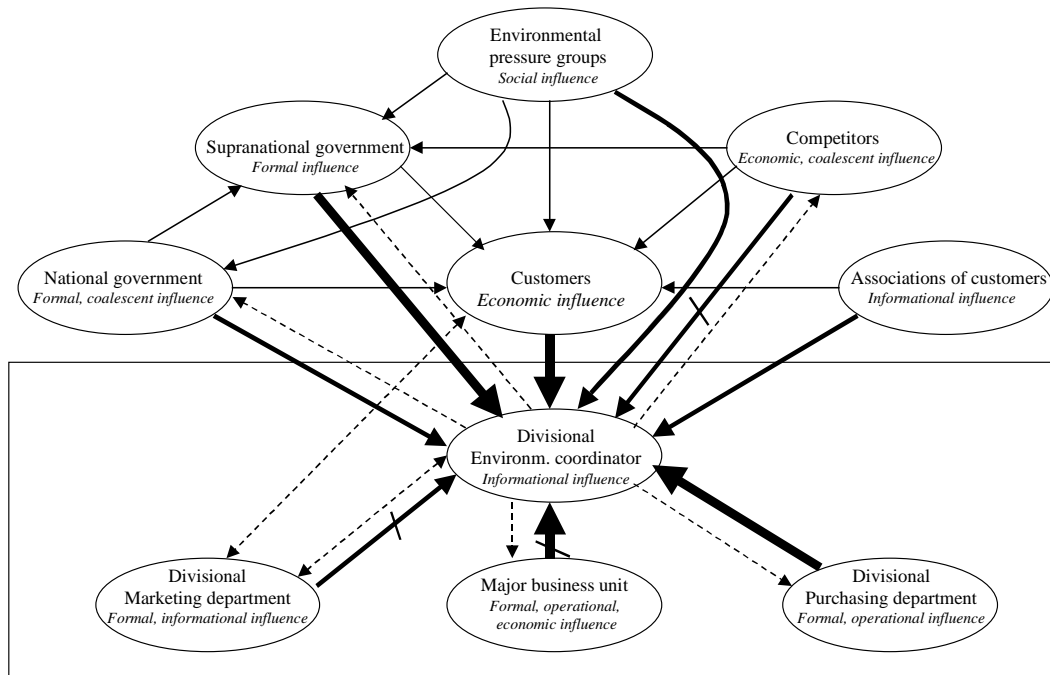
 the "best buy" status, Negotiator markets products with environmentally benign features. The indirect influence of the quite important environmental pressure groups is accommodated as much as possible by taking internal measures. The high importance of supranational government stems from its regulatory power. By chairing the supranational trade association, Negotiator tries to shape regulation (through negotiations) and to boost its marketing image. National government is seen as quite important because of its influence on customers (and hence the division's environmental image) and its alliance with the division to turn a national waste-related law into supranational regulation. Competitors are quite important, because they try to conquer the same markets as Negotiator and because they are allies in negotiations on regulation with supranational government.

Figure 5.4 gives an overview of the division's main environmental stakeholder relations.

5.4.2 Organizational learning

Negotiator's environmental policy stipulates that the company aspires to "optimize the environmental performance of the organization's products." This policy

is concretized through two objectives: Negotiator's ambition to become the leading eco-efficient company in its field; and the creation of a green marketing image.

To realize the first objective, a host of measures have been taken to reduce the use of (especially noxious) inputs per product. These include: efficient product design; careful production planning; efficient engineering; and interrogating all suppliers on the toxicity of their inputs. In 2000, the division realized important reductions of inputs (as compared with reference year 1994): 50% for energy consumption, 100% for the most toxic substances, 60% for water consumption, 60% for solid waste, and 15% for packing materials (the last figure is company-wide). The achievement of such results is only possible when there exists a high learning capacity to produce eco-efficiently. (If the knowledge to achieve these results had existed before, its fruits would have been reaped earlier.)

Actions to establish a green marketing image include: the launching of products with an excellent environmental performance; the conduct of environmental market and SWOT analyses; the maintenance of good relationships with governments; the scrutiny of external product tests; and the consideration of indirect claims by environmental groups. Government tends to have a positive view of Negotiator. (The views of the indirect external stakeholders could not be assessed with the available evidence). There are studies on the environmental sensitivity of customers, but the extent to which green marketing initiatives affect the actual purchasing behaviour of the division's customers is not crystal clear. This precludes the drawing of firm conclusions with respect to the achievement of a green marketing image.

Environmental knowledge is acquired in a number of ways. The environmental staff group generates ideas on environmental issues and ways of getting proposals accepted within the division. This group acquires knowledge through external informal networks (including universities and competitors) and through external publications (especially product tests of associations of customers, publications of environmental pressure groups). The purchasing department acquires knowledge on the chemical characteristics of different substances by interrogating all suppliers on the toxicity of their supplies. The marketing department investigates how customers react to green marketing initiatives. National branches of the marketing department collect information on environmental customer trends by reading publications, speaking to resellers, and using customer panels.

Research laboratories specialize in specific areas of fundamental research. Technical research consists of keeping track with the professional literature, patent tracing, brainstorming in groups, screening potential solutions, trying the most promising alternatives, simulating, and discussing with external researchers. Technical knowledge may also be bought from other companies. When technical

solutions can't be found within the own department, there is an appeal to knowledge elsewhere in the division. Information may be also acquired from semi-governmental institutions. Furthermore, products of competitors are opened in order to assess, what technical solutions competitors apply to solve environmental problems. The division virtually never appeals to external consultants, because they do not dispose of the specific knowledge required.

Knowledge is shared with other divisional members during consultative meetings of steering groups or project groups. The environmental staff group, for instance, provides information on technical issues and on external stakeholders. Action plans, environmental bulletins, documented technical solution, and informal contacts (by phone or e-mail) are other ways of distributing environment-related knowledge. Furthermore, there are internal courses on environmental management and on knowledge management.

Major repositories of divisional knowledge are individual memories, especially those of divisional environmental staff group members, steering group members, laboratory researchers, product developers, and local environmental coordinators. There is also an intensive documentation of knowledge, because so many different internal actors are involved. Action plans, bills of materials, simulation and measurement results, prototypes, manuals, and the output from a computer-based monitoring system are codified sources of knowledge. Technical knowledge is also embodied by Negotiator's products.

So Negotiator's division has a high exploitative learning capacity in the field of eco-efficiency. It is skilled at gathering, distributing, and storing new knowledge.

5.4.3 Changes of stakeholder influence

The *divisional environmental coordinator* used to chair the sectoral supranational trade association. By the end of 2001, this trade association has recently merged with another supranational trade association. The purpose of the merger, which was initiated by industry, is to increase industry's bargaining position. But according to the division's senior environmental advisor, "It is [now] much more difficult to reach consensus. (…) There is a whole spectrum of companies, [ranging] from proactive to conservative. It is nice to have an association, but in the end everybody stands for his own interests. What is good for one person is not necessarily so for the other." Besides, "[Supranational government] speaks with a lot of people, but listens hardly at all." Negotiator's divisional environmental coordinator has become the vice-president

of the enlarged trade association. The nature of his activities has not changed, though his new role is even more complex than the previous one.

So the divisional environmental coordinator still fulfils the same kind of activities, which are heavily oriented towards the management of supragovernmental relations.

In the past, Negotiator had no direct relation with *environmental pressure groups*. Some time ago, an environmental group approached the company, claiming the ban of certain substances in exchange for the abstention from negative publicity. Negotiator replied that it has a good environmental policy, which the company crafts on the basis of sensible arguments and not under pressure.

So the environmental movement does not play a different role; it just proceeds in a more targeted way.

Environmental regulation is still the basic role of *supranational government*. But Negotiator's environmental advisor observes a tendency to be guided by political motives, rather than by technical arguments: "The extent to which [laws and regulation] are based on sensible technical and scientific considerations is very low. It even tends to decrease. (…) Without the least expertise, all sorts of things are invented of which [supranational government] thinks that they will be welcomed by the public opinion."

The role of supranational government has thus remained unaltered, though government seems more sensitive to the public opinion.

Competitors are still both allies (in the supranational trade association) and parties that eat from the same cake. The environmental advisor notes that it has become more difficult to outcompete others with environmental product features: "So it gets difficult to be significantly better than the competitors. Physical laws are the same all over the world, so a competitive advantage is only temporary."

Competition on environmental issues has thus intensified.

The roles of *other stakeholders*- be they internal (the business unit MT, the divisional purchasing department, the divisional marketing department) or external

(national government, customers, associations of customers)- has not changed. There are no new actors either.

To summarize, Negotiator's map of stakeholder influences has hardly changed. The divisional environmental coordinator, environmental pressure groups, supranational government, and competitors proceed in slightly different ways. All other stakeholder influences have remained unaltered.

5.4.4 Changes of organizational learning

The prevailing environmental mission has not changed. Negotiator still aims at becoming the leading eco-efficient company in its field and at creating a green marketing image. So the objectives of learning have remained the same.

Negotiator's environmental performance in 2001 has largely improved. The performance has slightly deteriorated in one area (packing). Other important fields (energy consumption, toxic substances, and solid waste) have shown improvements. The detailed quantification of the environmental performance of different business units is a novel insight, which may bear its fruits in the coming years. The senior environmental advisor concludes: "We introduced a certain system, which has been perfected and supplemented with a number of very important steps. Once it exists, it is merely a matter of diligent execution."

In sum, Negotiator's focal division still has a high exploitative learning capacity. It has acquired new insights as to the quantification and managerial steering of environmental performance.

5.5 Results from the Cleanhouse case

5.5.1 Stakeholder influence

Cleanhouse's *environmental coordinator* has fulfilled his present part-time function for only six months, though he has worked at the organization for over three

decades. He is in charge of initiating and executing the organization's environmental policy by: setting up and leading the basic group environment; making the environmental management system certifiable; and providing environmental expert advice. The coordinator fulfils a central position with respect to environmental information, because he is a member of both the Quality, Labour conditions, and Environment (QLE) council and the basic group environment. He is in charge of transferring information from the highest advisory body (which has de facto a decision making power) to the highest executive levels (the directorates). He also has regular bilateral and multilateral consultations with both operating personnel and the senior managers of the directorate facilities. The environmental coordinator also maintains Cleanhouse's external environmental contacts. He has contacts with local government, a local public body, waste processors, a local trade association, and a national bi-sectoral association.

The environmental coordinator is lauded by several stakeholders for his extensive environmental knowledge, though one actor describes the coordinator's legislative knowledge as deficient. Major internal stakeholders, both at the managerial and the operational level, recognize the importance of environmental issues and provide support to achieve the organization's objectives.

The *manager of the directorate facilities* is perceived by the environmental coordinator as very important. As head of the directorate under which environment comes, he has a large decision making power in this field. The manager considers the views of his subordinates (including the environmental coordinator), but "When a decision has to be taken, I won't hesitate to do so." The manager is favourably inclined towards environmental issues. He was a driving force behind the new environmental management structure. He asked the environmental coordinator to craft an environmental policy plan, got the plan accepted in the QLE council, and now wants to proceed towards a certifiable environmental management system. The manager also regularly reflects- alone or with other senior managers- on environmental propositions of the environmental coordinator, which the latter clearly appreciates. The manager has gone a long way in pushing the environmental agenda. Though there is some internal resistance towards his initiatives, he achieved a new structure, got the environmental policy plan accepted, and is heading towards a certifiable system.

The *basic group environment,* regarded as very important, consists of representatives from all of Cleanhouse's directorates plus the environmental coordinator. The group provides advice and discusses how to implement environmental decisions at the different directorates. Its importance stems from

creating a basis for getting decisions accepted by operating personnel. The environmental coordinator: "We cannot achieve anything (…) without talking to the [operational] people. (…) [Our] employees (…) have to be steered, guided, evaluated." Directorate representatives have to steer departmental representatives, who- in their turn- are in charge of motivating colleagues at their respective departments. Department members have to proceed to concrete actions. The basic group's members seem to be favourably inclined towards environmental initiatives. But the group was only recently created, and is still searching for its most suitable modus operandi. As the basic group includes the environmental coordinator and elaborates decisions taken by higher hierarchical levels, there is ample support from major internal stakeholders. There seems to be no noticeable resistance from the operating personnel.

An *official body of local government,* considered to be very important, aims at a sustainable society, with a sound environment and an open communication between government and business organizations. This official governmental body issues and supervises Cleanhouse's general environmental permit, which is required for Cleanhouse in order to exert its activities. Government has classified the organization in a relatively 'heavy category' because of the size of its activities and the danger of certain stored products and emissions. The permit prescribes how Cleanhouse has to deal with most of its environmentally relevant issues. For the coming three years, this official body wants Cleanhouse to set up a certifiable environmental management system, in return for which there will be less detailed permit prescriptions. Local government also provides information on environmental regulation and on best practices of other companies. Cleanhouse's environmental coordinator regards this information as valuable.

Cleanhouse complies with the stipulations in the environmental permit, and often asks government for advice before engaging in new, environmentally relevant initiatives. The environmental coordinator: "One may go right against something, but that won't solve anything. The internal policy should be attuned to [governmental] policies. (…) One thing is for sure. To achieve something, I always depend on others. So to the extent possible, I will have to consider a maximum of [others'] comments." He adds: "We have very good relationships with external parties. I think that it has to do with consulting counterparts, which yields transparency. Offering transparency avoids being looked at with Argus' eyes." The local inspector confirms Cleanhouse's accommodating behaviour: "[Our relationship has] an open character. When they have problems, they contact us. They know, which problems to address to us. (…) With environmental problems, they ask for our vision or approval. The relationship is transparent. They provide all data. (…) We are in league with each other."

Another crucial external constituency is a *local public body* that manages a specific environmental aspect. The public body aims at the highest possible environmental performance in its domain, to be achieved through reasonable efforts by business organizations. The public body issues and monitors permits (which specify maximum emission levels), neutralizes noxious emissions, advises business organizations, and imposes levies (which are a function of the pollution degree and the quantity of emissions). Cleanhouse's coordinator states to comply with the demands of the public body and to ask the body for technical advice prior to taking actions. A representative of the public body confirms that the organization meets the permit norms.

Waste processors are very important to Cleanhouse. They state to aim at "a sustainable society, (…) [to be realized through] less dumping and incineration of waste, (…) [and] more recycling of waste" and "integral waste management, (…) [by processing] waste as efficiently and environmentally friendly as possible", while making sure to be competitive in a liberalizing market. Cleanhouse has multi-year contracts with renowned processors, who dump, incinerate, and recycle the organization's waste in a responsible way- thus avoiding public scandals. The processors prescribe how different waste streams should be separated and packed. The charges which Cleanhouse pays for the processing services depend on the types and quantities of waste offered. Waste processors also provide information that helps Cleanhouse economize on its waste disposal costs.

Cleanhouse grades its waste into some 60 different types, and packs as demanded by the processors. The organization has several processors, to avoid dependence on one sole party. Substantial cost savings are realized by pre-processing a costly type of waste, after which the processing tariff falls considerably (Cleanhouse is the only organization in its sector which pre-processes in this way). Furthermore, Cleanhouse compares its tariffs with those of other organizations in the same sector, and negotiates collectively (through a local trade association) in order to get the lowest possible prices.

The *local trade association* comprises all local organizations which are active in the same sector. To Cleanhouse's environmental coordinator, the trade association is a very important constituency. By speaking to people in similar positions, by having the assistance of an external consultant, and by inviting external experts during regular meetings, the association helps shaping the coordinator's opinion and finding solutions to common problems. Its importance also stems from being a body that exchanges relevant information (such as tariffs of waste processors) among its

Figure 5.5: Stakeholder relations of Cleanhouse
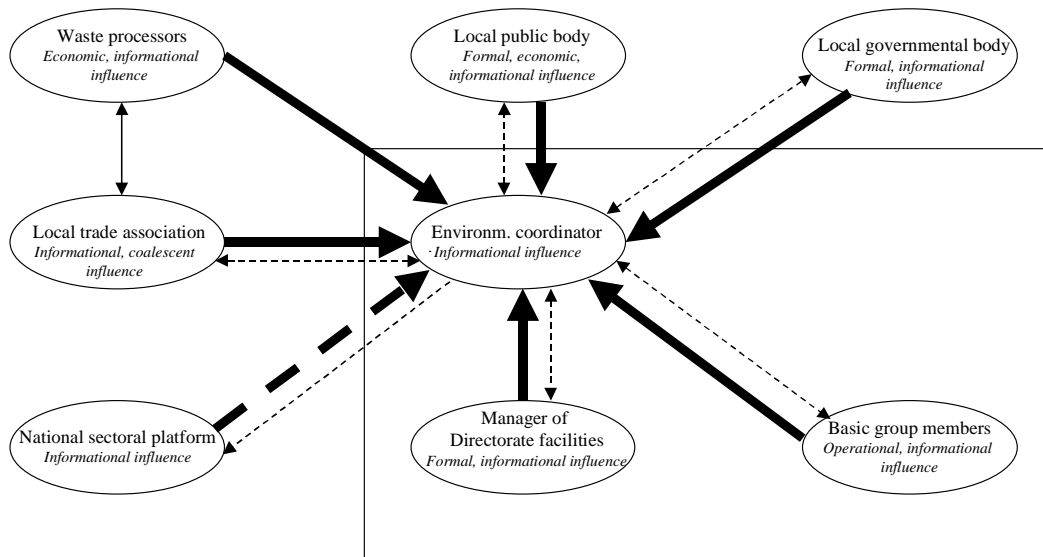
members and that negotiates with common external constituencies (such as waste processors). Cleanhouse is an active participant of the association, and readily uses its services.

A *national bi-sectoral association,* covering two related sectors, is another very important stakeholder. The association's environmental working group offers advice to its members, including information on environmental management systems and solutions to prevailing practical problems. By adopting solutions that similar organizations practise, members do not have to reinvent the wheel. Cleanhouse's environmental coordinator perceives the open sharing of insights with colleague members as a true help to make up his mind.

To summarize, Cleanhouse's environmental coordinator is a central actor. He transfers and coordinates internal information, represents the organization in external forums, and provides expert advice. The coordinator's activities are supported by major internal actors. The manager of the directorate facilities of Cleanhouse is a very important actor with a considerable decision making power, which he uses to actively support environmental initiatives. Cleanhouse's basic group environment is a crucial constituency, because it mobilizes support to get environmental decisions implemented at the operational level. The high importance of

an official body of local government stems from its regulatory demands, with which Cleanhouse scrupulously complies. Local government also provides valuable information. A local public body is a very important constituency, because Cleanhouse has to- and does- comply with the body's permit prescriptions. Waste processors are a crucial stakeholder, because they help to solve Cleanhouse's waste problem. The organization reduces its overall waste charges, both through internal technical measures and external collective bargaining. A local trade association is very important to Cleanhouse, because it increases the organization's insights into environmental problems and it helps to improve Cleanhouse's external bargaining power. A national bi-sectoral association is a very important platform from which practical, environmentally relevant insights can be obtained.

Figure 5.5 represents the main characteristics of Cleanhouse's stakeholder relations.

5.5.2 Organizational learning

Cleanhouse's environmental policy aims at the implementation of an environmental management system that leads to continuous improvements of its environmental performance, compliance with environmental regulation, and reduction of its environmental load (especially soil, water, and air emissions). Cleanhouse's policy thus entails three objectives: the systematic organization of environmental issues; compliance with environmental regulation; and continuous improvements of the organization's environmental performance.

Cleanhouse does not yet have a formal environmental management system, but has taken steps to realize it. The organization has recently adjusted its environmental management structure in order to involve all levels and to disseminate information throughout the organization. This structure was inspired by Cleanhouse's quality management, which has been effective for years and for which Cleanhouse was externally recognized and accredited. Though Cleanhouse's new environmental management structure has not yet fully crystallized out, the new structure is far more systematic than the previous one. There are different forums (the QLE council, the basic group environment, the departmental working groups) which regularly convene and which cover all organizational levels. So although Cleanhouse has not yet realized a formal environmental management system, the organization has clearly learned from its quality management system, how to improve its environmental management structure.

Compliance with regulation is the second objective. The environmental coordinator states that the organization's actions are attuned to regulatory prescriptions. Local government and a local public body confirm that Cleanhouse complies well with the prevailing regulation. So Cleanhouse has learned how to comply with regulation, though it should be noted that the nature of Cleanhouse's environmental issues does not pose major challenges to compliance.

It is hard to assess to what extent Cleanhouse continuously improves its environmental performance. A host of technical measures have been taken, including total energy, the use of a modern power station, the automatic switching-off of lighting, good housekeeping, and an advanced waste separation system. The organization does, however, not apply quantitative yardsticks to assess its performance. Though it is likely that Cleanhouse's environmental performance has progressively improved, no firm statements can be made as to this point.

Cleanhouse's environmental coordinator acquires external information from a variety of sources. The official governmental body informs the coordinator on environmental regulation and on best practices of other business organizations. Specialized technical information is acquired from the local public body. The local trade association disseminates collectively relevant information among its members. Reflections on and solutions to practical problems emanate from the national bi-sectoral association. Waste processors provide advice on reducing Cleanhouse's costs of waste. Operators provide information on environmental aspects at the shop floor level, such as energy consumption. The manager of the directorate facilities brainstorms with the coordinator on solutions to prevailing environmental problems.

Documented information is distributed among organizational members through handbooks, the intranet, courses, leaflets, bulletins, and official prescriptions and procedures. During informative meetings, an internal expert instructs operators on energy saving. Consultative meetings (especially the QLE council, the basic group environment, and departmental working groups) foster the dissemination of information throughout the whole organization.

Probably the most important source of information storage constitute the memories of individual employees (especially those involved in consultative meetings). Environmental handbooks, courses, leaflets, bulletins, and official prescriptions and procedures are documented information repositories.

In sum, Cleanhouse has a fairly high, predominantly exploitative learning capacity with respect to the systematic organization of its environmental management and the compliance with environmental regulation. Cleanhouse efficiently acquires, shares, and stores environmental knowledge.

5.5.3 Changes of stakeholder influence

Early 2002, the *official body of local government* is still in charge of Cleanhouse's overall environmental permit, which presently contains detailed prescriptions. This permit has to be revised. Cleanhouse would like to obtain a more flexible permit, which does not necessitate cumbersome formal actions for each and every change of its business activities. This is especially relevant in the light of Cleanhouse's plans to considerably extend its premises in the coming 2-3 years. According to the company's environmental coordinator, "In the present situation, permission would be required for any relocation (…). We want to get rid of this [situation]." In exchange for a more flexible permit, local government requires Cleanhouse to have a certifiable environmental management system. The environmental coordinator: "An environmental management system is one of the means to show that we manage environment in a transparent and solid way. To have a clear environmental management [system] is almost a prerequisite to obtain another kind of permit."

So the role of the official body of local government is still the same. The only novelty is the dicussion of a more flexible environmental permit.

Cleanhouse is presently engaged in a discussion with the *local public body* on the exemption from the obligation to assess a specific kind of emissions. In case of acceptance, Cleanhouse would pay a fixed, slightly higher tariff, irrespective of the actual pollution degree. This cost increase would be offset by the elimination of the assessment costs. Given the higher tariff and the stability of Cleanhouse's emissions of this type, a fixed tariff would also be advantageous to the local public body. The environmental coordinator resumes: "It is beneficial to both parties, a win-win situation. They earn a bit more, and we have less fuss."

So the nature of the relation with the local public body has not changed. The present contacts aim at facilitating operational issues.

The environmental coordinator's activities are still the same. The *remaining stakeholder relations*- with the manager of the directorate facilities, basic group members, waste processors, the local trade association, and the national bi-sectoral association- have not changed at all. No new parties have come to bear.

To summarize, Cleanhouse's stakeholder relations have remained unaltered, apart from small changes of its relations with a local governmental body and a local public body.

5.5.4   Changes of organizational learning

The organizational objectives of learning are still the same, namely: the systematic organization of environmental issues; the compliance with environmental regulation; and continuous improvements of Cleanhouse's environmental performance.

Cleanhouse has taken steps towards a more systematic environmental management, by clearly attributing tasks, responsibilities, and competencies. Cleanhouse has also taken measures to facilitate compliance with permit requirements. The company negotiates the reduction of red tape with local government and a public body. Furthermore, there is a formal commitment to environmental education for employees, which is likely to improve the company's future performance.

It thus seems that the organization has taken some small but significant steps towards the realization of its environmental objectives (though there is still a lack of hard data on Cleanhouse's actual environmental performance).

In sum, Cleanhouse still has a fairly high learning capacity. The company has acquired some new insights.

5.6   Results from the Grassroots case

5.6.1   Stakeholder influence

The *manager of the focal unit* represents Grassroots in the Local platform on behalf of 8 local units in the focal region. Grassroots is a natural member of the Local platform, given its strong historical and commercial ties with the focal sector. Grassroots is also looking for new economic activities, which compensate for the foregone activities in the focal sector. Apart from making money through its involvement in local economic activities, Grassroots feels a moral responsibility to contribute to the socio-economic health of the local community. The focal unit manager wants to see quick and concrete results.

In order to attain this objective, the focal unit manager provides his extensive knowledge of Grassroots' sector, time (one to two days a week), and a relatively important donation to develop the Local platform. The focal unit manager is a

member of the General board and vice-president of the Executive board (which gives him an operational power of decision). The manager also steers the Platform's personnel (the manager and the support staff).

Several external stakeholders speak highly of the focal unit manager. They call him "a contemporary (…) [manager], who understands the [local] origin [of Grassroots]", "a sparring partner (…) [who is] knowledgeable of [relevant] issues", "very business- and process-oriented", and "very enthusiastic and therefore precious".

The 7 *local governmental bodies* are viewed by the focal unit manager as a very important party. They have been severely struck by the crisis in the focal sector, which constitutes the core of the economic activities of their region. They want to engage in new initiatives by mobilizing existing knowledge and capital, so that the socio-economic livability of their region will improve.

All governmental bodies are members of the General board of the Local platform. The head of one body chairs the Platform's Executive board, granting her a considerable operational power of decision. The local governmental bodies join forces to tackle a major common problem. They also pay for the operational costs of the Local platform. Furthermore, the bodies use their relational networks to introduce the Platform's manager and to be heard by higher governmental bodies. According to the focal unit manager, "[Local governmental bodies] exert political, administrative influence. They have the highest power and decisiveness in this whole game. (…) They are most influential." He adds: "If one really wants something from [higher governmental bodies], it is much more difficult [to realize] without the involvement of those clubs." The focal Grassroots unit and the local governmental bodies maintain a good relationship. According to the person who chairs the Executive board, "The relationship is perfect. I am very satisfied with [the focal unit manager], and would like to have more participants like him."

A *local trade association* in the focal sector is regarded as a very important actor. The association represents the collective interests of local companies in the focal sector. It also provides advice to individual companies. The trade association wants to absorb the socio-economic consequences of the crisis in the focal sector by looking for alternative activities. The association's importance to Grassroots stems from the historical common identity. A manifestation of the common bonds is the trade association's membership of the focal unit's General board. Grassroots also has extensive business relations with companies in this sector. As a member of the Executive board of the Local platform, the association also has an operational power of decision. After initial scepticism, the trade association now thinks that the Local platform will have an added value for its members. Grassroots maintains a good

relationship with the trade association. Apart from Platform meetings, there are bilateral meetings. The focal unit still engages in economic activities in the focal sector, but does not hesitate to search for activities in other sectors, which offset the foregone business volume with the declining sector.

A local public body is a quite important party. This body coordinates and executes the focal sector's policy on behalf of over 20 local governmental bodies. The public body aims at collaborative relations between different stakeholders and a right balance between ecology and economy. It wants to maintain the livability of the countryside. The local public body is a member of the General and Executive boards of the Local platform. The body takes a neutral role, in the sense that it does not defend particular political interests. Its main inputs are process leadership and a secretarial support staff. The public body's project leader submits proposals to the Platform's boards. The focal unit manager steers the body's personnel that is involved in the Platform. A representative of this body finds that the manager advocates the Platform's interests well. He also states that the focal unit's presence breeds trust towards outsiders.

The focal unit manager considers *local educational establishments* to be a rather important constituency. Educational establishments provide education to youngsters and to business people. They also offer advice (for example on the communication between different public and private parties) and are engaged in applied research. Educational establishments are represented in the General board of the Local platform, which provides them formal power. The focal unit manager finds educational establishments important because of their transfer of locally relevant knowledge, especially when related to the focal sector. An educational establishment representative sees the manager as a contemporary businessman who understands the local problems well. He adds that others in the Grassroots organization could learn a lot from the focal unit manager's dynamic and locally oriented behaviour.

A *local environmental association* is viewed as a quite important party. The association is the executive branch of the local trade association. It tries to reconcile the local interests of the focal sector and nature conservation. The support of the environmental association is important in creating a basis among local entrepreneurs who engage in new economic activities. These should not only compensate for the loss of business in the focal sector but also consider their environmental impact. Members of the environmental association reflect on new, rewarding economic activities. According to a representative of the association, "Our aim is to help develop these initiatives. Not to take them over but to support them." This aim is not

only pursued by generating new ideas but also by searching for funding and by creating common marketing channels. During a common study visit, the focal unit manager and the representative of the environmental association discussed a specific issue of local development. This discussion has inspired both parties.

The *manager of the Local platform* is regarded as a very important actor. The manager aims at a sound socio-economic development of the focal region. He is in charge of implementing the Local platform's policy. The Platform's manager explores and facilitates new business opportunities. He searches for and coaches local entrepreneurs, coordinates (financial and administrative) means and interesting ideas, and submits new ideas to the Platform's Executive board. He organizes, for example, theme-oriented round-table discussions among entrepreneurs who have no regular contacts with one another, although they are involved in related activities. The focal unit manager steers the Platform's manager. The former is open to regular contacts, thinks along on problems, and offers solutions. According to the Platform's manager, "[Grassroots] wants to support, and is in the thick of, social developments in its [local] community." He adds that "[Grassroots] also wants to have a green aura."

In sum, Grassroots' focal unit manager aims at new local socio-economic activities because of Grassroots' social commitment to and economic involvement in the Local platform. The focal unit manager puts expertise, time, and money at the disposal of the Platform. Local governmental bodies join forces and use their relational networks, formal power, and financial means to boost the socio-economic livability of the region. The actions of Grassroots' focal unit are in line with these inputs. A local trade association uses its formal say in the Local platform to stimulate the search for new economic activities for its members. The support of Grassroots' focal unit is inspired by a common social identity. Grassroots also looks after its own existing and future economic interests. A local public body uses its formal say in a neutral way. It focuses on the provision of secretarial and process support to the Local platform in order to preserve the socio-economic livability of its region. Grassroots' inputs are viewed as an active contribution to this goal. Local educational establishments, which are endowed with formal power, are important because of their dissemination of knowledge to local economic actors. The activities of Grassroots' focal unit manager are conducive to the transfer of knowledge. A local environmental association's importance stems from its generation of creative ideas on new economic activities that are compatible with ecological conditions and from the creation of a basis among local entrepreneurs in the focal sector. The manager of the Local platform is an important actor, who implements the Platform's policy (inter

Figure 5.6: Stakeholder relations of Local platform
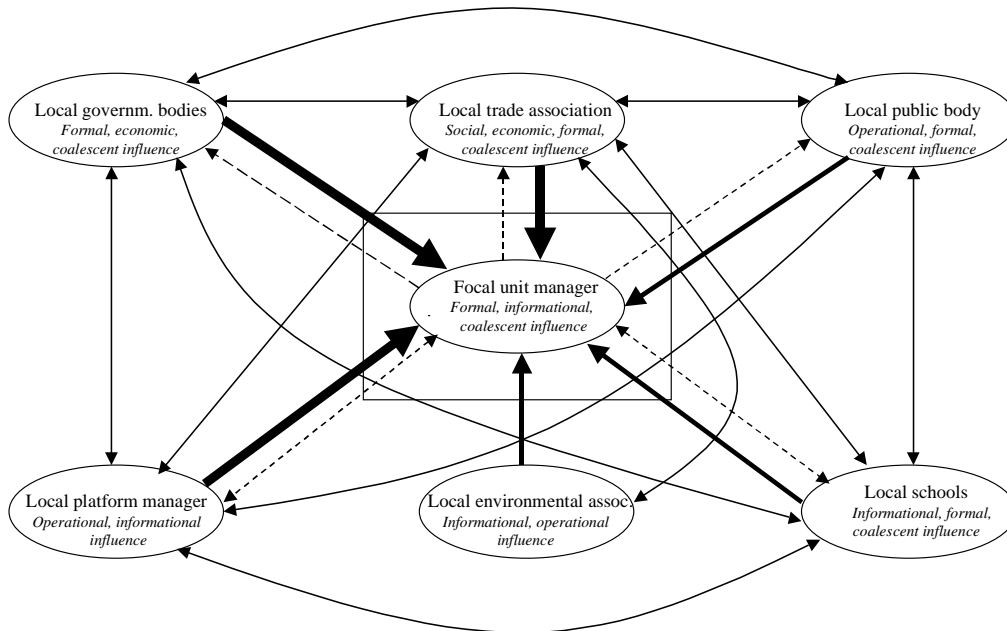
alia by transferring information). He receives ample support from Grassroots' focal unit manager.

Figure 5.6 provides a graphical overview of the major stakeholder relations of the Local platform.

5.6.2 Organizational learning

The aim of the Local platform is to reinforce the local socio-economic structure, taking environmental constraints into consideration. It does so by stimulating the organizing capacity of local parties, especially entrepreneurs.

To realize the Local platform's objective, a number of measures have been taken. Several formal and informal brainstorm sessions have been held to generate ideas on new economic activities. Theme-oriented round-table discussions have taken place to cluster related, but hitherto disconnected activities; they have resulted so far in one concrete project which is about to be launched. A SWOT analysis was conducted for the focal region, leading to the formulation of areas for special attention and action points. A novel technical instrument was created to boost local economic development. Educational establishments increase the awareness of prospective entrepreneurs with respect to new economic activities. These Platform activities,

which started from scratch, can only be realized when a high learning capacity is present.

The Local platform obtains new knowledge through brainstorm sessions among broad societal strata and Platform members, theme-oriented round-table conversations, personal networks of Platform members, experts in specific areas, and a visit to another local platform.

The Platform members frequently inform one another on possibly relevant issues. During meetings of the Executive and General boards, information is shared in an open way. The Platform's manager regularly submits new proposals and findings from the field to the Executive board.

Knowledge on the Local platform is stored in the heads of Platform members, as well as in internal and external documents (such as minutes, a SWOT analysis, brainstorm reports, and a showcase).

The focal unit's participation in the Local platform fits within Grassroots' societal activities. Grassroots' overall objective, such as formulated in its mission statement, is to pursue a sustainable development of welfare and well-being while treating nature and the natural environment carefully.

Grassroots' national staff group Sustainability brings salient insights from the initiatives like the Local platform to the attention of other local units that are confronted with similar problems. The staff group does so by publishing case studies, by establishing bilateral contacts, and by organizing workshops. The Local platform case was presented to other local units during a workshop on this type of regional innovation. On the basis of the available evidence, no firm statements can be made as to the organization-wide impact of information on innovative initiatives like the Platform.

Grassroots acquires new knowledge on this kind of societal activities exclusively through the feedback of local actors like the focal unit manager.

As the Local platform is only linked to Grassroots through the focal unit manager and as (other) local units are largely autonomous, it is particularly important to consider how the insights from this societal activity are disseminated throughout the organization. Experiences from local projects are communicated to the national staff group Sustainability. The staff group disseminates these insights to other local units, through publications, workshops, intranet, and personal networks. There is no formal data bank which local units can consult. This implies that information sharing within Grassroots occurs on a relatively ad hoc basis, which hampers the efficient dissemination throughout the organization.

Grassroots documents knowledge on projects like the Platform in annual reports, in publications on this type of regional innovation, on its intranet, and in the heads of directly and indirectly involved members (especially the focal unit manager and members of the staff group Sustainability). No use is made of formal data banks.

So the Local platform has a high explorative learning capacity. It is skilled at acquiring, sharing, and retaining knowledge on the region's socio-economic development within the prevailing environmental frame.

No firm statements can be made on Grassroots' learning capacity. The organization seems to efficiently acquire and store knowledge about this type of innovative regional development. However, systematic information sharing constitutes Grassroots' major weakness.

5.6.3 Changes of stakeholder influence

Late in 2001, the role of the *local governmental bodies* has not changed. But the Local platform has become more widely known and accepted by different official levels. The focal unit manager depicts the changes as follows. "At the outset, there were only [contacts] at the administrative level. (…) The [Local] platform was only known to some administrators. It is presently known to virtually the whole body of officials. So when officials (…) have something concerning the Platform, they immediately think of the Platform. (…) So this has started living much more. (…) The contacts between the [Platform] manager and the different [local governmental] bodies have become far more intensive."

So the nature of the relationship with the local governmental bodies is still the same, but the relationship has intensified.

The *local trade association* has realized not only that the initiation of new economic activities is necessary, but also that its internal structure falls short to launch such initiatives. Therefore, the association has activated its operational branch, the local environmental association. The trade association has also recognized the changing role of the focal region. A fierce internal debate has been going on concerning the association's admission of actors outside the focal sector. The trade association considers to operate as an interest group of all actors in the focal region.

So the local trade association largely fulfils the same role, but has engaged in concrete actions and has started exploring a new identity.

The local environmental association fulfils a different role. The formerly reflective platform that tried to reconcile divergent interests has turned into the executive branch of the local trade association. The environmental association is busy with finding concrete new economic activities, thus evolving from idealistic to business oriented. The focal unit manager: "[The local environmental association] has been revitalized. The [association] now has a professional staff. (…) [Its professional manager] starts up quite some projects and gets access to subsidies for members [of the local trade association]. Environmental groups are also represented within the [local environmental association]. This whole organization functions increasingly better."

The local environmental association thus fulfils a more active and operational role.

A *local Restructuring committee* is a new actor, whom the focal unit manager perceives as very important. For one year, the Committee has been in charge of the implementation of the socio-economic paragraph of a national restructuring law. The Restructuring committee mainly consists of local officials, though there are also representatives from other local governmental bodies, the local trade association, another economic sector, environmental pressure groups, and educational establishments.

After some insistence, the Local platform has succeeded in getting the role of implementing the socio-economic paragraph on behalf of the local Restructuring committee. The focal unit manager adds, though, that the Platform has maintained its independence. The chairwoman and the manager of the Local platform have been members of the Restructuring committee for five months.

So the activities of the Local platform have become officially embedded in those of the new local Restructuring committee.

A *local Restructuring pilot project* is regarded as a quite important new party. This small committee acts as an incubator, a flywheel for new socio-economic activities in a part of the focal region.

The Local platform observes the experiences of this pilot with great interest, and transmits them to the local governmental bodies concerned. According to the focal unit manager, "It would be very stupid, not to learn from the experiences of a pilot in a similar area."

So the Local platform scrutinizes and disseminates the outcomes of the local Restructuring pilot project.

The roles and importance of all *other stakeholders*- the focal unit manager, the local public body, local educational establishments, and the manager of the Local platform- have not changed. Apart from the Restructuring bodies, there are no important new actors.

In sum, relations with local governmental bodies, the local trade association, and the local environmental association have become increasingly operational in nature. Important new contacts are two Restructuring bodies. All other contacts have remained unchanged.

5.6.4   Changes of organizational learning

The learning objective of the Local platform has not changed. The Platform has taken a host of new, concrete steps to realize its objective. It has engaged in several regional economic studies, has shared salient information, has become involved in a local product chain, has experienced some successful show cases, has enlarged networks on behalf of local economic actors, has engaged in cultural projects, and has provided administrative and political support. The realization of these new activities suggest the continued presence of a high learning capacity.

The local restructuring pilot project provides a novel source of information acquisition for the Platform. There are no new forms of information sharing or retention.

So the Local platform still has a high, increasingly exploitative learning capacity with respect to regional socio-economic development. The Platform has acquired important new insights.

5.7   Analysis of hypothesis 1

In section 2.4.2, I derived three hypotheses. The present section tests the first hypothesis for the six case studies. The hypothesis reads as follows:

Hypothesis 1: Organizational learning processes in the field of environmental management are triggered by stakeholder demands that are either compatible with

the aims of major organizational actors or incompatible but unavoidable given the organizational (actors') dependence on the stakeholders from which they emanate.

I analyse the situations that prevailed during the first observation round, because most of the available evidence concerns this period. First, I recapitulate the extent to which organizational learning occurs. Then, I identify major stakeholder demands and discuss to what extent these demands are causally related to and compatible with the organizational learning objectives. Afterwards, I assess the extent to which the aims of major organizational actors are compatible with the organizational learning objectives or incompatible but unavoidable.[27] Finally, I conclude whether the hypothesis holds.

5.7.1 Analysis of Greenheart

As argued in section 5.1.2, Greenheart has a fairly high learning capacity with respect to the conceptualization and implementation of industrial sustainability.

Greenheart's CEO, characterized as a very important stakeholder exerts a strong pressure to make his company operate in an ecologically sustainable way. His strong personal conviction of the ethical necessity to behave sustainably led to the incorporation of sustainability into Greenheart's mission. The CEO wields his extensive formal power to impose the corporate sustainability objective. When the corporate MT, which the CEO chairs, takes a strategic environmental decision, it has to be implemented by all subsidiaries.

The corporate environmental coordinator's task is to realize Greenheart's objective to become ecologically sustainable by the year 2005. He does so by initiating and coordinating environmental activities and by communicating new, sustainability-related knowledge across the organization. These activities are compatible with the corporate sustainability objective.

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[27] Relating the aims of organizational actors to the objectives of organizational learning (instead of stakeholder demands) serves two purposes. First, there is not necessarily a direct relation between an individual stakeholder demand and the overall organizational response. The conjunction of (conflicting) stakeholder demands leads to organizational behaviour that may only partially respond to individual demands. It is thus more appropriate to compare the aims of organizational actors with the overall learning objectives, which reflect the conjunction of different critical demands. So the idea is that critical stakeholder demands lead to the formulation of organizational objectives, which- if followed by concerted actions among organizational actors- trigger organizational learning processes. Second, using a benchmark like organizational learning objectives precludes the necessity of comparing each stakeholder demand with the aims of each organizational actor.

The environmental coordinator of a major subsidiary is in favour of achieving sustainability. There is, however, a conflict of interests between productivity and environment because of competing time demands. The higher priority assigned to productivity tends to turn environmental management into the suppositious child. Besides, environmental values are not widely shared among operators; many of them seem to be only interested in their primary productive activities.

The corporate technical staff provides environment-oriented technical standards, eco-efficient solutions, and inputs for an environmental data base. These inputs constitute a significant step on the road towards corporate sustainability.

So the CEO's sustainability drive led to the formulation of sustainability as a corporate objective. This objective is compatible with the aims of the corporate environmental coordinator and the corporate technical staff. A partial incompatibility exists at the subsidiary level, which hampers Greenheart's fairly high learning capacity. These findings corroborate hypothesis 1.

5.7.2 Analysis of Expander

As stated in section 5.2.2, Expander Environment has a fairly high learning capacity with respect to the expansion of its sustainable production activities (to meet a sectoral agreement) given technical and institutional constraints.

A local environmental pressure group is opposed to Expander's plan to install sustainable production units in a nature reserve. Expander cannot dismiss the pressure group's view, because it has a successful record of legal actions. The environmental group's claim is inevitable, and has forced Expander Environment to learn on the spatially constrained expansion of its sustainable business activities.[28]

Two local governmental bodies are shareholders of Expander. Their environmental policies aim at the promotion of sustainable production activities. The governmental bodies use their formal power to encourage Expander to develop this kind of activities, which is obviously compatible with Expander Environment's objective.

Another local governmental body allocates the zones where Expander's sustainable production units may be installed. To obtain environmental permits,

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[28] National government, which initiated the sectoral agreement, is not identified as a stakeholder. Its regulatory demand has become institutionalized: compliance with the sectoral agreement has been adopted as the business unit's objective. This seems to be a plausible reason why national government is not mentioned as a stakeholder.

Expander Environment has to scrupulously comply with the stringent rules of different local governmental bodies. The position of local government is thus not necessarily compatible with Expander's, but in any case inevitable. The relationship with this governmental body has to be carefully managed in order to realize new sustainable production capacity.

The association of customers wants Expander Environment to supply genuinely green and inexpensive products. Expander's advice council was against a tariff increase and in favour of reimbursing incomes from eco-taxes to the respective target groups. This claim is not necessarily compatible with Expander's position, but unavoidable in order to avoid negative publicity that might have negative economic repercussions.

The manager of Expander Environment faces the major challenge to meet the concrete targets and deadlines that are stated in sectoral agreements with national government. He shows commitment to increase the share of sustainable production in Expander's overall production portfolio, which is obviously compatible with the expansion objective.

Within Expander, there seems to be full support for this objective. The corporate MT gives the business unit manager full discretion to craft his own policy, provided it fits within the corporate strategy. Subordinates are not described as actors that raise heterodox voices, but rather as the controlled, routinized operating staff. External stakeholders do not mention any divergent internal views, so it seems plausible to regard Expander Environment as a monolithic entity that pursues targets which are regarded as hard and taken-for-granted.

So the claims of a local environmental pressure group, a local governmental body, and an association of customers are inevitable. Two local governmental bodies formulate demands that are compatible with Expander Environment's expansion plans. As a result of these demands, Expander Environment has acquired a fairly high learning capacity on the constrained expansion of its business activities. These findings are in line with hypothesis 1.

5.7.3 Analysis of Marketeer

As discussed in section 5.3.2, Marketeer has a high learning capacity with respect to serving environmental markets and a low learning capacity with respect to internal, environment-related process control.

Marketeer's customers desire secure and qualitatively good environmental services (without the risk of public scandals), for which they are ready to pay an above-average price. Customer demands are the very reason why Marketeer exists. They are obviously compatible with the organizational desire to exploit environment as a market and to have a reputation as a responsible and reliable provider of environmental services.

The official bodies of local government expect Marketeer to comply with its permit requirements. Legal compliance is inevitable, and has induced Marketeer to formulate a policy of compliance with the prevailing regulation.

Marketeer's neighbours, organized as a sounding board, aim at a clean and safe environment. Besides, they want to be regularly informed about environmental incidents and measures. This is compatible with Marketeer's aim of internal process control.

The corporate environmental coordinator is in charge of coordinating and aligning the behaviour of the different divisions. He also communicates with company-wide external stakeholders. The purpose of his activities is to contribute to meeting the company's environmental boundary conditions, in particular meeting regulatory requirements. This is compatible with the corporate environmental policy.

Marketeer's CEO crafts and imposes the corporate environmental policy, and has to endorse large (environment-related) investments. He has the additional objective of exploiting environment as a market. The CEO's aims are, obviously, compatible with the two corporate objectives. There may, however, be a tension between the desire to expand commercial activities and the need to control internal processes.

The divisional environmental coordinators collect environmental data from their respective divisions and transfer them to the corporate level. They also maintain relations with external divisional stakeholders (especially regulatory bodies), to whom they communicate required information. Their activities are perfectly compatible with the corporate objective of process control.

Laboratory provides data on emissions. It flags deviant results to the responsible persons and forwards all data to the corporate environmental department. Laboratory's informative activities are thus perfectly in line with the overall corporate objective to contain internal processes and emissions.

Operating personnel is primarily concerned with production, to which it relates its livelihood. Operators tend to consider that regulation is the responsibility of others, so their commitment to the implementation of environmental policy is generally low. The operating personnel's disregard of environmental problems is incompatible with the overall objective of process control.

Thus, the customers' demand for environmental services is compatible with the aims of all organizational actors, who recognize that their livelihood is secured by satisfied customers. Marketeer has learned well how to serve its customers. These findings corroborate hypothesis 1.

Governmental bodies formulate inevitable demands, which are reflected in Marketeer's official compliance policy. The CEO, the corporate environmental coordinator, divisional environmental coordinators, and laboratory support this policy. But operators tend to ignore environmental aspects. At the same time, Marketeer's learning capacity with respect to internal process control is low. As the interaction among major stakeholders has failed to trigger an effective organizational learning process, hypothesis 1 cannot be tested in this respect.

5.7.4 Analysis of Negotiator

As argued in section 5.4.2, Negotiator's division has a high learning capacity with respect to the realization of eco-efficiency, while no firm conclusions can be drawn with respect to the establishment of a green marketing image.

Customers ask for environmentally benign product characteristics. It should be noted, though, that green features are only considered to be of secondary importance. Besides, they may not lead to significant sales price increases. Customer demand is the very reason why Negotiator's division has focused on green features. It is compatible with the company's policy of creating a green marketing image.

Associations of customers do not formulate direct demands. They test the division's products on green performance. However, the "best buy" recommendations of their product tests, which influence customers, can only be attained by environmentally well performing products. In that sense, the association formulates an indirect demand, because Negotiator aims at pleasing (environmentally conscious) customers.

By the same token, environmental pressure groups induce Negotiator to perform environmentally well, because their perception of the division's environmental performance makes them decide to (negatively) affect the company's public image (which, in turn, influences the behaviour of Negotiator's customers and governmental bodies). So environmental groups exert indirect pressure to perform well, which is compatible with the division's objectives of realizing a green marketing image and eco-efficiency.

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Supranational government initiates the environmental regulation of industry. This supranational regulation affects the way in which customers perceive Negotiator's division. Government wants business to take important environmental measures. Governmental influence is inevitable, because it can be legally enforced. A few years ago, it induced Negotiator to take environmental measures. The division found out that many environmental measures also involved cost savings, and embraced the concept of eco-efficiency. So the demands of supranational government are both inevitable and largely compatible with the divison's objectives.

Negotiator's divisional environmental coordinator coordinates the actions of internal actors. He establishes and pushes the division's environmental agenda. The coordinator also represents the division in external forums, including the chairmanship of a major trade association. He scrutinizes the external environment and provides advice to internal actors. These tasks are perfectly compatible with the division's objectives of eco-efficiency and a green marketing image.

The MT of a major business unit aims at high profitability of his business unit, while viewing environment as an unavoidable constraint. As a consequence, only externally imposed or financially rewarding environmental initiatives are acceptable to the business group. This implies a partial incompatibility between the divisional environmental policy and the aims of this crucial business unit.

The divisional purchasing department aims at the largest possible reduction of toxic substances, taking into account that indispensable toxic substances without viable alternatives have to be temporarily exempted. So the aims and inputs of the purchasing department are largely compatible with the policy of being perceived as an environmentally benign company.

The divisional marketing department conducts environmental market research. The department is in favour of a green marketing positioning of the division's products, though improved environmental product performance may not lead to enhanced costs (as these cannot be translated into higher sales prices). The green marketing profile is thus compatible with the environmental policy, while the restriction of no significantly higher costs can be at odds with the objective of an environmentally more benign production.

To summarize, customer demand for green product features- which is affected by customer tests, environmental pressure groups, and governments- is the very reason why Negotiator strives for a green aura. All major divisional actors support this objective. As no firm statements can be made as to the divison's learning capacity, hypothesis 1 cannot be tested with respect to Negotiator's green marketing image.

Negotiator's divison has made a virtue of the necessity to meet supranationational government's inevitable demand for environmental actions. Its eco-efficiency policy is strongly advocated by the divisional environmental coordinator and largely supported by business units, the divisional purchasing department, and the divisional marketing department. Negotiator's division has a high learning capacity with respect to eco-efficiency. These findings support hypothesis 1.

5.7.5 Analysis of Cleanhouse

As argued in section 5.5.2, Cleanhouse has fairly high learning capacity with respect to compliance with environmental regulation and the systematic organization of its environmental management.

The official body of local government requires Cleanhouse to respect its general environmental permit. Besides, local government pushes Cleanhouse to enter the road towards a certifiable environmental management system. Compliance with the permit stipulations is indispensable, because the permit is a licence to operate. Cleanhouse has adopted these governmental demands by aiming at legal compliance and the realization of a certifiable environmental management system.

The local public body expects Cleanhouse to comply with a specific environmental permit. The public body's demands are also inevitable, and have been translated into Cleanhouse's compliance policy.

Cleanhouse's environmental coordinator plays an active role in the QLE council and the basic group environment. The coordinator also provides advice and prepares the introduction of a certifiable environmental management system. Furthermore, he represents Cleanhouse in contacts with governments, waste processors, and information platforms. The environmental coordinator aims at maintaining good relationships with external constituencies. His activities are obviously compatible with the organizational objectives of compliance and systematic organization.

The manager of the directorate facilities advances the environmental agenda by initiating improvements of the environmental management structure, by demanding and providing support to an environmental policy plan and a certifiable environmental management system, and by reflecting on solutions to environmental problems. These inputs are obviously compatible with the environmental policy, especially the objective to obtain a certifiable environmental management system.

The basic group environment is the interface between decision making bodies and the implementing shop floor. The group transfers information and creates operational support to implement environmental decisions. Basic group members motivate operators that come under their respective directorates. These activities are compatible with the organization's objectives to systematize the organization of environmental issues and to comply with the prevailing regulatory requirements.

So a local governmental body and a local public body formulate inevitable demands to comply with permit requirements and to systematize the organization of environmental issues. Cleanhouse has incorporated both demands into its official policy, which is supported throughout the organization. The company has developed a fairly high learning capacity with respect to compliance and systematic organization. These findings are in line with hypothesis 1.

5.7.6 Analysis of Grassroots

The conclusion of section 5.6.2 was that the Local platform in which the focal Grassroots unit is involved has a high learning capacity with respect to regional socio-economic development.

A severe crisis in the focal sector, of which stringent environmental regulation was a major cause, has jeopardized the socio-economic health of the focal region. The demand for viable alternatives was the very reason why the Local platform was created.[29] The Platform aims at a sound socio-economic regional development.

Grassroots' focal unit manager feels morally committed to the socio-economic health of his local community. Grassroots' strong ties with the focal sector induced him to join the Platform. The focal unit manager shows a strong commitment to the development of new economic activities by providing time, knowledge, money, and management skills. His aims are obviously compatible with the official objective of the Local platform.

The 7 local governmental bodies have been badly struck by the crisis in the focal region. They very much want to restaure the socio-economic livability of their region, which manifests through the establishment of contacts and the provision of financial

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[29] The actors who triggered the crisis in the focal sector (including national and supranational governmental bodies) are not identified as stakeholders. Their claims have resulted in stringent environmental regulation, which is taken for granted. This is probably the reason why they are not explicitly mentioned as major stakeholders.

and administrative means. The governmental objective is clearly compatible with the aim of the Local platform.

The local trade association wants to realize new economic activities for companies in the focal sector, which offset the dramatic loss of jobs and incomes due to the crisis in its sector. Therefore, the association provides advice to individual members, defends collective interests, and provides administrative inputs. The trade association's aim is in line with the official objective of the Platform.

The local public body aims at finding a right balance between economic and ecological interests, and at maintaining the livability of the focal region. This manifests through the public body's provision of secretarial, administrative, and leadership inputs. The aims of the local public body are clearly on par with the Platform's objective.

The manager of the Local platform aims at a sound organization of the focal region. Evidence of this aim is the coaching of individual entrepreneurs and the organization of round-table conversations. The aim of the Platform's manager is obviously compatible with the objective of the Local platform.

So the Local platform was created in response to a regional socio-economic crisis. Grassroots' participation in the Platform stems from its strong ties with the focal sector. The Local platform aims at the socio-economic reinforcement of the focal region. It has developed a high learning capacity in this respect. The aims of the main members of the Platform are perfectly compatible with the Platform's aim. These outcomes corroborate hypothesis 1.

5.7.7 Cross-case analysis of hypothesis 1

The findings with respect to hypothesis 1 are summarized in table 5.1. In two of the six cases, a differentiation has to be made between environment as a market opportunity and environment as a constraint (because the focal organizations have differential learning capacities and/or attitudes). From the eight analysed situations, six corroborate hypothesis 1. Stakeholder demands that are inevitable and/or (largely) compatible with the aims of major organizational actors show a causal relationship with the (fairly) high learning capacity of the focal organizations. In these (sub-) cases, the presence of stakeholder demands that are compatible with the aims of internal stakeholders has caused concerted actions that have resulted in effective organizational learning processes. Likewise, inevitable stakeholder demands that have forced organizations to engage in environment-related collective actions have brought

about organizational learning processes. In one situation, the organization (Negotiator) has even discovered that imposed measures can be in its own interest.

In the remaining two situations, no firm conclusions can be drawn. In one sub-case (Negotiator), no statements can be made as to the learning capacity. In the other situation (Marketeer), unavoidable stakeholder demands are present and yet the organization shows a low learning capacity.[30]

So the available evidence corroborates hypothesis 1.

Table 5.1: Summary of findings concerning hypothesis 1

Organization	*Learning capacity*	*Stakeholder demands*	*Status of hypothesis 1*
Greenheart	Fairly high	Largely compatible	Confirmed
Expander	Fairly high	Inevitable/ Compatible	Confirmed
Marketeer	High* Low**	Compatible* Inevitable**	Confirmed* Inconclusive**
Negotiator	Unknown* High**	Compatible* Inevitable/ Compatible**	Inconclusive* Confirmed**
Cleanhouse	Fairly high	Inevitable	Confirmed
Grassroots	High	Compatible	Confirmed
* Environment as a market opportunity			
** Environment as a constraint			

5.8 Analysis of hypothesis 2

The second hypothesis reads as follows:

Hypothesis 2: Organizational learning processes in the field of environmental management are most effective when influential stakeholders simultaneously fufil the roles of: sponsor; boundary spanner; idea generator and/ or internal entrepreneur.

Like hypothesis 1, I analyse the situations that prevailed during the first observation round. First, I recall the extent to which organizational learning occurs.

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[30] This finding does not falsify hypothesis 1. The hypothesis formulates a necessary but insufficient condition for the occurrence of learning processes. When learning processes are (virtually) absent, the hypothesis cannot be tested. Hypothesis 2 concerns the contents of organizational learning processes.

Then, I discuss the presence of the different roles. Finally, I conclude whether the hypothesis holds.

5.8.1 Analysis of Greenheart

Greenheart has a fairly high learning capacity with respect to the conceptualization and implementation of industrial sustainability.

National government is an important external provider of new insights into the conception of sustainability. By creating an explorative forum, where radically new ideas can be openly reflected upon, national government thus fulfils the role of idea generator.

Several internal actors generate and distribute new operational information, including the corporate technical staff, subsidiary coordinators, and environmental working groups. However, they fail to take the lead in initiating and realizing new operational projects because of competing (productivity) demands for resources. So the role of internal entrepreneur is not well articulated.

The corporate environmental coordinator is a bridgehead, who maintains contacts with a variety of external forums, including national government, consultants, environmental pressure groups, and universities. His internal contacts cover strategic and operational bodies, including the CEO and other MT members, the corporate technical staff, international annual meetings of different disciplines, and subsidiary environmental coordinators. He communicates information top-down (from corporate bodies to subsidiaries), bottom-up (from subsidiaries to the environmental policy group), and laterally (from one subsidiary to another). The corporate environmental coordinator is thus a boundary spanner.

The CEO is the powerful person who provides support to and encourages environmental initiatives. He makes sure that sustainability gets and remains on the agenda of the highest strategic forums. The CEO is very demanding with respect to the progress of environmental initiatives. So the CEO obviously fulfils a sponsor role.

In sum, influential stakeholders fulfil the roles of idea generator, boundary spanner, and sponsor. This has brought about a fairly high learning capacity. The role of internal entrepreneur is not well articulated due to competing demands. These findings are in line with hypothesis 2.

5.8.2 Analysis of Expander

Expander Environment has a fairly high learning capacity as to the constrained expansion of its sustainable production activities.

Several external constituencies contribute to the generation of new ideas. The manager of the environmental pressure group suggests to innovatively reflect on the economic development of the area in and around the nature reserve. The local politician and his assistant regularly present ideas on new projects. Nonetheless, they are not characterized by the Expander representative as generators of innovative ideas. So the role of idea generator is not clearly present.

Expander Environment's manager fulfils an important role in achieving workable relations with important external constituencies. He maintains extensive and timely contacts with external constituencies, tries to break out of deadlocks due to conflicting views, mobilizes political support, and meets many of the external stakeholder demands in order to enhance Expander's sustainable production capacity as much as possible. He shows creativity and perseverance to cope with the company's dependence on external constituencies. Expander Environment's manager thus fulfils the role of internal entrepreneur.

The relational network of Expander Environment's manager includes environmental pressure groups, associations of customers, a range of governmental bodies, and real-estate developers. He links the company to a large number of external constituencies. So Expander Environment's manager spans boundaries between his business unit and critical external stakeholders.

Expander Environment's manager is endowed with extensive formal authority. As the highest person in his business unit and with considerable discretion granted by the corporate MT, the manager has and uses the formal power needed to fulfil a sponsor role.

So the roles of internal entrepreneur, boundary spanner, and sponsor are embodied by Expander Environment's manager, which accounts for the business unit's fairly high learning capacity. This corroborates hypothesis 2.

5.8.3 Analysis of Marketeer

Marketeer has a high learning capacity with respect to the exploitation of environmental market opportunities and a low learning capacity when it comes to the control of internal processes.

Customers present many ideas, for example suggestions of new product types. These are then discussed and seriously considered by Marketeer. An official governmental body regularly presents ideas to improve Marketeer's internal environmental management. However, the company does not recognize the value of these ideas. So customers fulfil the role of idea generators when considering environment as a market. Government tries to fulfil the same role with the control of internal processes, but this role is not recognized by Marketeer.

The bulk of concrete solutions to existing environmental problems are presented by technical operators, who may drop their ideas in a suggestions box. Persons are subsequently assigned to solve existing problems or to realize savings. Operating personnel thus fulfils the role of internal entrepreneur when environment is considered in the restrictive sense. On the basis of the available evidence, the role of internal entrepreneur in the field of marketing could not be assessed.

The role of boundary spanner was not found. Though the corporate and the divisional coordinators should fulfil such a role, this does not turn out to be the case. Several internal actors plainly deny to have a relationship with the corporate coordinator or state to just supply data to him. The corporate coordinator fails to connect ideas across people. A divisional coordinator mainly confines his task to collecting data on emissions from different divisional sites and to timely transferring these data to the different internal and external parties. So when considering environment as a constraint, the role of boundary spanner is absent. The presence of a boundary spanner in the commercial area could not be assessed with the existing data.

The CEO provides ample formal support to environmental activities in both senses. Environment is above all business. The corporate MT wants to continue expanding its environmental services, of which the aggressive acquisition policy, the desire to be innovative, and the ambition to be among the three largest in the Benelux are clear indicators. The CEO also stresses that the corporate environmental policy is to impose the different divisions to go beyond legal compliance. So the CEO assumes the role of sponsor.

In sum, only the roles of internal entrepreneur and sponsor are present in the area of internal process control, in which Marketeer has a low learning capacity. The role of boundary spanner is notoriously missing. These findings are consistent with hypothesis 2. On the basis of the available evidence, no conclusions can be drawn with respect to the exploitation of commercial opportunities.

5.8.4 Analysis of Negotiator

Negotiator's focal division has a high learning capacity with respect to the realization of eco-efficiency. Its performance with respect to the creation of a green marketing image is unknown.

Negotiator's research laboratories concentrate on break-through innovations, on finding solutions to technical problems which go well beyond the existing ones. Groups of researchers with diverse technical backgrounds regularly gather to brainstorm on all possible solutions to fundamentally new problems. The company's research laboratories thus fulfil the role of idea generators.[31]

Several internal actors come up with new, concrete solutions to environmental problems. Researchers elaborate the ideas that look most promising after group brainstorm sessions. Product developers[32] convert concepts or prototypes from the research laboratories into concrete, marketable products. Purchasers acquire insights into the chemical characteristics of all supplies. Marketeers investigate and report on the environmental behaviour of customers. So the role of internal entrepreneur is fulfilled at different levels within the division.

The divisional environmental coordinator maintains contacts in a multitude of external forums, including national and supranational governments, and a supranational trade association. He also observes the actions of other external constituencies, like associations of customers and environmental pressure groups. The coordinator feeds relevant information back into the division, for example during steering group meetings. He also establishes informational links between different internal parties. The environmental coordinator thus fulfils the role of boundary spanner.

Senior managers provide support for environmental activities. A purchasing manager fully supports the division's environmental policy, though he recognizes practical obstacles. A marketing manager endorses the division's green product positioning, although this may not lead to substantial price increases. A business unit MT member primarily stresses profits, but also recognizes the need to engage in environmental activities. Different senior managers thus tend to fulfil the role of sponsor.

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[31] The research laboratories were not identified as an influential stakeholder by the divisional environmental coordinator. This does not imply, however, that they do not play a significant role; business units (and not the environmental coordinator) maintain contacts with research laboratories.

[32] For product developers, the same holds as for the research laboratories (see the previous note).

So Negotiator's high learning capacity in the field of eco-efficiency is a corollary of the simultaneous presence of idea generators, internal entrepreneurs, a boundary spanner, and sponsors. These findings confirm hypothesis 2. With respect to the establishment of a green marketing image, hypothesis 2 could not be tested on the basis of the available evidence.

5.8.5 Analysis of Cleanhouse

Cleanhouse has fairly well learned to comply with regulation and to systematize its environmental management.

Several external constituencies come up with new ideas. The national bi-sectoral association shows different ways of solving specific environmental problems. The local trade association offers external expert knowledge to its members. Local government informs Cleanhouse on regulation and best practices. The public body suggests how to improve effluent water sampling. Waste processors offer advice on different ways of waste preparation.[33] Cleanhouse's manager of the directorate facilities and other senior departmental managers regularly brainstorm on possible solutions to prevailing problems. So the role of idea generator is fulfilled by several external and internal stakeholders.

Cleanhouse's working groups, like the one on energy, are constantly looking for the realization of technical solutions. The working group on energy fine-tunes lighting systems, re-assesses the energy consumption of installations, and studies a more efficient system of air conditioning. The role of internal entrepreneur is thus adopted by working groups, like the one on energy.[34]

Cleanhouse's environmental coordinator is involved in a host of external forums, including consultative platforms, regulatory bodies, and waste processors. Cleanhouse's external environmental contacts tend to pass through the coordinator. Besides, the environmental coordinator has regular contacts with several internal parties, including the QLE council, the manager of the directorate facilities, and the basic group environment. The coordinator brings external information into the organization and disseminates internal information across different organizational levels. So the role of boundary spanner is fulfilled by the environmental coordinator.

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[33] The ideas of the local governmental body, the local public body, and waste processors include very concrete suggestions. It may, therefore, be argued that these stakeholders also fulfil the role of internal entrepreneur.

[34] See the previous note on other stakeholders, who tend to fulfil a similar role.

The manager of the directorate facilities, under whom environment comes, was a driving force behind the new environmental structure. He stimulates the environmental coordinator to set up a certifiable environmental management system and to acquire more in-house environmental know-how. The manager attaches much importance to environment. So the manager of the directorate facilities assumes an important sponsor role.

So the roles of idea generator, internal entrepreneur, boundary spanner, and sponsor concur, and explain Cleanhouse's fairly high learning capacity. These results are in line with hypothesis 2.

5.8.6 Analysis of Grassroots

The Local platform in which Grassroots is involved has a high learning capacity with respect to regional socio-economic development.

Several parties generate new ideas to realize the objective of the Local platform. Numerous local interest groups participated in brainstorm sessions (though they were not identified as a major stakeholder). The representative of the local environmental association has innovative ideas on local economic activities. The Platform's manager has launched the idea to bundle related economic activities in the focal region. So the role of idea generator is fulfilled by several actors.

The manager of the Local platform identifies common problems, organizes bilateral and round-table discussions that should lead to concrete results, integrates issues, and proposes concrete ideas to the Platform's Executive board. The local manager thus fulfils the role of internal entrepreneur.

The members of the Platform's boards offer their respective relational networks to one another in order to facilitate the establishment of contacts. Furthermore, the Platform's manager establishes connections between otherwise disconnected entrepreneurs in related fields. So the administrators and the manager of the Local platform act as boundary spanners.

The focal unit manager and other administrators of the Local platform provide ample senior management support to the Local platform. Different stakeholders characterize the focal unit manager as an enthusiastic, constructive booster. He steers people, stimulates other local units in his region to participate in the Platform, donates money, encourages the use of relational networks, thinks along on prevailing problems, and searches for solutions. Other administrators also provide senior

management support, by using their relational networks and by providing financial and human resources. So the Platform's main administrators, in particular the focal unit manager, fulfil the role of sponsor in the Local platform.

The simultaneous presence of the roles of idea generator, internal entrepreneur, boundary spanner, and sponsor account for the high learning capacity of the Local platform. These findings corroborate hypothesis 2.

5.8.7 Cross-case analysis of hypothesis 2

Table 5.2 summarizes the findings from the different cases. Again, two cases contain analytically different situations (environmenal market opportunities and environmental constraints), which yields conclusions on a total of eight (sub-) cases. In two situations, (fairly) high organizational learning capacities are the results of the concurrence of three critical roles. In three (sub-) cases, the presence of all four key roles accounts for well-developed learning capacities.

Table 5.2: Summary of findings concerning hypothesis 2

Organization	Learning capacity	Idea generator	Internal entre- preneur	Boundary spanner	Sponsor	Status of Hypothesis 2
Greenheart	Fairly high	Yes	No	Yes	Yes	Confirmed
Expander	Fairly high	No	Yes	Yes	Yes	Confirmed
Marketeer	High* Low**	Yes* No**	Unknown* Yes**	Unknown* No**	Yes* Yes**	Inconclusive* Confirmed**
Negotiator	Unknown* High**	Yes* Yes**	Yes* Yes**	Yes* Yes**	Yes* Yes**	Inconclusive* Confirmed**
Cleanhouse	Fairly high	Yes	Yes	Yes	Yes	Confirmed
Grassroots	High	Yes	Yes	Yes	Yes	Confirmed
* Environment as a market opportunity ** Environment as a constraint						

In one situation, a low organizational learning capacity concurs with the presence of only two key roles; the role of boundary spanner is not assumed. The conjunction of positive findings (a well-developed learning capacity plus the presence of key roles) and negative results (a low learning capacity plus the absence of a key role)

provides strong evidence in favour of hypothesis 2. In the two remaining situations, no conclusions can be drawn on the basis of the collected data.

So the available evidence supports hypothesis 2.

5.9   Analysis of hypothesis 3

The final hypothesis reads as follows:

Hypothesis 3: The more a business organization learns in a particular field of environmental management, the more its relationships with stakeholders become stable, operational, and homogeneous in nature.

I first assess, how much the focal organizations have cumulatively learned in particular fields at the first point in time. An organization's cumulative cognitive capacity is different from an organization's learning capacity: a company with a relatively low learning capacity that has a long-standing involvement in a particular field may have accumulated many insights. Alternatively, an organization with a high learning capacity that has just entered a new area is likely to have a limited cumulative learning record. Afterwards, I deal with the nature of stakeholder relations at the first point in time, in particular the extent to which relations are stable (versus changing), operational (versus strategic), and homogeneous (versus heterogeneous). Third, I indicate the changes of cumulative cognitive capacities that have occurred between the first and second moments of assessment. Fourth, I discuss the longitudinal changes of the nature of stakeholder relations that have taken place. Finally, I draw conclusions as to the status of hypothesis 3. I compare both between organizations and within organizations at different points in time.

5.9.1   Analysis of Greenheart

By the end of 1999, environmental issues have been on Greenheart's strategic agenda for at least a decade. Since this time, a host of technical and organizational initiatives have been taken to reduce the company's direct environmental impact. These measures have appealed to novel insights. Throughout the years, new knowledge has been acquired, shared, and stored by directly involved operating personnel, the corporate environmental coordinator, and the corporate technology staff. New knowledge has also originated from outside sources, including external consultants, specialized fairs, professional journals, and technical specialists at other organizations.

Greenheart's sustainability objective is more recent: it was formulated only 5 years ago. The sustainability ambition goes well beyond the existing state of environmental affairs: in 1999 its distance to the sustainability target is still 12. With little low hanging fruit left to reap, this requires a leapfrog change of Greenheart's environmental knowledge. The corporate environmental coordinator has embarked on an exploratory project with organizations that are active in very different sectors. This exploration has yielded conceptually new insights, but the organization's cumulative cognitive capacity with respect to sustainability is still limited.

In 1999, the stakeholder relations concerning eco-efficiency issues are fairly homogeneous in nature, though some variety exists in the environmental working groups. Contacts tend to be technical, mostly confined to Greenheart's own sector of activities, and often within the organization. The contacts also tend to be of an operational nature. Virtually all of them concern concrete, detailed technical issues. The contacts have been stable. No important new stakeholders have appeared for the last years.

With respect to sustainability, relations have been established with external stakeholders that have very dissimilar backgrounds. Greenheart maintains contacts with national government, companies in different sectors, and consultants. These contacts have been stable for the last few years.

By the end of 2001, Greenheart has continued to accumulate insights into the improvement of its environmental performance. Some of them have led to immediate, more eco-efficient results. Others are geared to longer-term, more structural improvements that envisage the achievement of sustainability. New insights are related to unprecedented issues: process technology, closing of materials loops, chain management, and a formal sustainability management system (including managerial incentives).

In 2001, two major new actors have arrived on Greenheart's scene. The new corporate environmental coordinator- who comes from a very different industry- has brought about a considerable heterogeneity. His inputs are to a large extent of a strategic nature, by exploring new technical and organizational directions. Greenheart's new CEO- whose view on sustainability differs substantially from widely accepted values within Greenheart- is another major source of heterogeneity. He may challenge Greenheart's present sustainability objective, which would have major strategic implications.

The nature of the remaining contacts (with subsidiary environmental coordinators, the corporate technical staff, national government, environmental

pressure groups, and transport companies) has not changed. Apart from the relation with national government (which is of a strategic and heterogeneous nature), these contacts are of an operational and fairly homogeneous nature.

In 1999, Greenheart's relations in the field of eco-efficiency- in which the company has accumulated an extensive body of knowledge- are operational, stable, and fairly homogeneous in nature. In the more recent area of sustainability- where Greenheart's knowledge is quite limited- strategic, fairly heterogeneous, and stable contacts prevail. These findings are largely in line with hypothesis 3.

In 2001, Greenheart has continued to learn on the improvement of its environmental performance. Important new actors are the new corporate environmental coordinator and the new CEO. They have increased the strategic and heterogeneous content of the stakeholder portfolio. Other contacts are still relatively stable, homogeneous, and operational in nature. These findings falsify hypothesis 3.

5.9.2   Analysis of Expander

Late in 1999, Expander Environment has existed as a business unit for only a few years. Yet, Expander has been involved for over a decade in large-scale sustainable production. Especially in the early stages, the company encountered strong resistance from external parties in the realization of its sustainable production units. Their construction was very much delayed by cumbersome, lenghty procedures. Throughout the years, Expander has accumulated a considerable knowledge of how to deal with external constituencies. Expander meets their demands as much as possible, informs them timely, explores their boundaries of acceptance, mobilizes their support, and searches ways out of deadlocks. The accumulation of relational knowledge has enabled Expander to double the production capacity of a particular sustainable product type within a short period. Expander has also accumulated a considerable know-how of implementing sustainability-related measures elsewhere in the product chain.

In 1999, local governmental bodies and a pressure group are Expander Environment's most important stakeholders. The variety of these groups is limited. Contacts with the most critical stakeholders tend to be related to spatial planning issues. They aim at meeting procedural requirements, avoiding legal procedures of pressure groups, and maintaining a favourable public image. External contacts tend to be operational in nature, as they are concerned with finding the most efficient ways of

following procedures and respecting stakeholder demands within the existing strategic orientations. Stakeholder contacts are very stable. They have remained unaltered for many years, and are expected to remain the same.

By the end of 2001, Expander Plus' environmental objective has partially changed: the target of meeting a sectoral agreement has been replaced by the drive to exploit a profitable product. But the former and new objectives have commonalities: both require a very important growth of the company's sustainable production capacity. Expander Plus has continued to accumulate new insights into this field, of which its exponential growth is a clear witness. The merging partner's knowledge of another sustainable production type largely accounts for this accumulation.

In 2001, the almost complete reshuffling of Expander Plus Environment's set of major stakeholders obviously implies that virtually all actors are new. The present situation shows more heterogeneity than the former. Certain parties (like government and environmental pressure groups) have merely shifted in scope: from the local to the (supra)national level. Increased heterogeneity stems from the identification of new parties, which were previously not regarded as important: the different divisions of Expander Plus, market parties, and society. The contacts of Expander Plus Environment's manager are predominantly strategic. He sets the broad frames, and clearly leaves operational issues to others. This is partially related to the increase of size (due to which the manager can no longer be involved in operational issues) but also to the necessity to manage new issues.

In 1999, Expander Environment has learned much about managing external stakeholder relations in order to develop its sustainable business. The business unit's stakeholder relations are very stable, relatively homogeneous, and predominantly operational in kind. These outcomes corroborate hypothesis 3.

In 2001, Expander Environment Plus has acquired additional insights into the constrained expansion of its business. The new set of stakeholders shows more heterogeneity, and has mainly strategic contacts. These findings are at odds with hypothesis 3.

5.9.3 Analysis of Marketeer

Early 2000, Marketeer has existed for almost three decades. During this period, the company has accumulated a substantial body of environment-related knowledge.

Marketeer possesses a well-developed know-how to build and maintain a solid commercial reputation. In the field of emissions control, the company has had to meet ever stricter norms over the years. Even though the company has difficulties in complying with the demands of several external stakeholders, it has undoubtedly accumulated a substantial in-house knowledge as to the control of emissions and the communication of its environmental performance.

In 2000, the variety of Marketeer's environment-related contacts is fairly limited. Apart from internal actors, local governmental bodies and customers play dominant roles. Other providers of the same products or companies in other sectors are not identified as important. Stakeholder relations are predominantly operational in nature. They aim at either the marketing of environmental services or at (the communication of) emissions control. Customers are served by marketing and logistics personnel. Emissions are controlled by operating personnel, measured by laboratory personnel, and communicated externally by divisional and corporate environmental coordinators. External parties mainly want to be informed on emission levels and deviations from existing norms. Existing strategic choices are hardly subject to discussion. Contacts with major stakeholders are also stable; they have not been subject to recent changes.

Late in 2001, Marketeer has increased its understanding of environmental issues, both with respect to seizing market opportunities and managing regulatory constraints. The company has substantially reinforced its commercial position, largely through external acquisitions. In the framework of its compliance program, Marketeer has taken a host of internal process-related measures (especially the solution of bottlenecks, the involvement of operating personnel, and the improvement of its environmental management structure).

In 2001, the new divisional environmental coordinator, the current corporate environmental coordinator, and the subsidiary environmental coordinators are new major actors, who were not identified before. Marketeer's present divisional environmental coordinator worked elsewhere in the company for several years. The newly appointed corporate environmental coordinator used to be the CEO of a company that Marketeer has acquired. The status of the subsidiary environmental coordinators is not known. So the new actors were mostly active in the same sector but in different functions. This suggests a (slightly) increased heterogeneity. The present contacts have become more of a strategic nature. Whereas strategy used to be taken for granted, it is now regularly subject to discussion; both at the corporate and the divisional levels. There are, of course, still many operational contacts. But due to

the important restructuring and the tightened environmental policy, strategic issues are presently more intensively discussed.

In 2000, Marketeer has accumulated a substantial body of knowledge as to the exploitation of environmental markets and the control of internal processes. Its stakeholder portfolio consists of stable, fairly homogeneous, and mainly operational contacts. These outcomes are in line with hypothesis 3.

In 2001, Marketeer has increased its understanding of both types of environmental issues. Its stakeholder set consists of new, slightly more heterogeneous, and more strategic contacts. These findings falsify hypothesis 3.

5.9.4 Analysis of Negotiator

Early 2000, Negotiator has had an environmental focus for 7 years. During this period, the division's environmental performance has made important progress. Energy consumption, the toxicity of purchased substances, water consumption, the production of solid waste, and the use of packing materials have dropped dramatically. This level of performance suggests an important accumulation of eco-efficiency related knowledge during that period. Environment as a marketing instrument has only been relevant for one year. On the basis of the available evidence, the cumulative cognitive capacity in this field cannot be assessed.

In 2000, the division's stakeholder relations are fairly homogeneous in nature. Apart from internal contacts (with representatives from a major business unit, the purchasing department, and the marketing department), direct relations are maintained with governmental bodies and suppliers within the same sector. These contacts are concerned with environmental regulation. Negotiator's division also considers, but has no direct contacts with, customers, associations of customers, and environmental pressure groups. These constituencies are observed with respect to the establishment of a green marketing image. No contacts exist with other sectors. Stakeholder contacts tend to be of an operational nature. The existing environmental objectives are taken for granted. Contacts aim at realizing these objectives as well as possible, given the existing practical constraints of the different disciplines (such as the absence of alternative inputs or cost price enhancing measures). Stability characterizes the stakeholder relations. Apart from an MT member who assumed his position only a few months ago, all stakeholders have been important for years.

Late in 2001, Negotiator's focal division has accumulated additional environmental knowledge with respect to realizing eco-efficiency. The division's technical performance has further improved. A novel insight is the development of a sophisticated quantitative instrument to assess and steer the environmental performance of business units.

In 2001, there have been no significant changes in the set of important stakeholders. Formerly important stakeholders still fulfil about the same roles, and no new actors have appeared. This implies relational stability and an unaltered degree of homogeneity. Internal contacts have become increasingly operational. The new assessment method, which aims at perfecting the existing system, is an exponent of the high operational content of stakeholder relations.

In 2000, Negotiator's division has accumulated a large stock of eco-efficiency related know-how. Its stakeholder relations are stable, fairly homogeneous, and operational in nature. These findings confirm hypothesis 3.
In 2001, the division has continued to progress on the same learning path. Its contacts are characterized by a fairly high degree of homogeneity, high stability, and an increased operational nature. These outcomes are in line with hypothesis 3.

5.9.5 Analysis of Cleanhouse

By the middle of 2000, eight year have elapsed since Cleanhouse dramatically changed its identity and activities. During this period, the organization has built up a considerable stock of environmental knowledge. Cleanhouse has taken several technical measures, such as the application of total energy, an advanced waste separation system, good housekeeping, the installation of energy saving devices, and the recycling of refrigeration water. Cleanhouse's environmental management structure has lately been sharply improved. All organizational layers are now represented in different environmental forums, which have clear communication structures. The knowledge of the new structure has not yet crystallized out, but it is rapidly increasing due to the presence of an exemplary quality management structure. Further evidence of the accumulation of a considerable environmental knowledge is the organization's scrupulous compliance with the prevailing permit requirements.

In 2000, Cleanhouse maintains external contacts with three types of stakeholders: regulatory bodies, waste processors, and information platforms (in Cleanhouse's

sector and a related sector). The variety of these contacts is fairly limited: they aim at complying with regulation in a systematic way. The same counts for internal stakeholder relations. Their behaviour is concerned with internal process control. Although the internal contacts cover all hierarchical levels, their scope is rather limited. Most of Cleanhouse's stakeholder relations are operational in nature. They concern the adjustment or renewal of existing permits, the fine-tuning of existing packing guidelines, the collective bargaining of ongoing contracts, and the exchange of technical and organizational solutions to prevailing operational problems. Stakeholder relations have shown a considerable degree of stability. Most relations have been going on for many years. The only recent changes are the appointment of Cleanhouse's present environmental coordinator (who has fulfilled his function for six months, although he has been working in a related function for years) and the relationship with the national bi-sectoral association (which was established six months ago).

Early 2002, Cleanhouse has accumulated slightly more knowledge with respect to the systematic organization of environmental issues in order to comply with its permit requirements. Tasks and responsibilities have been formally attributed and further steps have been taken to facilitate compliance with permit requirements.

In 2002, Cleanhouse's stakeholder set is identical to the one identified one-and-a-half years ago. All stakeholders fulfil the same roles. No new actors have appeared. The implication of this unaltered stakeholder set is relational stability and an unchanged degree of homogeneity. Contacts have become slightly more operational. Recent discussions with governmental bodies deal with the facilitation of operational issues. Responsibilities and competencies have been attributed to individuals in order to routinize the company's environmental management.

In 2000, Cleanhouse has accumulated a considerable body of knowledge with respect to the systematic organization of internal environmental issues. Its set of stakeholders tends to be stable, homogeneous, and operational in nature. This is in line with hypothesis 3.

In 2002, Cleanhouse's cumulative cognitive capacity has slightly increased. Its stable stakeholder relations show the same degree of homogeneity and an increased operational nature. These findings corroborate hypothesis 3.

5.9.6   Analysis of Grassroots

By the middle of 2000, the Local platform has existed for one-and-a-half years. Its purpose is to foster the local socio-economic development given the existing environmental constraints. The Platform is still in the pioneering stage. There have been explorative brainstorm sessions, round-table discussions, inventories of problems, and a study visit. The acquired ideas are still maturing. A visionary policy plan is in the making. No concrete fruits have yet been reaped, although one concrete project will soon be launched and others are presently considered.

In 2000, the public and private parties that are involved in the Local platform have divergent backgrounds. They are, for instance, active in different sectors of business, education, and local public administration. The Platform also maintains contacts with other societal strata, for example through brainstorm sessions, round-table discussions, and the divergent relational networks of Platform administrators. So far, most contacts have been of a strategic nature. The Local platform has recently defined the objective and scope of its activities. A lot of discussion has taken place on appropriate new directions in order to tackle the prevailing socio-economic problems. A SWOT analysis has been conducted, and a policy plan is in the making. Concrete projects have not yet been realized (though at least one is at hand), which brings about a small number of operational contacts. All stakeholder relations have been established recently. Most Platform administrators have known one another for one-and-a-half years, since its de facto creation. Some of the Platform's stakeholder relations were established less than a year ago.

By the end of 2001, the Local platform has accumulated important new insights into local economic initiatives. Examples are the conduct of market studies, the involvement in a local product chain, and experiences from a local pilot project.

In 2001, all formerly identified stakeholders have remained important. Besides, two new important actors- the local restructuring bodies- have been identified. Considering on the one hand the increased stability of the relations among existing actors and on the other hand the arrival of two new actors, the stability balance has remained roughly unaltered. The inclusion of the two new actors has somewhat increased the heterogeneity of the Platform's relational network. The Local platform has established strategic contacts with the local restructuring committee. Contacts with other stakeholders have become increasingly operational in nature, with the explicit intent to come to concrete results.

In 2000, the Local platform has acquired a limited stock of insights that are related to regional socio-economic development. The Platform's stakeholder portfolio consists of heterogeneous, strategic, and recent contacts. These results are compatible with hypothesis 3.

In 2001, stakeholder contacts are relatively stable. Heterogeneity has slightly increased, while most contacts have become far more operational in nature. These findings largely confirm hypothesis 3.

5.9.7   Cross-case analysis of hypothesis 3

The outcomes of the different cases are summarized in table 5.3. All first-round results corroborate hypothesis 3. Organizations with a low cumulative cognitive capacity (Greenheart with respect to sustainability and Grassroots' Local platform) have relatively recent, heterogeneous, and strategic stakeholder contacts. Companies which have accumulated a large stock of insights have more focused stakeholder sets; they are relatively stable, homogeneous, and operational in nature.

The second-round findings of three cases (Negotiator, Cleanhouse, and Grassroots) also tend to be in line with hypothesis 3. These organizations have learned more about the prevailing environmental issues. At the same time, their stakeholder contacts have become increasingly focused. However, the second-round outcomes of the remaining three cases (Greenheart, Expander, and Marketeer) are incompatible with hypothesis 3. These organizations have learned more, and yet the scope of their stakeholder relations has increased. Important new stakeholders have appeared, the stakeholder network has become more heterogeneous, and contacts have a higher strategic content.

Two reasons account for the increased scopes of these three companies. First, discontinuities have reshuffled stakeholder relations. Greenheart has been taken over by another company, involving the arrival of a new CEO, who does not (actively) support the sustainability objective. Furthermore, a new corporate environmental coordinator has been appointed, who has brought important insights from another industry within the reach of the company. Expander has merged with another company, which has sharply increased its size. Besides, the sectoral agreement has expired and has been replaced by market incentives. Finally, Marketeer's strong growth has necessitated a restructuring of the organizations's environmental organization.

Table 5.3: Summary of findings concerning hypothesis 3

Organization	*Cumulative cognitive capacity*	*Degree of relational stability*	*Degree of relational homogeneity*	*Operational degree of contacts*	*Status of Hypothesis 3*
Greenheart (t1)	Large* Limited**	High* Fairly high**	Fairly high* Low**	High* Low**	Confirmed* Confirmed**
Greenheart (t2)	Increased	Decreased	Decreased	Decreased	Falsified
Expander (t1)	Large	High	Fairly high	Fairly high	Confirmed
Expander (t2)	Increased	Sharply decreased	Decreased	Decreased	Falsified
Marketeer (t1)	Fairly large	High	Fairly high	Fairly high	Confirmed
Marketeer (t2)	Increased	Decreased	Decreased	Decreased	Falsified
Negotiator (t1)	Large	High	Fairly high	High	Confirmed
Negotiator (t2)	Increased	Increased	Unchanged	Increased	Confirmed
Cleanhouse (t1)	Fairly large	High	Fairly high	High	Confirmed
Cleanhouse (t2)	Slightly increased	Increased	Unchanged	Increased	Confirmed
Grassroots (t1)	Limited	Low	Low	Low	Confirmed
Grassroots (t2)	Increased	Unchanged	Slightly decreased	Sharply increased	Confirmed
* In the field of eco-efficiency					
** In the field of sustainability					

Second, the consistent resistance to important stakeholder demands has culminated in a strong pressure for change. For many years, Marketeer has not been (fully) able to comply with its permit requirements. This has involved the accumulation of governmental irritations and charges, which have finally induced

Figure 5.7: The co-evolution of learning and stakeholder scope
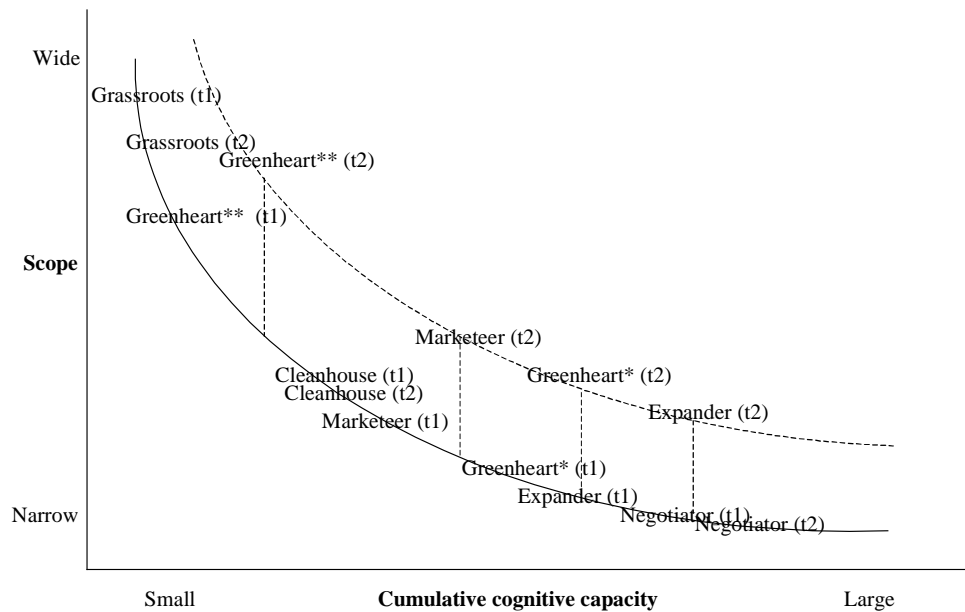
Marketeer to engage in major changes of its environmental management structure and stakeholder relations.

Figure 5.7 shows the relations between the focal organizations' cumulative cognitive capacity and the scope of their stakeholder relations (such as indicated by the degree of relational recency, relational heterogeneity, and strategic content of contacts). The solid line shows the predicted relationships. The vertical dashed lines show the deviations from the expected combinations of scope and cumulative cognitive capacity.[35] The organizations for which the original curve is punctuated by discontinuities and/or a cumulatively large pressure to change have moved to the dashed curve, which represents a new set of combinations. Note that these companies have not only gone through important changes of their stakeholder relations but have also learned in a leapfrog way.

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[35] The curvilinear relations between cumulative cognitive capacity and scope indicate that an organization's scope is reduced relatively much when an organization has little knowledge in a particular field (i.e., many of the potentially relevant stakeholders lose significance at early stages) and virtually no more when an organization has accumulated many insights (i.e., most of the stakeholders whose value has been recognized throughout the learning process will continue to be regarded as important).

In this chapter, I have described the processes of stakeholder influence and organizational learning that took place in the focal organizations at different points in time. I have used these results to analyse the three hypotheses. The outcomes of the hypothesis testing and other salient results provide inputs for the next chapter. It will discuss the implications of the empirical outcomes for the three hypotheses, for the model of interactions between influence and learning, and for the extant literature.

6 Discussion

The literature review in chapter 2 led to the development of a basic model of interactions among stakeholder influence and organizational learning, as well as a set of hypotheses. Chapters 4 and 5 outlined the results of the empirical study. Chapter 4 provided mainly contextual information of six case studies. Chapter 5 described the processes of stakeholder influence and organizational learning that occurred in the different cases. Besides, the different hypotheses were tested. The purpose of the present chapter is to relate the empirical findings to the theoretical framework that was developed in chapter 2. I first discuss the implications of the empirical outcomes for the different hypotheses. For each hypothesis, I recap the empirical results and interpret them against relevant literature. Afterwards, I discuss the implications of the outcomes for the basic model. An adjusted model of interactions is presented. The final section is reserved for implications of the study that go beyond the selected hypotheses.

6.1 Implications from the preceding analysis

The literature review resulted in the development of three hypotheses. These concern the triggers of organizational learning processes (hypothesis 1), the occurrence of critical roles in learning processes (hypothesis 2), and the co-evolution of learning processes and stakeholder relations (hypothesis 3). Each of these hypotheses is addressed in the light of the empirical findings.

6.1.1 Discussion of hypothesis 1

Hypothesis 1 specifies triggers of organizational learning processes. These triggers are expected to induce organizational actors to engage in actions that involve organizational learning. These inducements can either match with the aims of internal actors or be inconsistent with them yet unavoidable. This implies that organizations are expected to start to learning when its members want to or have to. The empirical results derived from the six case studies corroborate this hypothesis. In all cases where effective organizational learning processes occurred, a causal link was found between the objects of learning and the demands from important stakeholders. Most cases showed a combination of compatible and inevitable claims.

The influence literature focuses on the interactions between influencers and influencees. Resource dependence theory states that dependence on external stakeholders induces organizations to formulate effective responses as a way to reduce their dependency (Pfeffer and Salancik 1978). The case study of Negotiator revealed this type of behaviour when the company bargained with supranational government over new environmental regulation. Institutional theory identifies the importance of quasi-irresistible institutional influences to which organizations accommodate (DiMaggio and Powell 1983). The behaviour of Expander, Marketeer, and Cleanhouse in their contacts with local governmental bodies displays this character. All of these organizations tried to comply with the prevailing regulation. However, the resource dependence and institutional perspectives both implicitly assume that organizations are able to draw on the cognitive capacities that enable them to respond effectively to stakeholder pressures. This assumption does not always hold, as the Marketeer case shows. The organization was exposed to stringent governmental demands but did not have the cognitive capacities to comply scrupulously with regulatory requirements.

Marketeer's incapacity to effectively respond is inconsistent with Porter and Van der Linde's (1995) hypothesis that stringent regulation leads to the development of new cognitive capabilities and competitive advantages (Porter and Van der Linde 1995). Their hypothesis does hold in the Negotiator case, where inevitable governmental regulation induced the division to engage in eco-efficient behaviour and the pursuit of a green marketing image. Consequently, the original hypothesis needs to be qualified, because not all organizations are capable of effectively responding to stakeholder demands.

Therefore, the first implication of this study is that the assumption that organizations possess the capacity to respond effectively to stakeholder pressures-which arises in much of the literature on influence- does not always hold.

The organizational learning literature resolves this gap in the literature on influence, by clarifying the organizational processes that do (or do not) lead to increased behavioural capacities. However, this same literature tends to ignore the reasons why organizations begin learning. It is assumed that cybernetic learning processes take place quasi-automatically. Learning is represented as the succession of certain actions, without any causal inducements being specified (Huber 1991; Morgan 1997). Alternatively, searching for solutions to problems- which brings about learning- is referred to as 'problemistic search' (Cyert and March 1992). However, behavioural theories tend to merely assume the existence of problems, and generally ignore the ways in which their origins triggered organizational actions.

Consequently, the second implication of this study is that the organizational learning literature needs to address the ways in which causal triggers of learning operate.

Much of the influence literature assumes that business organizations behave as if they were monolithic entities. When analysing organizational responses to external pressures, resource dependence and institutional theories assume that organizations speak with one voice (Oliver 1991; Pfeffer and Salancik 1978; DiMaggio and Powell 1983). Likewise, stakeholder theory tends to focus on external stakeholders and sheds little light on important internal actors (Donaldson and Preston 1995; Freeman 1984; Carroll 1996). Several of the cases in this study show that the assumption of concerted organizational behaviour does not always hold. Greenheart's search for sustainability was hampered by a partial conflict of interests within the company. The CEO and the corporate environmental coordinator stressed the sustainability objective, but subsidiaries focused mainly on productivity. Marketeer was not capable of engaging in concerted actions due to the lack of internal coordination. Although the CEO, the corporate and divisional coordinators, and laboratory pursued regulatory compliance, their actions were not well aligned. Moreover, operators showed little commitment to the environmental aspects of process control. Negotiator did act in an internally concerted way but its response to environmental demands was a compromise between the divisional environmental coordinator (stressing environmental objectives), business units (pursuing profitability), the purchasing department (reserving an escape clause), and the marketing department (opposing to environmental initiatives that raise sales prices). Several scholars recognized the significance of divergent organizational aims and non-aligned behaviour of internal actors (Cyert and March 1992; Schein 1996; Cohen et al. 1979; Mintzberg 1983b). Yet, the empirical literature on intraorganizational dynamics is scant, though notable exceptions exist (Prakash 2000; Clarke and Roome 1999; Pfeffer 1992).

The third implication is, therefore, that- despite the lack of attention in the (empirical) literature- intraorganizational dynamics are highly important in processes of organizational learning and stakeholder influence.

6.1.2   Discussion of hypothesis 2

The second hypothesis specifies critical roles in organizational learning processes. The presence of different roles (sponsor; boundary spanner; idea generator and/or internal entrepreneur) is expected to lead to effective learning processes. All

empirical outcomes support this hypothesis. In two cases, the concurrence of three key roles brought about a (fairly) high learning capacity. In three cases, the combination of all four roles induced effective organizational learning processes. In the remaining case, only two roles were found, and the organization showed a lower learning capacity than in the other cases.

The organizational learning literature tends to stress the importance of three key roles. While a variety of terms are used to identify these roles, they can be described as sponsors, boundary spanners, and internal entrepreneurs (Nonaka 1996; Senge 1999). Tushman and Nadler (1996) added the role of idea generator. The available evidence shows that the presence in an organization of these three or four roles leads to effective learning processes. However, the combination of sponsor, boundary spanner, and idea generator (without the role of internal entrepreneur) may also lead to an effective learning process, as the Greenheart case shows in relation to the company's exploration of the concept of sustainability. This contrasts with the exploitative nature of Expander's learning process on the expansion of its sustainable business (cf. March 1991). The other organizations that learned effectively were engaged in processes that were both explorative and exploitative, though the extent of each differed as between the cases. Negotiator was involved in both fundamental innovations and the fine-tuning of existing purchasing and manufacturing practices. Cleanhouse had just engaged in systematizing its environmental management. At the same time, it was intent on improving well-known areas of practice, such as energy management. Grassroots had co-created the Local platform, which had started to explore the completely new area of regional socio-economic development. Concurrently, the Platform tried to realize concrete initiatives. The Marketeer case showed 'negative' evidence: the absence of the critical role of boundary spanner hampered the intraorganizational exchange of local knowledge (Von Hippel 1994) and the identification of solutions to problems that were too complex to be managed by individuals or individual departments (Simon 1973).

Therefore, the fourth implication is that several combinations of key roles can lead to effective organizational learning processes: the combination of sponsor, boundary spanner, and internal entrepreneur (as Nonaka and Senge suggest); the combination of sponsor, boundary spanner, and idea generator (which seems to be unprecedented in the literature); and the combination of sponsor, boundary spanner, idea generator, and internal entrepreneur (as Tushman and Nadler argue).

When dealing with key roles in organizational learning, the literature implicitly assumes that actors are sufficiently influential to fulfil these roles (Coopey 1996; Romme 1999). Some of the empirical findings challenge this assumption. In the

Greenheart case, several actors (subsidiary environmental coordinators, environmental working groups) could have fulfilled the role of internal entrepreneur. Although their importance was recognized, the lack of resources strongly limited their leverage and influence. In the Expander case, several external actors (local government, an environmental pressure group) generated new ideas. However, Expander did not identify them as important. Likewise, Marketeer discarded the suggestions of local government on the adoption of best practices. In the Marketeer case, the corporate environmental coordinator- who could have fulfilled the role of boundary spanner- was not regarded as influential by other internal actors.

Thus, the fifth implication is that the influence of key actors in organizational learning processes should be explicitly addressed.

6.1.3 Discussion of hypothesis 3

The final hypothesis postulates that stakeholder relations co-evolve with learning processes. That is, the more organizations learn, the more stakeholder relations become focused (which manifests through stable, relatively homogeneous, and operational relations). All first-round observations supported this hypothesis. The scope of organizations with a limited cumulative cognitive capacity in a certain area, like Grassroots' Local platform and Greenheart (with respect to the conceptualization of sustainability), was clearly wider than the scope of organizations which had accumulated more insights into relevant environmental issues (especially Expander and Negotiator). Cleanhouse, Marketeer, and Greenheart (with respect to eco-efficiency) took intermediate positions. The second-round results of Grassroots' Local platform, Cleanhouse, and Negotiator were also in line with this hypothesis. These organizations had learned more and had (slightly) reduced their scopes of important stakeholders. But the second-round outcomes of the Greenheart, Expander, and Marketeer cases falsify the hypothesis. Greenheart faced two discontinuities: the take-over by another company and the arrival of a new corporate environmental coordinator. Expander experienced discontinuities arising from a merger with another major company and the replacement of a sectoral agreement with government by market incentives. The Marketeer case had one discontinuity (an exponential growth in business) and one cumulatively very large pressure (many charges and bad publicity because of non-compliance with regulation).

The organizational learning literature consistently points to the tendency of organizations to prefer exploitation over exploration. For example, the adoption of

solutions that satisfice (Cyert and March 1992) or the existence of learning curve effects (March 1991; Levitt and March 1995; Argote 1999) encourage organizations to consistently proceed in established directions. Organizations may not be readily capable of adapting their cognitive capacities (Leonard-Barton 1992; Hannan and Freeman 1984). The influence literature argues that existing practices tend to be perpetuated due to the prevalence of power deadlocks (Cyert and March 1992; Nelson and Winter 1982; Valley and Thompson 1998). Finally, a substantial, mainly psychological literature highlights the desire of individuals and organizations to maintain existing situations, which enables them to avoid (unnecessary) uncertainty (Rabin 1998; Laibson and Zeckhauser 1998; Pfeffer and Salancik 1978; DiMaggio and Powell 1983; Argyris and Schön 1996; Senge 1990, 1999).

A heterodox view is the punctuated equilibrium perspective, which highlights the possibility of radical changes of prevailing power structures (Tushman and Romanelli 1985; Romanelli and Tushman 1994). Long periods of relative stability are punctuated by rapid, major changes. Meyer et al. (1993), Tushman and Romanelli (1985), and Romanelli and Tushman (1994) argued that configurations of interrelated actors show strong resistance to change, because the modification of individual elements threatens to destabilize the whole configuration. Therefore, changes by individual actors are unlikely to materialize. In the present study, existing configurations of interrelated stakeholder influences either remained intact (i.e., virtually no changes took place) or were subject to major changes (i.e., modifications were so important that very different configurations came about). This finding is compatible with the punctuated equilibrium perspective.[36]

A sixth implication is, therefore, that- in contrast to the arguments in most of the learning and influence literatures- important changes of stakeholder relations and learning trajectories are possible and not exceptional.

The literature on networks and social capital tends to argue that stakeholder relations should be either loose or tight (Gargiulo and Benassi 2000). The traditional view of social capital pleas in favour of tight networks with much normative and informational redundancy (Coleman 1988), while the heterodox position states that loose ties with relatively little redundancy are the preferred network structure (Burt 1998; Granovetter 1973). Both perspectives fail to recognize that networks evolve dynamically. The empirical findings show that relational networks evolve, from looser to tighter couplings and the other way round. Stakeholder relations with broad

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[36] At first sight, it seems to be at odds with the view of smooth, continuous changes (Brown and Eisenhardt 1997). Yet, when the continuous search for new organization modes and products becomes an institutionalized modus operandi in an organization, it can be interpreted as a situation of relative stability (which is, again, compatible with the punctuated equilibrium view).

scopes and relatively loose structures- with recent contacts, much heterogeneity, and strategic contacts- were found in early stages of the organizational learning trajectory. This is in line with the arguments of Argote (1999) and Weick and Westley (1996) that heterogeneity and recency are conducive to the exploration of novel paths. A narrow focus and a tight relational structure- with stable contacts, much homogeneity, and operational contacts- were found to be valuable at later stages in network development, when concrete results need to be realized. This supports the argument that homogeneity and relational stability among interrelated actors are conducive to the performance of exploitative tasks (Argote 1999; Weick and Westley 1996; Weick and Robert 1993). The contingency of the most suitable network structure on the nature of prevailing tasks is recognized in the literature (Hansen et al. 2001). However, the co-evolution of relational networks and cumulative cognitive capacities is a blank area in the literature. Nooteboom (2000) discussed the changing scopes of organizations in conjunction with the evolution of their cognitive capacities, but did not address stakeholder networks.

Therefore, the seventh implication is that- unlike suggested in the literature-relational networks in a particular field evolve, and are related to an organization's cumulative cognitive capacity.

6.2   Other implications

6.2.1   The basic model revisited

The three hypotheses were derived from the basic model, which was presented in section 2.4.1. The outcomes of the discussion in the preceding section also have implications for the basic model. Hypothesis 1 was confirmed. So the causal relationship between stakeholder demands and organizational responsiveness is maintained. The evidence shows that unavoidable and/or compatible stakeholder demands appear to provoke organizational responsiveness (and organizational learning, which is its corollary). Hypothesis 2 was also corroborated. Thus, when organizations formulate compliant responses in which three or four key roles are fulfilled, then effective organizational learning takes place. So there is a link between responsiveness and learning. Hypothesis 3 was partially falsified. Certain cases showed the predicted inertial pressures, resulting in the co-evolution of an organization's cumulative cognitive capacity in a particular field and the focus of its

Figure 6.1: Interactions of influence and learning (2)
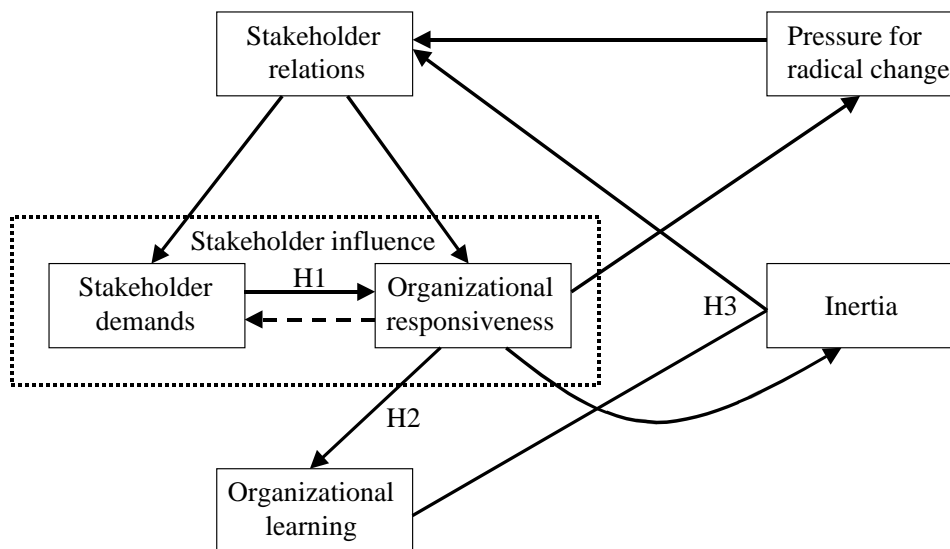
 stakeholder relations. But other cases were inconsistent with the predictions about co-evolution, which implies that the basic model needs to be adjusted in this respect.

The cases that were not in line with hypothesis 3 had been subject to pressure for radical change, which had 'overruled' the existing inertial pressures. The pressure for radical change arose from exogenously determined discontinuities: a take-over, the arrival of a new environmental coordinator, and an exponential growth in business. Another source of pressure was endogenous. The consistent lack of responsiveness had built up the pressure of major stakeholders to engage in radical change: Marketeer's non-compliance with regulatory requirements led to the accumulation of governmental charges and bad publicity for the company. These induced the company to change its internal environmental management practices in a radical way. In terms of the basic model, a causal link should thus be added from organizational responsiveness to the pressure for radical change, which in turn affects future stakeholder relations.

Figure 6.1 represents the adjusted model.

The eighth implication is that a high degree of organizational responsiveness to stakeholder demands brings about inertia, while a low degree of responsiveness ultimately culminates in a pressure for radical change.

6.2.2 Beyond the hypotheses

The environmental issues perceived as strategically important in each of the six cases were different. Greenheart's objective was the achievement of sustainable business operations. Expander was mainly concerned with the extension of its sustainable production capacity. Marketeer sought to increase the sales of its environmental services and to control its internal processes. Negotiator pursued the realization of eco-efficiency and a green marketing aura. Cleanhouse aimed at the systematic control and improvement of its internal environmental management practices. Grassroots tried to foster regional socio-economic development within a framework of restrictive environmental regulation.

In the same way, the sets of stakeholders relevant in each case were different. Greenheart identified actors who provide sustainability-related knowledge (national government and the corporate technical staff), as well as those who take and implement decisions in this area (the CEO, the corporate and subsidiary environmental coordinators). Expander's set of stakeholders consisted mainly of actors that enabled or constrained the business unit to increase its sustainable production capacity (especially the business unit manager, local governmental bodies, and environmental pressure groups). Marketeer focused on stakeholders who affected their environmental sales (customers), prescribed environmental boundary conditions (local governmental bodies), and were in charge of controlling internal processes (the CEO, the corporate and divisional environmental coordinators, laboratory, and the operating staff). Negotiator identified actors who were directly or indirectly related to the division's green marketing image and sales (customers, associations of customers, environmental pressure groups, governments), who influenced eco-efficiency related regulation (supranational and national governments, competitors), as well as those who could help improve its technical environmental performance (the divisional environmental coordinator, the business units, the purchasing and marketing departments). Cleanhouse's stakeholder set consisted of actors who encouraged the organization to systematize and improve its environmental management (local government and a public body), who provided information (the local trade association and the national sectoral platform), as well as those who took and implemented decisions on systematic approaches to environmental management (the manager of the directorate facilities, the environmental coordinator, and the basic group environment). Finally, all major actors that participated in Grassroots' Local platform (the focal unit manager, local governmental bodies, the local trade association, the local public body, local schools, the local environmental association, and the Platform manager) fostered regional economic development.

The sets of relevant stakeholders are thus related to the environmental issues that each organization perceived as strategically important. Yet, some of the stakeholder literature presents universal lists of stakeholders (owners, employees, suppliers, customers, government, special-interest groups, etc.), as if all potential stakeholders would be relevant in any situation (Freeman 1984; Carroll 1996; Donaldson and Preston 1995). Mitchell et al. (1997) went beyond this naïve position by providing criteria for identifying the salience of different stakeholders: power, urgency, and legitimacy. Yet, these criteria fail to specify why stakeholder claims or inputs are perceived as powerful, urgent, and legitimate. The assessment of the strategic environmental issues that are critical to organizations thus fills a gap in the identification of important stakeholders.

Therefore, the ninth implication is that- in contrast to statements in the stakeholder literature- relevant stakeholder sets are contingent on the prevailing strategic environmental issues.

Because of time constraints, the present study examined only dyadic stakeholder relations. I investigated the relations between central actors (mostly environmental coordinators) and peripheral actors (important internal and external stakeholders). I did not explicitly address the relationships among peripheral actors. Yet, multilateral networks of influence (i.e., configurations of influence in which actors have direct contacts with several other actors, as opposed to the hub-and-spoke configuration with a central actor) emerged from different cases. Cleanhouse had direct relations with the local trade association and waste processors, Yet, the trade association also interacted directly with waste processors on the issue of waste processing. The behaviour of Negotiator's divisional environmental coordinator was affected by customers, associations of customers, national and supranational governments, environmental pressure groups, and competitors. Yet, many interrelations existed among these peripheral stakeholders. The multilateral network of governments, associations of customers, environmental pressure groups, and competitors affected Negotiator's green market positioning. National government and competitors lobbied or negotiated with supranational government, thus shaping supranational environmental regulation. Grassroots' focal unit manager had direct relations with local governmental bodies, the local trade association, the local public body, local schools, and the Platform manager. Yet, these actors also communicated directly with one another with respect to regional economic development.

The existence of multilateral, theme-oriented networks does not imply, however, that all actors fulfil similar roles. Cleanhouse's multilateral network consisted of stakeholders with economic influence (waste processors), coalescent influence (the trade association), and informational influence (the environmental coordinator).

Negotiator's multilateral web consisted of actors with formal influence (supranational and national governments), economic power (customers, competitors), social influence (environmental pressure groups), and coalescent influence (national government and competitors). Finally, the actors who made up the multilateral network of Grassroots' Local platform exerted formal influence (local governmental bodies, the local trade association, the local public body, local schools, and the focal unit manager), economic power (government and the public body), social influence (the trade association), coalescent influence (government, the trade association, the public body, schools, and the focal unit manager), informational influence (schools, the focal unit manager, and the Platform manager), and operational influence (the Platform manager). As the different stakeholders provide different inputs, multilateral networks thus consist of heterogeneous elements.

The existence of multilateral networks of influence around specific issues is neglected in most of the stakeholder theory, which merely assumes dyadic ties (Freeman 1984; Carroll 1996; Donaldson and Preston 1995). It is thus assumed that organizations consider each stakeholder influence in isolation, and manage the relation with each stakeholder on a bilateral basis. This leads to a view of stakeholder relations as a set of ties that show no interactions.

Rowley (1997) addressed the multilateral nature of stakeholder relations. He applied a social network analysis to the management of stakeholders, and argued that the appropriate way to manage interrelated stakeholders is contingent on the density of the stakeholder network and the focal organization's centrality in the network. It seems to me, though, that this approach has serious limitations. In social network analysis, one may reasonably assume that a particular piece of information passes through the different nodes of a network (Wasserman and Faust 1994), even though the cognitive backgrounds of the different actors shape their perception of the information (Bazerman 1997; Hargadon and Sutton 1997; Morgan 1997; Huber 1991). The fact that individual actors tend to understand only a part of a complex system like a multilateral network (Roome 2001a, 2001b) is not problematic to the extent that the informational output of one actor constitutes a valuable input for another actor (Simon 1973). But when connecting actors who provide heterogeneous inputs (such as formal influence, coalescent influence, or informational influence), the value of formal network analysis seems to be limited. The present study has shown that actors who are connected through multilateral networks affect one another in different and often divergent ways. This makes it difficult to formulate plausible overarching statements, such as those based on network density and centrality.

Thus, the tenth implication is that stakeholder influences may consist of multilateral, heterogeneous networks, which have been insufficiently or inappropriately addressed in the literature on stakeholders and networks.

Qualifiers abounded in the present study. Terms like 'very important', 'major changes', 'slightly different', 'relatively heterogeneous', 'fairly stable', 'incremental', etc. were used frequently. This raises the question, whether I should have used more precise, quantitative expressions. Smith et al. (2001) tried to come to grips with this issue by quantifying qualitative characteristics of innovations, such as radical versus incremental innovations and core versus peripheral innovations. Yet, it seems to me that this question is insoluble, because there are often no commonly accepted yardsticks against which qualitatively different matters can be assessed and compared. One may ask a respondent to rate, for example, the extent of change on a Likert scale, which yields an apparently precise quantitative measure. Yet, such a question does not solve the fundamental problem that different respondents interpret the importance of changes differently. For instance, an event may be interpreted as a small step by one respondent and as a giant leap by another person. Besides, comparisons between matters are complicated by heterogeneity. It is, for example, difficult to compare the importance of a person with formal power to the significance of an actor with informational influence. Furthermore, certain observations- such as changes of an environmental management structure or the extent to which an organization manages its stakeholder relations well- are particularly hard to quantify. Therefore, it is not surprising that qualifiers frequently occur in studies of influence and change (Romanelli and Tushman 1994). And empirical studies of organizational learning- other than the progress on the learning curve of standardized products (Argote 1999)- are particularly rare (Miner and Mezias 1996).

So the precise assessment of issues that are qualitatively different, subject to personal interpretations, or hard to quantify is particularly difficult. Yet, it seems that progress can be made in the systematization of such issues. When quantification is not possible, ranking may be. Or constructs which are intuitively clear or appealing can be made more explicit. An example would be to name and weigh the elements of which the heterogeneity of stakeholder relations exists. It should be kept in mind, though, that words and numbers have different functions (Mc Closkey 1983). Numbers score high on precision and comparability, while words score highly as to the range, nuances, and flexibility of expression.

Therefore, the eleventh implication is that qualifiers in empirical research need to be dealt with in a more systematic way, though the limits of quantification should be recognized.

Finally, the question can be raised as to the the extent to which the findings from the present study are generalizable. Is the empirical study representative of the environmental management practices of large business organizations? I selected the focal cases in order to achieve a diversity of organizations, in terms of sector, geographic market, profit orientation, and age of creation. As argued in section 3.2, the achievement of conclusive results from a research sample with a high contextual variety points to the existence of a high external validity. This is the situation in the present study. The extent to which the findings are representative is, however, somewhat restricted because of the self-selection bias in the research sample. The focal companies tended to be relatively proactive in their environmental management practices, which implies that the present results should be interpreted with caution when making statements on organizations with highly reactive environmental strategies.

The question can also be raised whether the results hold for other fields. Are the patterns of stakeholder influence and organizational learning, which were identified in the field of environmental management, also valid for other areas? First, it may be argued that environmental management is a peripheral activity, which is different from the core activities of business organizations. In the Marketeer case, environment represented the company's core business. In other cases (Expander, Negotiator), the environment also represented a business opportunity, though to a more modest extent. Here, environmental management can be interpreted like the management of any other business activities in which companies are involved. Second, environmental management may be thought of as a particular (and thus unrepresentative) field because of the relatively important prevalence of constraining external stakeholder pressure, especially governmental regulation (Kolk 2000; Groenewegen et al. 1996; Boons et al. 1998). Yet, governmental prescriptions are valid in all kinds of fields (ranging from the regulation of competition to legislation on labour conditions). Besides, the dependence on external actors is a major issue in several mainstream organizational theories, such as the resource dependence and institutional views (Pfeffer and Salancik 1978; Oliver 1991). Third, it may be stated that, unlike other fields, environmental management is holistic in nature. Environmental issues involve indeed strong interrelationships among many internal and external parties. But other business issues are often also holistic in nature. Products cannot be effectively marketed without simultaneously considering procurement and production issues. Likewise, quality and labour issues touch upon all departments of an organization. Fourth, one may argue that the emerging nature of environmental management makes the field hardly comparable to others. It should be noted, though, that environmental management practices in large companies have existed for a few decades (at least in

Western Europe) and that they have become increasingly institutionalized. Besides, a relatively recent challenge like environment is to be managed like other novel issues (like information technology).

Thus, the twelfth implication is that the findings from the present study are largely generalizable, both for the field of environmental management and for other organizational areas.

This chapter has related the outcomes from the empirical study to the theoretical framework. I have identified several implications for the extant literature that result from the test of the hypotheses. I have also revisited the basic model, and have provided implications of other empirical findings for the existing literature. The final chapter will draw conclusions from this and all preceding chapters and will answer the basic research question. The next chapter will also reflect on the research design, including scope and limitations. Finally, there will be recommendations for academia, government, and business.

7 Conclusions and recommendations

The previous chapter confronted the empirical results with the theoretical framework. I discussed the outcomes from the case studies (such as reported in chapters 4 and 5) in the light of the theoretical framework (established in chapter 2). I discussed a number of implications that the empirical outcomes have for the developed hypotheses, the basic model of interactions between influence and learning, and the literature at large. In this final chapter, I recap the major findings from all preceding chapters and reach conclusions. I also indicate the scope and limitations of the present study. Finally, I make recommendations for different communities. I indicate how academia, government, and business can benefit from the outcomes of this study.

7.1 Conclusions

The present study scrutinizes the relations between stakeholder influence and organizational learning in the field of environmental management. Business organizations are increasingly confronted with (external) stakeholder demands over environmental issues. Governmental environmental regulation and customer demand for environmentally benign products are obvious examples. Business organizations are induced to develop cognitive capacities to meet these demands. This gives rise to organizational learning, which requires the participation of (internal) stakeholders. So the fields of influence and learning are strongly interrelated. Yet, the literature tends to address each area in isolation. This study of the interrelations among stakeholder influence and organizational learning thus fills an important gap in the literature. It is also a practically relevant problem, because many (large) business organizations have to manage environmental problems.

A *review of the corporate environmental management literature* revealed three reasons why environmental issues may be important to business organizations. Environment constitutes: a constraint (resource depletion and pollution lead to (governmental) claims that restrict an organization's discretion); a market opportunity (stressing environmentally benign product characteristics enhances sales); and a source of resources (environmental inputs are crucial to virtually any economic activity). A palette of strategies can be applied to manage environment as a constraint. They range from the (highly reactive) contestation of, or non-compliance with, environmental regulation through 'voluntary actions' and compliance to the

(relatively proactive) position of acting beyond compliance. Due to increased societal pressure, (Western) business organizations have displayed increasingly proactive behaviour. Environmentally benign products are marketed like any other products, though green claims often have to be legitimatized by external parties. The corporate management of environment as a source of resources has hardly received attention in the literature, probably because business organizations do not yet perceive it as critical due to the abundance of many environmental inputs.

All environmental issues are characterized by systemic complexity. At the organizational level, important interrelations exist among different departments and between hierarchical layers of an organization, so environmental management cannot be confined to a specialized department. At the meso level, interdependences exist between different elements that make up a product chain. An organization engages in chain management when it cooperates with its suppliers and customers to reduce a product's overall environmental impact. At the macro level, different product chains, regions, and generations are interrelated. When organizations recognize these macro interrelations and acommodate their behaviour to ensure that they operate within their boundaries, they are involved in sustainable management. Important internal actors in environmental management are top management, operators, and environmental coordinators. Significant external stakeholders are government, suppliers, customers, and societal groups.

The *literature on influence* is vast but disparate. Inspired by the views from social psychology, resource dependence, institutions, contingency, collective action, and social networks, I crafted an overarching typology. It consists of formal influence (stemming from hierarchical authority and legal enforceability), economic power (inspired by material incentives), social influence (based on immaterial norms and values), informational influence (stemming from the transfer of information), operational power (related to the ability to implement decisions), and coalescent influence (based on joining forces with others). The influence literature is far more powerful when eclectic, overarching typologies (like the present one) are applied, which build on- rather than neglect- the established literature.

The basic process of influence involves an influencer, who disposes of a valuable resource (such as formal power), and an influencee, whose behaviour is affected by the influencer's resource. A third actor may be involved as an ally to the influencee. The influencee has three basic response strategies: compliance (the mere adoption of the influencer's resource), resistance (the active declination of the proposed inputs), and counter-influence (the influencee's attempt to affect the influencer's inputs). The concurrence of multiple processes of influence- as is common in the organizational context- leads to either conflicts of interests (which (partially) neutralize individual influence processes) or cooperation (when individual processes are aligned and

reinforce one another). When particular configurations of influence have crystallized out, they show strong inertial tendencies. They are caused by power deadlocks (changes that might decrease the influence of certain actors are likely to meet resistance) and the preference of organizational actors to avoid uncertainty.

The stakeholder view has recently acquired some prominence in the management literature. I regard the stakeholder theory as a subset of the influence literature. Its added value is in specifying the different sources of influence and in identifying important actors with whom no direct (contractual) relations exist. Major internal stakeholders are operators, technical support staff, and top management. Salient external actors are owners, suppliers, customers, competitors, governments, and societal pressure groups.

The *literature on organizational learning* is relatively conclusive, even though a multitude of labels exist to express the two polar types of learning: explorative learning (when fundamentally new behavioural capacities are acquired) and exploitative learning (when existing insights are extended). Learning involves obtaining and retaining new knowledge. Organizational learning differs from individual learning, because it involves the collective sharing of new knowledge. The motivation to share knowledge is an important, though often neglected aspect in the (network) literature. Organizational learning is also affected by group composition. Heterogeneous groups thrive in explorative task environments, while homogeneity is conducive to the exploitation of ongoing activities. Once organizations have started exploring particular fields, they tend to perpetuate their engagement to those fields. This path dependence, which gives rise to exploitative learning, is induced by a number of factors. These include cognitive biases (new information that is similar to existing knowledge is more easily assimilated), efficiency considerations (the exploitation of existing paths pays off more quickly), and the preference of uncertainty avoidance.

Critical roles in the process of organizational learning are fulfilled by idea generators (who come up with fundamentally new ideas), internal entrepreneurs (who convert fuzzy ideas into concrete actions), boundary spanners (who connect local actors to external sources of information), and sponsors (who encourage and protect new initiatives).

Subsequently, I derived a dynamic process *model,* which combines the literatures on stakeholder influence, organizational learning, and environmental management. The model presents a set of stakeholder relations, from which particular demands arise. These demands induce organizations to engage in actions. A high degree of organizational responsiveness to these demands is enabled by the availability of critical stakeholder inputs. Organizational learning, then, takes place as a corollary of

high responsiveness, because the experiences from responsive actions add to the existing stock of behavioural capacities. Once organizations have formulated particular responses and have engaged in particular learning processes, inertial pressures commit future stakeholder relations to those established in the present.

In order to focus the empirical analysis, three *hypotheses* were derived from the basic model. The first hypothesis deals with the origin of learning processes. It postulates that organizational learning is triggered by stakeholder demands that are either inevitable or compatible with the aims of major organizational actors. The second hypothesis concerns the learning processes themselves. It states that organizational learning is most effective when influential stakeholders concurrently fulfil at least three critical roles (boundary spanner; sponsor; idea generator and/or internal entrepreneur). The third hypothesis deals with the evolution of stakeholder demands and inputs. It postulates that the more organizations learn in particular fields, the more the scopes of their stakeholder relations in those fields narrow down (i.e., the more their stakeholder sets become stable, homogeneous, and operational in nature).

The *empirical study* was conducted from a critical realist perspective, which is close to an interpretative approach- thus taking an intermediate position between positivism and social constructivism. I chose to conduct case studies in order to observe actual processes and to assess configurations of (causal) factors. Tailoring the field research questions to the underlying constructs enables the achievement of a high construct validity, while addressing causal relations is conducive to the realization of a high internal validity. A pilot study was conducted to test the feasibility of the research method and to inform the initial formulation of the basic model. The main study consisted of six large business organizations that perceived (different) environmental issues as important. A variety of sectors was selected in order to rule out sectoral specificity, thus enhancing the external validity of the findings. Data were collected through semi-structured interviews, site visits, and documentation. Interviews were conducted in two rounds in order to observe longitudinal changes. The first round involved all the internal and external stakeholders perceived by the central actors as important, while the second round interviews were confined to the central informants. I transcribed all interviews and relevant parts from other observations and documents. All transcripts were analysed in a standardized way. With the help of a qualitative software package, I attributed pre-established codes (which cover different aspects of the hypotheses) to relevant pieces of text. Case reports were written on the basis of clusters of coded pieces of text. These referenced reports were converted into the final case analyses. The objective of this explicit, standardized analysis was to realize a high reliability, which is often problematic in case studies.

The *empirical results* were presented in two parts. In the first part, I described the organizational antecedents and the environmental management structure for each case. They provided the contextual backgrounds of the different cases. I also gave an overview of the major stakeholders in each case study. In the second part, I described the influence of internal and external stakeholders and the organizational learning that took place for the different cases. The purpose of the latter part was to identify what causal factors and processes were at work. Subsequently, I tested each hypothesis, first on an individual basis and finally on a cross-case basis.

The first hypothesis was corroborated. In three situations, the interests of internal stakeholders were (largely) compatible with the demands of important stakeholders. The case studies revealed other examples of effective learning, which derived from a combination of compatible and inevitable stakeholder demands. The environmental areas in which the focal organizations were competent suggested causal relationships with critical stakeholder demands. The second hypothesis was also confirmed by the evidence from the case studies. In two cases, the concurrence of three critical stakeholder roles was associated with a high capacity for organizational learning. In three cases of effective learning, all four learning roles were in evidence. The remaining case showed a low learning capacity in conjunction and only two of the roles were observed. The third hypothesis was partially falsified. All findings from the first observation period confirmed the hypothesis: the organizations that had accumulated relatively many insights into a particular area had more focused sets of stakeholder relations. The results from the second round showed mixed results. Three focal organizations had become more focused in their stakeholder relations than the period before. But the remaining organizations had broadened the scopes of their stakeholders, while they had learned more. In these three cases, the widening of scopes was caused by discontinuities experienced by the organizations. In one case, it was also caused by the consistent failure to meet important stakeholder demands that had been expressed earlier. Here, the organization had understood that a higher degree of responsiveness was in its own interest. A more compliant response involved a broader scope.

The empirical results led to the adjustment of the basic model; the *new model* includes stakeholder demands for radical change. These demands for radical change are, to a certain extent, provoked by the continuous organizational resistance to important stakeholder claims. The basic research question, which addresses the relations between stakeholder influence and organizational learning in environmental management practices, can thus be answered as follows. Stakeholder influences occur when actors formulate 'demands' (i.e., claims or expectations) or offer 'supplies' (i.e.,

resources to meet demands). When important stakeholders formulate environment-related demands, organizations are induced to engage in actions. However, not all inducements involve compliant actions. Organizations themselves consist of actors with different stakes and objectives. When the envisaged actions are perceived to have a negative effect on the interests of major organizational actors, negotiation or resistance is the most likely organizational response. Once organizations respond in a certain way, they are unlikely to respond differently to demands of the same kind in the future if other responses involve a different distribution of consequences between internal interests. The formulation of compliant organizational responses requires the alignment of the behaviour of major organizational actors. This occurs when stakeholder inducements are either compatible with the objectives of the internal actors involved in responding to stakeholder demands or when these actors cannot (reasonably) resist the demands that are made. Compliance requires and also enhances specific cognitive capacities. Stakeholder demands are effectively met when influential actors attune their actions and simultaneously fulfil critical roles- as to the allocation of required resources, as well as the generation, distribution, and application of ideas. Organizations that comply also increase their behavioural capacities. The more organizations learn in a specific field, the more they are inclined to improve existing practices. When future problems of the same kind arise, organizations tend to narrow down the focus of their stakeholder sets. The strong inertial pressures- due to power truces, learning paths, and uncertainty avoidance- can, however, be overruled by stakeholder demands for radical changes. Such demands can be the outcome of an organization's persistent resistance to important demands or can have causes that are unrelated to existing demands.

A number of *other observations* emerged from the data, although these were not directly addressed by the hypotheses. First, the composition of stakeholder networks that were found in and around the focal organizations appeared to be derived from the strategic positions adopted by the respective companies. This relationship between network composition and strategic position contrasts with the universal lists of stakeholders that are encountered in some of the stakeholder literature. All of the focal organizations had different stakeholder networks, because they faced different environmental problems. Assessing which stakeholders are salient to a company is, therefore, related to the strategic issues that are perceived as important. Second, multilateral networks of heterogeneous influences were observed in several of the cases. The stakeholder literature tends to focus on (the management of) bilateral stakeholder relations. Multilateral networks have been well-researched in the social network literature, but these studies tend to deal with a homogeneous good (information). When studying stakeholder influences in and around large business

organizations, direct and indirect influences of different kinds need to be considered concurrently.

7.2   Scope and limitations

The present study elaborated a theoretical frame of interrelations between influence and learning. The field research focused on the management of environmental issues in six large business organizations at two points in time. So the *scope* of the present study concerns in the first place business organizations that are exposed to environmental problems of influence and learning. I selected the focal organizations in order to provide a variety of sectors, geographic markets, profit orientation, and age of creation. Despite the variation in contexts between cases, the results of the study are fairly conclusive. This points to the existence of generalizable patterns of influence and learning with respect to the environmental management of large business organizations.

The results of the study are also likely to hold outside the field of environmental management. In several cases, the environment provided companies with market opportunities that were not much different from other, more conventional business. Environmental issues also involved constraints like regulation, which are encountered in virtually any field of business. Environmental management is holistic in nature, like almost all business areas. And environment can be managed like any other upcoming issue that becomes increasingly embedded into the 'ordinary' business routines. So environmental management has many commonalities with other fields of business. Therefore, I believe that the present study has made a theoretical and empirical contribution to the general understanding of interrelations between stakeholder influence and organizational learning.

The study has *limitations.* First, the selected companies tended to be proactive in terms of their environmental management. Due to a self-selection bias (reactive companies were less likely to participate), the study was skewed towards environmentally well-performing organizations. Besides, there was probably a cultural and institutional bias, because all focal organizations were based in the Netherlands (although some had a global orientation).

Second, the sample covered different organizational units of analysis and different sizes. I selected the highest analytical level at which central actors identified a limited number of environmentally relevant stakeholders. The levels ranged from

the corporation via the division and the business unit to the working group. These different levels and the different sizes complicated the comparative analysis.

Third, the number of informants per case was relatively small. The outcomes of case studies of (very) large business organizations that are based on some ten interviews per case should be interpreted with caution.

Fourth, the second observation round consisted of interviews with one (central) respondent per case. A full-fledged interview round with all major stakeholders would have yielded a more complete picture. However, this was not possible within the given time frame.

Fifth, the evolution of the focal organizations was assessed at only two, relatively close points in time. A follow-up study, involving more assessments separated by a longer time period, would have given the basis for firmer statements on the dynamics of stakeholder relations.

Sixth, some respondents may have provided socially desirable information. Though I tried to avoid this by informing interviewees in advance that their identities and those of their organizations would be masked, the possibility of incomplete or twisted information cannot be excluded.

Seventh, the research itself was a learning process. Although I first conducted a pilot study, I extracted a smaller part of the total available information from the initial cases than from the final ones. As I accumulated more interviewing experience, my (subsidiary) questions became increasingly more focused and targeted. This implies that the final cases may provide a picture that was more complete than the initial ones.

Eighth, I only focused on first-order, bilateral relations between central actor and peripheral stakeholder. Because of time limitations, I used the snowballing method only to identify the first layer of peripheral stakeholders. This led to the identification of relatively small networks of stakeholders, in which indirect links (i.e., relations between peripheral stakeholders) were not explicitly addressed. With hindsight, this could have been partially solved within the given time restrictions by asking peripheral stakeholders to name the stakeholders that they perceive as important and to rate their importance. This would also have allowed for the assessment of redundancy and heterogeneity of relational networks. Besides, focusing on a limited number of actors creates the false impression that boundaries exist between the focal stakeholder networks and the wider social environments in which they are embedded.

Ninth, some issues or dimensions of the study were extremely hard to assess unambiguously or to convert into operational variables. Measuring the extent to which stakeholder influences and learning processes take place is difficult, especially when configurations of influence and objects of learning differ from case to case and are hard to capture in unambiguous, comprehensive variables. Although the analysis of the data was highly structured and the occurrence of influence and learning was

argued at length in the empirical part, several of my interpretations may be subject to debate.

Tenth, there are many potential interactions between influence and learning. I focused on only a few of them in order to keep the research manageable. The more my research advanced, the more a way of seeing may have become a way of not seeing other aspects.

7.3   Recommendations

The outcomes of the present study have a number of implications for the *academic* literatures on influence and learning. A first implication is that scholars should better explore the many common grounds of both literatures. The learning literature tends to ignore crucial aspects of influence. In particular, the ways in which the origins of learning processes operate (why and how do organizations start learning?) would benefit from more explicit attention. Besides, the learning literature should consider the extent to which crucial actors in the learning process are sufficiently influential (powerless actors cannot effectively contribute to learning). The influence literature, on the other hand, largely ignores the cognitive aspects of influence processes. It tends to assume that organizational actors are capable of effectively responding to stakeholder demands. It should be acknowledged, though, that inertia in organizational responses may stem not only from power truces but also from shortfalls in the organizational cognitive capacities to meet (novel) stakeholder demands.

A second implication is that intraorganizational processes should be put higher on the (empirical) research agenda. Groups- be they departments, companies, or networks- are not monolithic entities. They consist of- directly and indirectly- related actors, who have different roles, interests, and behavioural capacities. This explains, of course, why different actors behave differently. Conflicts of interests, mutually reinforcing effects, and composition are issues that explain why groups are not merely sums of individuals. Scholars should address such interactions more, because collective outcomes cannot be sufficiently understood without considering their micro underpinnings.

A third implication is that longitudinal changes of stakeholder networks need to be better understood. Instead of assuming that relational networks are static configurations, scholars should study their evolution. Longitudinal studies would, for example, shed a rich light on the question of why networks evolve differently in and around different organizations.

A fourth implication is that qualifiers play an important role in empirical research, although they should be used more systematically. It makes little sense to operationalize capricious constructs as tight proxies with a low construct validity, or to use common quantitative denominators for qualitatively different factors; such attempts only provide quasi-accurate outcomes. On the other hand, the meaning and use of qualitative expressions should be dealt with more systematically in order to achieve more uniform interpretations with a higher degree of comparability.

Government may improve the effectiveness of its policies regarding the environment by considering the following points. First, the extent to which government demands and enforces changes largely determines the extent to which business organizations are prepared to improve their environmental performance. Though ethical considerations and the exploitation of green marketing potential also played a role, governmental regulation was in all but one cases the main driver for business organizations to engage in environmentally more benign behaviour. So government was- directly or indirectly- a crucial external stakeholder. Yet, the scope of business' environmental actions also depended on the strength of the inducements to change provided by government. When government required marginal improvements, environmental actions largely consisted of relatively minor adjustments made within existing business frameworks. Only when government imposed stringent environmental measures, inertial forces in and around the focal organizations needed to be overcome. The study implies that if government wants to achieve dramatic improvements in certain environmental areas (say, the reduction of greenhouse gases or the maintenance of biodiversity), it might require the imposition of severe measures. This suggests that the ALARA ('as low as reasonably achievable') principle, which is widespread in government's present policy, might have to be abandoned more often. In this way, major changes in practices, which lead to radical improvements in performance, would occur more frequently.

Second, governmental regulation that meets initial resistance from business may turn out to be compatible with business objectives. Business organizations may wish to avoid measures that lead to short-term cost increases. When governmental measures are nonetheless imposed, business organizations can be obliged to reorganize their (production) processes or products. To the extent that regulation concerns emission reduction or energy efficiency, it may lead to innovative, eco-efficient measures that entail cost savings (less inputs for a similar product performance) for business. So governmental policy that ultimately leads to a higher eco-efficiency should be imposed, even if business is initially opposed.

Third, environmental regulation may include organizational measures. Regulation provides important inducements to improve environmental business

performance. But pressure alone is not enough. When business organizations do not have the cognitive capacities to respond effectively to regulation, they cannot improve their performance. A lack of organizational commitment and insufficient resources (especially qualified personnel) is a reason why companies fail to meet governmental requirements. When companies do not respect the prevailing regulation, government may prescribe organizational measures that enhance the probability of meeting regulation. A certifiable environmental management system or a detailed account of organizational resources attributed to environmental management are examples of such measures.

Fourth, government should not only target the companies with poor records but also the frontrunners. Business organizations that disrupt ecosystems relatively much should, of course, be encouraged to improve their performance. But government should also devote considerable resources to assist companies that go (well) beyond compliance. Those organizations may wish to further improve their performance, but fail to know how. As they are in the lead, they cannot rely on others' best practices for further improvements. Government should give advice, support think tanks, and broker knowledge among organizations in different private and public sectors, so that frontrunners can find better engineering and organizational solutions.

The following recommendations would be valid for *business.* First, only concerted organizational actions are effective. When the objectives of different company actors are too divergent, the organizational ambition level is likely to be low and/or opposing forces may offset one another. Although a complete compatibility between the objectives of different actors within an organization may not always be achievable, there should at least be a reasonable consensus as to the organizational course of action, to which all members commit themselves. This can be brought about by measures that reduce the gap between decision makers and those who implement decisions. Examples of such measures are action plans and joint meetings, which allow for the specification and alignment of the tasks and responsibilities of the different parties involved.

Apart from agreement among actors involved in a particular environmental issue, there should also be a compatibility of different organizational objectives. When environmental boundary conditions and business imperatives compete for the same organizational resources, priority is likely to be given to actions that are directly related to the company's core business. This situation can be avoided by allocating sufficient resources in advance to the different organizational areas, so that all activities (including the environment) can be performed well.

Second, environmentally relevant actors at all organizational levels should be sufficiently empowered. Top management should allocate the necessary resources for

environmental programs, because insufficient human and financial resources hamper the achievement of organization-wide environmental objectives. Environmental coordinators should be able to disseminate information effectively. This is not necessarily the case: coordinators tend to be staff officials without formal power. And persons with creative new ideas or practical suggestions should have enough room to challenge existing practices, which is far from easy against the backdrop of short-term business imperatives. When the environmental performance of individuals or departments becomes an element of (managerial) remuneration or promotional opportunities, the probability increases that organizational actors are sensitive to environmental information or are willing to search for environmentally benign solutions.

Third, today's proactive environmental initiatives are tomorrow's outdated practices. The environmental field has rapidly developed and keeps on evolving. Environmental regulation, at least in Western Europe, becomes ever stricter. Societal expectations that business organizations increase their environmental ambition levels and performance also keep on rising. Furthermore, the technical and organizational knowledge to solve environmental problems has steadily risen. This implies that companies cannot stick to the adoption and refinement of particular environmental practices, however advanced they were at the time they began to develop them. Organizational practices should co-evolve with the demands and supplies of the stakeholders on whom companies depend. The pertinence of existing practices should be regularly assessed in the light of the stakeholder demands that are important at the moment of their evaluation. If they turn out to be outdated, they should be adjusted or replaced.

Fourth, many environmental initiatives have positive financial spin-offs. Organizations may choose to resist environmental actions, arguing that they would negatively affect their cost prices (and hence their competitive positions). Yet, actions that aim at lower emission levels or higher energy efficiency force organizations to reconsider practices that have long been taken for granted. This may bring about substantial financial gains. Besides, systematized environmental management shows many parallels with quality management, so formalizing environmental practices is also likely to improve an organization's quality control. Furthermore, a better environmental record may enhance an organization's public image. This is not to say that all environmental initiatives imply 'win-win' situations, but new environmental initiatives should not be too easily waved away with the argument of negative cost implications.

Fifth, business organizations should increasingly consider systemic effects. Though companies may be tempted to focus on their own activities, they should also consider the effects of other actors involved. A large part of the overall environmental

impact is located elsewhere in the product chain. Supply chain management enables organizations to address environmental problems that go beyond their direct scope of control. Contacts with other sectors enable business organizations to observe other approaches to similar environmental problems, to explore synergies, and to solve common problems. Apart from direct contacts, organizations should also consider indirect links with external constituencies, which adds an additional dimension to their stakeholder networks. Though the acknowledgement of relational complexity is, for sure, subject to the bounded availability of resources (especially cognitive capacities and time), it is a further step towards a more sustainable environmental enterprise.

References

Angot, Jacques and Emmanuel Josserand (1999), Analyzing social networks, in: Raymond-Alain Thiétart et al., *Doing management research,* Sage Publications, London.

Argryris, Chris (1996), Skilled incompetence, in: Ken Starkey (ed.), *How organizations learn*, International Thomson Business Press, London.

Argyris, Chris and Donald Schön (1978), *Organizational learning; A theory of action perspective,* Addison-Wesley Publishing, Reading.

Argyris, Chris and Donald Schön (1996), *Organizational learning II; Theory, method, and practice,* Addison-Wesley Publishing, Reading.

Argote, Linda (1999), *Organizational learning: Creating, retaining and transferring knowledge,* Kluwer Academic Publishers, Boston.

Bacharach, Samuel and Edward Lawler (1998), Political alignments in organizations; Contextualization, mobilization, and coordination, in: Roderick Kramer and Margaret Neale (eds.), *Power and influence in organizations,* Sage Publications, Thousand Oaks.

Backhouse, Roger (1998), Paradigm/ Normal science, in: John Davis, Wade Hands, and Uskali Mäki (eds.), *The handbook of economic methodology,* Edward Elgar, Cheltenham.

Ball, Amanda, David Owen, and Rob Gray (2000), External transparency or internal capture? The role of third-party statements in adding value to corporate environmental reports, *Business Strategy and the Environment,* 9, 1-23.

Barney, Jay (1991), Firm resources and sustained competitive advantage, *Journal of Management,* 17, 99-120.

Bazerman, Max (1997), *Judgment in managerial decision making,* 4th ed., John Wiley and Sons, New York.

Blaug, Mark (1992), *The methodology of economics; Or how economists explain,* Cambridge University Press, Cambridge.

Blaug, Mark and Marcel Boumans (2000), *Methodological issues in economic research,* Ph.D. course, Tinbergen Institute, Amsterdam, March-April.

Boons, Frank, Anja de Groene, and Ronald Batenburg (1998), *Milieubarometer 1997: Milieu-maatregelen van de Nederlands industrie,* Katholieke Universiteit Brabant, Tilburg.

Brown, Shona and Kathleen Eisenhardt (1997), The art of continuous change: Linking complexity theory and time-paced evolution in relentlessly shifting organzations, *Administrative Science Quarterly,* 42, 1-34.

Burns, Tom and George Stalker (1961), *The management of innovation,* Tavistock, London.

Burt, Ronald (1998), Personality correlates of structural holes, in: Roderick Kramer and Margaret Neale (eds.), *Power and influence in organizations,* Sage Publications, Thousand Oaks.

Carroll, Archie (1996), *Business & society; Ethics and stakeholder management,* South-Western College Publishing, Cincinnati.

Castaneda, Laura (2000*), Intrafirm knowledge transfer: A review and assessment of current research,* paper presented at the Academy of Management conference, Toronto, August.

Chandler, Alfred (1962), *Strategy and structure; Chapters in the history of the industrial enterprise,* MIT Press, Cambridge.

Charreire, Sandra and Florence Durieux (1999), Exploring and testing, in: Raymond-Alain Thiétart et al., *Doing management research,* Sage Publications, London.

Clarke, Sarah and Nigel Roome (1999), Sustainable business: Learning-action networks as organizational assets, *Business Strategy and the Environment,* 8, 5, 296-310.

Cohen, Michael and Paul Bacdayan (1996), Organizational routines are stored as procedural memory; Evidence from a laboratory study, in: Michael Cohen and Lee Sproull (eds.), *Organizational learning,* Sage Publications, Thousand Oaks.

Cohen, Michael, James March, and Johan Olsen (1979), People, problems, solutions and the ambiguity of relevance, in: James March and Johan Olsen, *Ambiguity and choice in organizations,* 2nd ed., Universitetsforlaget, Bergen.

Cohen, Wesley and Daniel Levinthal (1990), Absorptive capacity: A new perspective on learning and innovation, *Administrative Science Quarterly,* 35, 128-152.

Coleman, James (1988), Social capital in the creation of human capital, *American Journal of Sociology,* S95-S120.

Cook, Mark and Corri Farquharson (1998), *Business economics,* Pitman Publishing, London.

Coopey, John (1996), Crucial gaps in 'the learning organization'; Power, politics and ideology, in: Ken Starkey (ed.), *How organizations learn*, International Thomson Business Press, London.

Corbin, Juliet and Anselm Strauss (1990), Grounded theory research: Procedures, canons, and evaluative criteria, *Qualitative Sociology,* 13, 1, 3-21.

Cramer, Jacqueline (2000), Responsiveness of industry to eco-efficiency improvements in the product chain: The case of Akzo Nobel, *Business Strategy and the Environment,* 9, 36-48.

Cyert, Richard and James March (1992), *A behavioral theory of the firm,* 2nd ed., Blackwell Publishers, Cambridge.

Dahl, Robert (1957), The concept of power, *Behavioral Science,* 20, 201-215.

Davidson, William (1982), *Global strategic management,* John Wiley and Sons, New York.

Davis, John (1998), Ontology, in: John Davis, Wade Hands, and Uskali Mäki (eds.), *The handbook of economic methodology,* Edward Elgar, Cheltenham.

De Groene, Anja (2000), Internal processes, in: Frank Boons et al., *The changing nature of business,* International books, Utrecht.

De Groene, Anja and Frank Wijen (1999), *Stakeholder influence on environmental learning in business organizations: A pilot study,* paper presented at the Greening of Industry Conference, Chapel Hill, November.

Denrell, Jerker and James March (2001), Adaptation as information restriction: The hot stove effect, *Organization Science,* 12, 5, 523-538.

DiMaggio, Paul and Walter Powell (1983), The iron cage revisited: Institutional isomorphism and collective rationality in organizational fields, *American Sociological Review,* 48, April, 147-160.

Donaldson, Thomas and Lee Preston (1995), The stakeholder theory of the corporation: Concepts, evidence, and implications, *Academy of Management Review,* 20, 1, 65-91.

Drucker-Godard, Carole, Sylvie Ehlinger, and Corinne Grenier (1999), Validity and reliability, in: Raymond-Alain Thiétart et al., *Doing management research,* Sage Publications, London.

Egri, Carolyn and Lawrence Pinfield (1996), Organizations and biosphere: Ecologies and environments, in: Stewart Clegg, Cynthia Hardy, and Walter Nord (eds.), *Handbook of organization studies,* Sage Publications, London.

Eisenhardt, Kathleen (1989), Building theories from case study research, *Academy of Management Review,* 14, 4, 532-550.

Elkington, John (1998), *Cannibals with forks; The triple bottom line of 21st century business,* New Society Publishers, Gabriola Island.

Elkington, John and Tom Burke (1989), *The green capitalists; How to make money- and protect the environment,* Victor Gollancz, London.

Emery, Fred and Eric Trist (1965), The causal texture of organizational environments, *Human Relations,* February, 21-32.

Expert Working Group for the European Commission (2001), *Sustainable production; Challenges and objectives for EU research policy; Report of the Expert Group on competitive and sustainable production & related service industries in Europe in the period to 2020,* EUR 19880, Brussels, July.

Fox-Wolfgramm, Susan, Kimberly Boal, and James Hunt (1998), Organizational adaptation to institutional change: A comparative study of first-order change in prospector and defender banks, *Administrative Science Quarterly,* 43, 87-126.

Freeman, Edward (1984), *Strategic management; A stakeholder approach,* Pitman Publishing, Marshfield.

French, John and Bertram Raven (1968), The bases of social power, in: Dorwin Cartwright and Alvin Zander (eds.), *Group dynamics,* 3rd ed., Harper and Row, New York.

Friedman, Milton (1953), The methodology of positive economics, in: *Essays in positive economics*, University of Chicago Press, Chicago.

Gabel, Landis (1995), Environmental management as a competitive strategy: the case of CFCs, in: Henk Folmer, Landis Gabel, and Hans Opschoor (eds.), *Principles of environmental and resource economics,* Edward Elgar, Aldershot.

Galbraith, John Kennet (1952), *American capitalism; The concept of countervailing power,* Houghton Mifflin, Boston.

Gargiulo, Martin and Mario Benassi (2000), Trapped in your own net? Network cohesion, structural holes, and the adaptation of social capital, *Organization Science,* 11, 2, 183-196.

Gerrard, Bill (1990), On matters methodological in economics, *Journal of Economic Surveys,* 42, 2, 197-219.

Gersick, Connie (1994), Pacing strategic change : The case of a new venture, *Academy of Management Journal,* 37, 1, 9-45.

Gibbard, Allan and Hal Varian (1978), Economic models, *Journal of Philosophy,* 75, 664-677.

Girod-Séville, Martine and Véronique Perret (1999), Epistemological foundations, in: Raymond-Alain Thiétart et al., *Doing management research,* Sage Publications, London.

Gladwin, Thomas (1993), The meaning of greening: A plea for organizational theory, in: Kurt Fischer and Johan Schot (eds.), Island Press, Washington.

Gladwin, Thomas (1998), Economic globalization and ecological sustainability: Searching for truth and reconciliation, in: Nigel Roome (ed.), *Sustainability strategies for industry; The future of corporate practice,* Island Press, Washington.

Granovetter, Mark (1973), The strength of weak ties, *American Journal of Sociology,* 78, 6, 1360-1380.

Gray, Rob, Jan Bebbington, and Diane Walters (1993), *Accounting for the environment; The greening of accountancy, part II,* Paul Chapman Publishing, London.

Groenewegen, Peter, Kurt Fischer, Edith Jenkins, and Johan Schot, eds. (1996), *The Greening of Industry resource guide and bibliography,* Island Press, Washington.

Guba, Egon and Yvonna Lincoln (1994), Competing paradigms in qualitative research, in: Norman Denzin and Yvonna Lincoln (eds.), *Handbook of qualitative research,* Sage Publications, Thousand Oaks.

Gujarati, Damodar (1995), *Basic econometrics,* 3rd ed., Mc Graw-Hill, New York.

Hall, Sue and Nigel Roome (1996), Strategic choices and sustainable strategies, in: Peter Groenewegen et al. (eds.), *The Greening of Industry Resource guide and bibliography,* Island Press, Washington.

Hannan, Michael and John Freeman (1984), Structural inertia and organizational change, *American Sociological Review,* 49, 149-164.

Hansen, Morten, Joel Podolny, and Jeffrey Pfeffer (2001), So many ties, so little time: A task contingency perspective on corporate social capital, *Research in the sociology of organizations,* JAI Press, Greenwich.

Hardy, Cynthia and Stewart Clegg (1996), Some dare call it power, in: Stewart Clegg, Cynthia Hardy, and Walter Nord (eds.), *Handbook of organization studies,* Sage Publications, London.

Hargadon, Andrew and Robert Sutton (1997), Technology brokering and innovation in a product development firm, *Administrative Science Quarterly,* 42, 4, 716-749.

Hargadon, Andrew and Steve Moore (2001), *Continuity in discontinuity: Recombinant innovation at Ford Motor Company, 1908-1914,* paper presented at the Academy of Management Conference, Washington, August.

Hart, Stuart (1995), A natural-resource-based view of the firm, *Academy of Management Review,* 20, 4, 986-1014.

Harvey, Brian and Anja Schaefer (2001), Managing relationships with environmental stakeholders: A study of U.K. water and electricity utilities, *Journal of Business Ethics,* 30, 243-260.

Hausman, Daniel (1992), Models and theories in economics, in: *The inexact and separate science of economics,* Cambridge University Press, Cambridge, 70-82.

Hempel, Carl (1962), Explanation in science and history, in: Carl Hempel and Robert Colodny, *Frontiers of science and philosophy.*

Hendrikse, George (2002), *Economics and management of organisations,* Mc Graw-Hill, New York.

Hickson, David, Richard Butler, David Cray, Geoffrey Mallory, and David Wilson (1986), *Top decisions: Strategic decision-making in organizations,* Basil Blackwell, Oxford.

Hoffman, Andrew (1997), *From heresy to dogma; An institutional history of corporate environmentalism,* The New Lexington Press, San Francisco.

Hoffman, Andrew and John Ehrenfeld (1998), Corporate environmentalism, sustainability, and management studies, in: Nigel Roome (ed.), *Sustainability strategies for industry; The future of corporate practice,* Island Press, Washington.

Huber, George (1991), Organizational learning: The contributing processes and the literatures, *Organization Science,* 2, 1, 88-115.

Janis, Irving (1972), *Victims of groupthink,* Houghton Mifflin, Boston.

Kahneman, Daniel, Jack Knetsch, and Richard Thaler (1990), Experimental tests of the endowment effect and the Coase theorem, *Journal of Political Economy,* 98, 6, 1325-1348.

Kahneman, Daniel, Jack Knetsch, and Richard Thaler (1991), The endowment effect, loss aversion, and status quo bias, *Journal of Economic Perspectives,* 5, 1, 193-206.

Kaplan, Abraham (1964), *The conduct of inquiry; Methodology for behavioral science,* Chandler Publishing, San Francisco.

Kim, Daniel (1993), The link between individual and organizational learning, *Sloan Management Review,* Fall, 37-50.

Kim, Jinbang, Neil de Marchi, and Mary Morgan (1995), Empirical model particularities and belief in the natural rate hypothesis, *Journal of Econometrics,* 67, 81-102.

Klein, Katherine, Fred Dansereau, and Rosalie Hall (1994), Levels issues in theory development, data collection, and analysis, *Academy of Management Review,* 19, 2, 195-229.

Kline, Rex (1998), *Principles and practice of structural equation modeling,* Guilford Press, New York.

Kolk, Ans (2000), *Economics of environmental management,* Financial Times/ Prentice Hall, Harlow.

Kolk, Ans and Anniek Mauser (2002), The evolution of environmental management: From stage models to performance evaluation, *Business Strategy and the Environment,* 11, 14-31.

Kotler, Philip and Gary Armstrong (1993), *Marketing; An introduction,* Prentice-Hall International, Englewood Cliffs.

Kramer, Roderick and Margaret Neale, eds. (1998), *Power and influence in organizations,* Sage, Thousand Oaks.

Krugman, Paul (1995), Models and metaphors, in: *Development, geography and economic theory,* MIT Press, Cambridge.

Kuhn, Thomas (1970), *The structure of scientific revolutions,* 2nd ed., University of Chicago Press, Chicago.

Lähteenmäki, Satu, Merja Mattila, and Jouko Toivonen (1998), *Critical aspects on organisational learning research and suggestions concerning the measurement,* paper presented at the EGOS Conference, Maastricht, July.

Laibson, David and Richard Zeckhauser (1998), Amos Tversky and the ascent of behavioral economics, *Journal of Risk and Uncertainty,* 16, 7-47.

Lehaney, B.A. and Gerald Vinten (1994), "Methodology": An analysis of its meaning and use, *Work study,* 43, 3, 5-8.

Leonard-Barton, Dorothy (1992), Core capabilities and core rigidities: A paradox in managing new product development, *Strategic Management Journal,* 13, 111-125.

Lévêque, François and Alain Nadaï (1995), A firm's involvement in the policy-making process, in: Henk Folmer, Landis Gabel, and Hans Opschoor (eds.), *Principles of environmental and resource economics,* Edward Elgar, Aldershot.

Levitt, Barbara and James March (1995), Chester I. Barnard and the intelligence of learning, in: Oliver Williamson (ed.), *From Chester Barnard to the present and beyond,* expanded ed., Oxford University Press, New York.

Levitt, Barbara and James March (1996), Organizational learning, in: Michael Cohen and Lee Sproull (eds.), *Organizational learning,* Sage Publications, Thousand Oaks.

Lindblom, Charles (1959), The science of "muddling through," *Public Administration Review,* 9, Spring, 79-88.

March, James (1979), Foreword, in: Susan Krieger, *Hip capitalism,* Sage Publications, Beverly Hills.

March, James (1991), Exploration and exploitation in organizational learning, *Organization Science,* 2, 1, 71-87.

Mc Closkey, Donald (1983), The rhetoric of economics, *Journal of Economic Literature,* 21, 481-517.

Menon, Tanya, Jeffrey Pfeffer, and Robert Sutton (2001), *The valuation of internal versus external knowledge: Why managers sometimes prefer the knowledge possessed by outsiders over the knowledge possessed by insiders,* paper presented at the Academy of Management Conference, Washington, August.

Messick, David and Rafal Ohme (1998), Some ethical aspects of the social psychology of social influence, in: Roderick Kramer and Margaret Neale (eds.), *Power and influence in organizations,* Sage Publications, Thousand Oaks.

Meyer, John and Brian Rowan (1977), Institutionalized organizations: Formal structure and myth and ceremony, *American Journal of Sociology,* 83, 2, 340-363.

Meyer, Alan, Anne Tsui, and C. Hinings (1993), Configurational approaches to organizational analysis, *Academy of Management Journal,* 36, 6, 1175-1195.

Miles and Huberman (1994), *Qualitative data analysis; An expanded sourcebook,* 2nd ed., Sage Publications, Thousand Oaks.

Miller, Danny (1993), The architecture of simplicity, *Academy of Management Review,* 18, 1, 116-138.

Miner, Anne and Stephen Mezias (1996), Ugly duckling no more: Pasts and futures of organizational learning research, *Organization Science,* 7, 1, 88-99.

Mintzberg, Henry (1983a), *Structure in fives; Designing effective organizations,* Prentice-Hall, Englewood Cliffs.

Mintzberg, Henry (1983b), *Power in and around organizations,* Prentice-Hall, Englewood Cliffs.

Mir, Raza and Andrew Watson (2001), Critical realism and constructivism in strategy research: Toward a synthesis, *Strategic Management Journal,* 22, 1169-1173.

Mishler, Elliot (1986), *Research interviewing; Context and narrative,* Harvard University Press, Cambridge.

Mitchell, Ronald, Bradley Agle, and Donna Wood (1997), Toward a theory of stakeholder identification and salience: Defining the principle of who and what really counts, *Academy of Management Review,* 22, 4, 853-886.

Morgan, Gareth (1997), *Images of organization,* Sage Publications, Thousand Oaks.

Morgan, Mary (1998), Models, in: John Davis, Wade Hands, and Uskali Mäki (eds.), *Handbook of economic methodology,* Edward Elgar, Cheltenham.

Morrison, Margaret and Mary Morgan (1999), Models as mediating instruments, in: Mary Morgan and Margaret Morrison (eds.), *Models as mediators,* Cambridge University Press, Cambridge.

Murnighan, Keith (1993), Theory and research in social psychology and organizations, in: Keith Murnighan (ed.), *Social psychology in organizations; Advances in theory and research,* Prentice Hall, Englewood Cliffs.

Nahapiet, Janine and Sumantra Ghoshal (1998), Social capital, intellectual capital, and the organizational advantage, *Academy of Management Review,* 23, 2, 242-266.

Nelson, Richard and Sidney Winter (1982), *An evolutionary theory of economic change,* Belknap Press of Harvard University Press, Cambridge.

Nonaka, Ikujiro (1996), The knowledge-creating company, in: Ken Starkey (ed.), *How organizations learn*, International Thomson Business Press, London.

Noorderhaven, Niels (2000), *Hermeneutic methodology and international management research,* Företagsekonomiska Institutionen Occasional paper 2000/2, Uppsala University, Uppsala.

Nooteboom, Bart (2000), *Learning and innovation in organizations and economies,* Oxford University Press, Oxford.

Oliver, Christine (1991), Strategic responses to institutional processes, *Academy of Management Review,* 16, 1, 145-179.

Olson, Mancur (1965), *The logic of collective action; Public goods and the theory of groups,* Harvard University Press.

Pettigrew, Andrew, Richard Woodman, and Kim Cameron (2001), Studying organizational change and development: Challenges for future research, *Academy of Management Journal,* 44, 4, 697-713.

Pfeffer, Jeffrey (1992), *Managing with power; Politics and influence in organizations,* Harvard Business School Press, Boston.

Pfeffer, Jeffrey and Gerald Salancik (1978), *The external control of organizations; A resource dependence perspective,* Harper and Row, New York.

Polanyi, Michael (1966), *The tacit dimension*, Routledge, London.

Porter, Michael and Claas van der Linde (1995), Green and competitive: Ending the stalemate, *Harvard Business Review,* September, 120-134.

Prakash, Aseem (2000), *Greening the firm; The politics of corporate environmentalism,* Cambridge University Press, Cambridge.

Rabin, Matthew (1998), Psychology and economics, *Journal of Economic Literature,* 36, March, 11-46.

Ragin, Charles (1987), *The comparative method; Moving beyond qualitative and quantitative strategies,* University of California Press, Berkeley.

Romanelli, Elaine and Michael Tushman (1994), Organizational transformation as punctuated equilibrium: An empirical test, *Academy of Management Journal,* 37, 5, 1141-1166.

Romme, Georges (1995), Boolean comparative analysis of qualitative data; A methodological note, *Quality and Quantity,* 29, 317-329.

Romme, Georges (1999), Domination, self-determination and circular organizing, *Organization Studies,* 20, 5, 801-831.

Romme, Georges and Ron Dillen (1997), Mapping the landscape of organizational learning, *European Management Review,* 15, 1, 68-78.

Roome, Nigel (1992), Developing environmental strategies, *Business Strategy and the Environment,* 1, 11-24.

Roome, Nigel (1998), Introduction; Conclusion, in: Nigel Roome (ed.), *Sustainability strategies for industry; The future of corporate practice,* Island Press, Washington.

Roome, Nigel (2001a), *Metatextual organizations- Innovation and adaptation for global change,* inaugural address, Centre for Sustainable Development and Management, Erasmus University Rotterdam, Rotterdam.

Roome, Nigel (2001b), Editorial: Conceptualizing and studying the role and contribution of networks in environmental management and sustainable development, *Business Strategy and the Environment,* 10, 2, 69-76.

Roome, Nigel, Ans Kolk, Frans van der Woerd, and Frank Wijen (2002), *Dynamic aspects of corporate greening in Dutch business,* paper presented at the Greening of Industry Conference, Goteburg, June.

Rowley, Timothy (1997), Moving beyond dyadic ties: A network theory of stakeholder influences, *Academy of Management Review*, 22, 4, 887-910.

Sayer, Andrew (1992), *Method in social science; A realist approach,* 2nd ed., Routledge, London.

Schein, Edgar (1996), Three cultures of management: The key to organizational learning, *Sloan Management Review,* Fall, 9-20.

Schumacher, Ernst (1973), *Small is beautiful; Economics as if people mattered,* Harper and Row, New York.

Senge, Peter (1990), *The fifth discipline; The art and practice of the learning organization,* Doubleday, New York.

Senge, Peter (1996), The leader's new work; Building learning organizations, in: Ken Starkey (ed.), *How organizations learn*, International Thomson Business Press, London.

Senge, Peter (1999), The life cycle of typical change initiatives, in: Peter Senge et al., *The dance of change; The challenges to sustaining momentum in learning organizations,* Doubleday, New York.

Sharma, Sanjay (2000), Managerial interpretations and organizational context as predictors of corporate choice of environmental strategy, *Academy of Management Journal,* 43, 4, 681-697.

Sharma, Sanjay, Amy Pablo, and Harrie Vredenburg (1999), Corporate environmental responsiveness strategies; The importance of issue interpretation and organizational context, *The Journal of Applied Behavioral Science,* 35, 1, 87-108.

Simon, Herbert (1973), The organization of complex systems, in: Howard Pattee (ed.), *Hierarchy theory; The challenge of complex systems,* George Braziller, New York.

Simon, Herbert (1976), From substantive to procedural rationality, in: Spiro Latsis (ed.), *Method and appraisal in economics,* Cambridge University Press, Cambridge.

Simon, Herbert (1991), Bounded rationality and organizational learning, *Organization Science,* 2, 1, 125-134.

Simon, Julian and Paul Burstein (1985), *Basic research methods in social science,* 3rd ed., Random House, New York.

Smith, Wendy, Hubert Gatignon, Michael Tushman, and Philip Anderson (2001), *Structural approach to assessing innovation: Construct development of innovation types and characteristics and their organizational effects,* paper presented at the Academy of Management Conference, Washington, August.

Spencer-Cooke, Andrea (1998), A dinosaur's survival kit- Tools and strategies for sustainability, in: Nigel Roome (ed.), *Sustainability strategies for industry; The future of corporate practice,* Island Press, Washington.

Stafford, Edwin, Michael Polonsky, and Cathy Hartman (2000), Environmental NGO-business collaboration and strategic briding: A case analysis of the Greenpeace-Foron alliance, *Business Strategy and the Environment,* 9, 122-135.

Stead, Jean, and Edward Stead (2000), Eco-enterprise strategy: Standing for sustainability, *Journal of Business Ethics,* 24, 313-329.

Sutton, Robert and Andrew Hargadon (1996), Brainstorming groups in context: Effectiveness in a product design firm, *Administrative Science Quarterly,* 41, 685-718.

Sutton, Robert and Barry Staw (1995), What theory is not, *Administrative Science Quarterly,* 40, 3, 371-384.

Tietenberg, Tom (1988), *Environmental and natural resource economics,* 2nd ed., Scott, Foresman and Company, Glenview.

Tolbert, Pamela and Lynne Zucker (1996), The institutionalization of institutional theory, in: Stewart Clegg, Cynthia Hardy, and Walter Nord (eds.), *Handbook of organization studies,* Sage Publications, London.

Tsang, Eric and Kai-Man Kwan (1999), Replication and theory development in organizational science: A critical realist perspective, *Academy of Management Review,* 24, 4, 759-780.

Tsoukas, Haridimos (2000), False dilemmas in organization theory: Realism or social constructivism, *Organization,* 7, 3, 531-535.

Turcotte, Marie-France and Jean Pasquero (2001), The paradox of multistakeholder collaborative roundtables, *Journal of Applied Behavioral Sciences,* 37, 4, 447-464.

Tushman, Michael and David Nadler (1996), Organizing for innovation, in: Ken Starkey (ed.), *How organizations learn*, International Thomson Business Press, London.

Tushman, Michael and Charles O'Reilly (1996), Ambidextrous organizations: Managing evolutionary and revolutionary change, *California Management Review,* 38, 4, 8-30.

Tushman, Michael and Elaine Romanelli (1985), Organizational evolution: A metamorphosis model of convergence and reorientation, in: L. Cummings and B. Staw (eds.), *Research in organizational behavior*, vol. 7, JAI Press, Greenwich.

Valley, Kathleen and Tracy Thompson (1998), Sticky ties and bad attitudes: Relational and individual bases of resistance to change in organizational structure, in: Roderick Kramer and Margaret Neale (eds.), *Power and influence in organizations,* Sage Publications, Thousand Oaks.

Van Hemel, Carolien (1998), *Ecodesign empirically explored; Design for environment in Dutch small and medium sized enterprises,* Ph. D. thesis, Delft University of Technology, Delft.

Vergragt, Philip and Marjan van der Wel (1998), Backcasting: An example of sustainable washing, in: Nigel Roome (ed.), *Sustainability strategies for industry; The future of corporate practice,* Island Press, Washington.

Von Hippel, Eric (1994), "Sticky information" and the locus of problem solving: Implications for innovation, *Management Science,* 40, 4, 429-439.

Wasserman, Stanley and Katherine Faust (1994), *Social network analysis: Methods and applications,* Cambridge University Press, Cambridge.

Weick, Karl and Karlene Roberts (1993), Collective mind in organizations: Heedful interrelating on flight decks, *Administrative Science Quarterly,* 38, 357-381.

Weick, Karl and Frances Westley (1996), Organizational learning: Affirming an oxymoron, in: Stewart Clegg, Cynthia Hardy, and Walter Nord (eds.), *Handbook of organization studies,* Sage Publications, London.

Weitzman, Eben and Matthew Miles (1995), *Computer programs for qualitative data analysis; A software sourcebook,* Sage Publications, Thousand Oaks.

Westley, Frances and Harrie Vredenburg (1991), Strategic bridging: The collaboration between environmentalists and business in the marketing of green products, *Journal of Applied Behavioral Science,* 27, 1, 65-90.

Whitley, Richard (1984), The scientific status of management research as a practically-oriented social science, *Journal of Management Studies,* 21, 4, 369-390.

World Commission on Environment and Development, The (1987), *Our common future,* Oxford University Press, Oxford.

Wycherley, Ian (1999), Greening supply chains: The case of the Body Shop International, *Business Strategy and the Environment,* 8, 120-127.

Yin, Robert (1994), *Case study research; Design and methods,* 2nd ed., Sage Publications, Thousand Oaks.

Appendices

Appendix 3.1: Questionnaire for central actors, first round

1. Whom (inside and outside your organization) do you take into consideration when taking decisions on environmental issues?

- What is your function?
- Are there any other persons or organizations whom you consider?
- Are these actors slightly, quite, or very important to you?
- Is the importance of the actors contingent on the prevailing environmental issue?

2. In what way and with what frequency do you have contacts with these actors?

- Would you like to have a different relationship with any of these actors, and if so: why and how?

3. Why do you take these persons or organizations into consideration?

- Are there any other reasons to consider these actors?

4. How do you respond to the demands or expectations of these persons or organizations?

- In what ways would you behave differently without their interference?
- Do these actors ever provide suggestions or ideas that you do not use?

5. Have there been any recent changes (as to the nature or importance) of your relationship with these persons or organizations?

- Have there been changes in any of the other relationships?
- Who initiated these changes?

6. Are there any aspects concerning your relationships with these actors that are important to you and that have not yet been discussed during this interview?

- Are there any other aspects?

7. Do you have any documents on your activities, your organization, and your relations with major actors?

Appendix 3.2: Questionnaire for peripheral actors, first round

1. What relationship do you have with ... [the central actor]?

- What is your function?
- In what way and with what frequency do you have contacts with … [the central actor]?
- Are there any other aspects of your relationship with ... [the central actor]?
- Would you like to see the relationship differently, and if so: why and how?

2. Why do you have this relationship with ...[the central actor]?

- Are there any other reasons why you have a relationship with ...[the central actor]?

3. Do you formulate any demands or expectations to ... [the central actor]?

- Are there any other demands or expectations?
- How does ... [the central actor] react?
- Are there any ideas you suggest with which … [the central actor] does not comply?

4. Have there been any recent changes in your relationship with ... [the central actor]?

- Have there been any other changes?
- Who initiated these changes?

5. Are there any aspects concerning your relationships with these actors that are important to you and that have not yet been discussed during this interview?

- Are there any other aspects?

6. Do you have any documents on your activities, your organization, and your relation with … [the central actor]?

Appendix 3.3: Questionnaire for central actors, second round

1. Is the given description of major internal and external relations of … years ago correct?
- Is the description of your function still valid?
- Is there anything else which is wrong or incomplete?

2. How have your relations developed with previously and presently important persons or organizations?
- To what extent has the importance of these actors changed?

3. Has the form or frequency changed of your relations with any previously or presently important actor?
- Has there been any other change in the form or frequency of your contacts?

4. Why have there been changes of your relations with previously or presently important actors?
- Are the changes related to internal issues or external factors?
- Have there been any discontinuities (sudden major changes) that have affected your relationships?

5. Has your reaction to the demands and expectations of previously or presently important actors changed?
- How and why do you react differently?

6. What are the key issues of your future relations?
- Are there any other future issues?

7. Are there any important changes concerning your relationships with these actors that have not yet been discussed during this interview?
- Are there any other changes?

8. Do you have any documents on recent or upcoming changes?

Appendix 3.4: Initial and retained codes, first round[37]

Acquisition of knowledge on stakeholder *(Acquisition of knowledge)*

Acquisition of knowledge on substance *(Acquisition of knowledge)*

Antecedents *(Antecedents)*

Barrier to change or compliance *(Barrier to compliance)*

Barrier to learning *(-)*

Boundary spanner role *(Boundary spanner role)*

Change of stakeholder relation *(Evolution of stakeholder relation)*

Coalescent influence *(Coalescent influence)*

Compliance/ Execution/ Problem solution *(Compliance/ Execution/ Problem solution)*

Conflict of interests *(Compatibility of stakeholder inputs)*

Consistency of response (intraorganizational) *(Compatibility of stakeholder inputs)*

Convergence of views *(Compatibility of stakeholder inputs)*

Dissatisfaction with contacts *(-)*

Distribution of knowledge *(Distribution of knowledge)*

Divergence of views *(Compatibility of stakeholder inputs)*

Economic influence *(Economic influence)*

Exploitative learning *(Organizational learning)*

Explorative learning *(Organizational learning)*

Form of contact *(-)*

Formal influence *(Formal influence)*

Frequency of contact *(-)*

High importance of stakeholder *(Importance of stakeholder)*

Ideas generator role *(Ideas generator role)*

Incremental change of organizational behaviour *(-)*

Inference from knowledge *(Compliance/ Execution/ Problem solution)*

Informational influence *(Informational influence)*

Internal entrepreneur role *(Internal entrepreneur role)*

Low importance of stakeholder *(Importance of stakeholder)*

Medium importance of stakeholder *(Importance of stakeholder)*

Miscellaneous *(Miscellaneous)*

Mutual dependence *(-)*

Negotiation/ Counter-influence *(Negotiation/ Counter-influence)*

No change of organizational behaviour *(Barrier to compliance)*

No change of stakeholder contact *(Evolution of stakeholder relation)*

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[37] Initial codes are in plain text, retained codes are in italic.

Appendix 3.4, continued

Openness to stakeholder influence *(-)*
Operational influence *(Operational influence)*
Radical change of organizational behaviour *(-)*
Resistance to stakeholder input *(Barrier to compliance)*
Routines *(Antecedents)*
Satisfaction with contact *(-)*
Social influence *(Social influence)*
Sponsor role *(Sponsor role)*
Stakeholder identity *(Stakeholder)*
Stimulus to learning *(-)*
Storage of knowledge *(-)*
Structure *(Structure)*
Variety of views *(Variety of views)*

Appendix 3.5: Retained codes and clusters, first round

Antecedents

Antecedents

Miscellaneous

Environmental management structure

Miscellaneous

Structure

Overview of stakeholders

Importance of stakeholder

Stakeholder

Stakeholder influences

Barrier to compliance

Coalescent influence

Compatibility of stakeholder inputs

Compliance/ Execution/ Problem solution

Economic influence

Formal influence

Importance of stakeholder

Informational influence

Miscellaneous

Negotiation/ Counter-influence

Operational influence

Social influence

Stakeholder

Organizational learning

Acquisition of knowledge

Antecedents

Compliance/ Execution/ Problem solution

Distribution of knowledge

Informational influence

Miscellaneous

Organizational learning

Structure

Appendix 3.5, continued

<u>Comptability/ Unavoidability of inputs</u>

Barrier to compliance

Compatibility of stakeholder inputs

Compliance/ Execution/ Problem solution

Miscellaneous

<u>Roles</u>

Boundary spanner role

Ideas generator role

Internal entrepreneur role

Miscellaneous

Sponsor role

<u>Evolution and focus of relations</u>

Evolution of stakeholder relation

Miscellaneous

Variety of views

Appendix 3.6: Structure of case reports

Antecedents

- Creation and evolution
- Sales and employees
- Importance of environment
- Corporate policy/ mission/ objectives
- Environmental measures
- Environmental performance
- Certification and covenants
- Communication with external stakeholders

Structure

- Formal (overall) internal relations
- Environmental decision-making bodies
- Bodies that implement environmental decisions
- Communication of environmental issues

Overview of stakeholders

- Name
- Role
- Perceived importance

Stakeholder influences

- Stakeholder objectives
- Stakeholder inputs
- Organizational response to inputs

Organizational learning

- Objective and realization of organizational learning
- Acquisition of knowledge (on objective) from stakeholders
- Sharing of knowledge (on objective) by stakeholders
- Storage of knowledge (on objective) by stakeholders

Appendix 3.6, continued

Compatibility/ Unavoidability of stakeholder inputs

- Objectives, inputs, and importance of internal stakeholders

- Nature of inputs and importance of external stakeholders

- Compatibility or unavoidability of stakeholder inputs and organizational objectives

Stakeholder roles in learning

- Ideas generator role

- Internal entrepreneur role

- Boundary spanner role

- Sponsor role

Evolution and focus of relations

- Accumulation of organizational knowledge

- Homogeneity (vs. variety) of stakeholder relations

- Operational (vs. strategic) nature of stakeholder relations

- Newness (vs. stability) of stakeholder relations

Appendix 3.7: Excerpt from a case report[38]

<u>Antecedents</u>

Creation and evolution:

XXX was created in XXX, when the existing XXX (which had existed for a long time) moved to new premises. At the same time, it got the XXX status (4:9).

Sales and employees:

XXX's turnover amounted to EUR XXX million in 1998, to EUR XXX million in 1999, and to EUR XXX million in 2000 (this represents an increase of 25% as compared with 1999) (12:1).

XXX employed XXX people in 1998, XXX employees in 1999, and XXX in 2,000 (12:1).

Importance of environment:

As a provider of XXX, XXX also wants to contribute to XXX (1:114; 1:119; 12:6; 13:2).

Environmental aspects: [solid] waste production; effluent water emission; XXX consumption; energy generation and consumption; noise emission; XXX; XXX; effluent water (12:1; 13:6).

The environmental coordinator: "We have to do with environment, though it is not a hot item. The environmental load of a XXX is in itself not that large. A lot of processes are manageable. By manageable I mean that waste products created, for example, can be disposed of in a good way." (1:2).

With respect to its environmental impact, XXX is- according to the XXX supervisor- in a relatively 'heavy' category, because of the size of its activities and the danger of stored products and emissions of substances of XXX. Besides, XXX works with XXX (4:2). Yet, the danger and environmental impact of XXX's activities is relatively small (as compared to for instance chemical companies) (4:18; 8:22).

XXX has a permit to XXX. Given the XXX's expansion, the maximum level of this permit may soon be reached (6:37).

Waste legislation has become stricter and stricter. One can no longer fiddle with waste (2:12; 6:40).

Energy costs represent XXX% of XXX's overall budget (6:43; 12:1).

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[38] The excerpt comes from the Cleanhouse case. For reasons of confidentiality, cues that might reveal the identity of the company have been masked. The numbers between brackets are references, direct links to the coded documents.

Appendix 3.8: Excerpt from a case story[39]

Antecedents

Cleanhouse has exerted its core activities for many decades. In the early 1990s, its identity changed dramatically after an important redefinition of its activities and a relocation.
Over the last few years, Cleanhouse's turnover and number of employees have progressively increased.

The organization's main environmental aspects are : the production of waste; the use of a toxic gas; the generation and use of energy; water, soil, and air emissions; the extraction and use of a natural resource. The organization observes that waste legislation has become stricter and stricter.
With respect to its environmental impact, Cleanhouse is- according to a governmental supervisor- in a relatively 'heavy' category, because of the size of its activities and the danger of certain substances used. Yet, the overall danger and environmental impact of Cleanhouse's activities is relatively small.

The environmental coordinator resumes the environmental relevance as follows: "We have to do with environment, though it is not a hot item. The environmental load of the organization is in itself not that large. A lot of processes are manageable. By manageable I mean that waste products created, for example, can be disposed of in a good way."

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[39] This excerpt is identical to the one in appendix 3.7.

Appendix 3.9: Second-round codes

Change of antecedents

Change of organizational learning

Change of stakeholder influence

Change of environmental management structure

Correction to first-round report

Summary

Introduction

The central question of this study is how stakeholder influence and organizational learning are related in the field of environmental management. Influence and learning are both well-established areas in organizational research, but their interrelations have hardly been addressed. This study thus fills an important gap in the literature. It is applied to the ways in which business organizations manage environmental issues.

Literature review

Environmental management refers to the way in which a business organization deals with issues that are related to natural resources. The relevance of environmental issues to business organizations stems from three sources. Environment can be a constraint (external constituencies restrict an organization's discretion because of externalities), a market opportunity (the enhancement of sales by stressing environmentally benign product characteristics), and a source of resources (the use of environmental inputs for economic activities). Strategies to manage environment as a constraint range from the contestation of environmental regulation via 'voluntary' actions to acting beyond compliance. Increased societal pressure has induced business organizations to display increasingly proactive behaviour. The marketing of environmentally benign products involves the need to legitimize the 'greenness' of products. The corporate management of environment as a source of resources has hardly received attention in the literature. Environmental issues are characterized by systemic complexity at the micro level (interrelations between organizational levels and units), the meso level (interactions within a product chain), and the macro level (interrelations among different product chains, regions, and generations). Important internal actors are top management, operators, and environmental coordinators. External constituencies include governments, suppliers, customers, and societal groups.

Power or influence is the ability to make others behave in ways that they would otherwise not. The literature on influence is vast, and includes such divergent perspectives as social psychology, resource dependence, institutions, contingency, collective action, and social networks. As the influence literature is disparate, I craft an overarching, eclectic typology, which consists of formal influence (stemming from hierarchical authority and legal enforceability), economic power (inspired by material incentives), social influence (based on immaterial norms and values), informational influence (stemming from the transfer of information), operational power (related to

the ability to implement decisions), and coalescent influence (based on joining forces with others). The basic process of influence involves an influencer (an actor with a valuable resource) and an influencee (an actor who is sensitive to the resource). The influencee's response strategies are compliance (the mere adoption of the influencer's resource), counter-influence (the influencee's attempt to affect the influencer's input), and resistance (the active declination of the proposed resource). The concurrence of multiple processes of influence leads to conflicts of interest (during which individual influences (partially) offset one another) or cooperation (when individual processes are aligned and reinforce one another). Initially formed configurations of influence show strong inertial tendencies because of power deadlocks (actors with particular stakes thwart changes that would decrease their power) and the preference of uncertainty avoidance. The stakeholder view adds to the influence literature because it specifies sources of influence and it identifies important actors with whom no direct (contractual) relations exist. Important internal stakeholders are operators, technical support staff, and top management. Salient external constituencies include owners, suppliers, customers, competitors, governments, and societal pressure groups.

Learning occurs when an entity increases its behavioural capacities due to the processing of information. The learning literature conclusively points to the existence of two polar types: explorative learning (when fundamentally new behavioural capacities are acquired) and exploitative learning (when existing insights are extended). The basic learning process involves the acquisition and retention of new knowledge. Organizational learning differs from individual learning, because it involves the sharing of knowledge. Besides, group composition matters. Heterogeneous groups thrive in explorative task environments, while homogeneity is conducive to the exploitation of ongoing activities. Once organizations have started exploring particular fields, they tend to perpetuate their commitment to those fields. This path dependence, which gives rise to exploitative learning, is induced by cognitive biases (a high sensitivity to information that is similar to existing knowledge), efficiency considerations (existing paths pay off more quickly), and the preference of uncertainty avoidance. Critical roles in the organizational learning process are fulfilled by idea generators (who come up with fundamentally new ideas), internal entrepreneurs (who convert fuzzy ideas into concrete actions), boundary spanners (who connect local actors to external sources of information), and sponsors (who encourage and protect new initiatives).

A dynamic process model is derived from the three literatures. The model presents a set of stakeholder relations, from which particular demands arise. These demands induce organizations to engage in actions. A high degree of organizational responsiveness to these demands is enabled by the availability of critical stakeholder inputs. Organizational learning takes place as a corollary of high responsiveness,

because the experiences from responsive actions add to the existing stock of behavioural capacities. Once organizations have formulated particular responses and have engaged in particular learning processes, inertial pressures commit future stakeholder relations to those established in the present. On the basis of the model, three hypotheses are derived. The first hypothesis postulates that organizational learning is triggered by stakeholder demands that are either inevitable or compatible with the aims of major organizational actors. The second hypothesis states that organizational learning is most effective when influential stakeholders concurrently fulfil at least three critical roles: boundary spanner; sponsor; idea generator and/or internal entrepreneur. The third hypothesis postulates that the more organizations learn in particular fields, the more their stakeholder sets become stable, homogeneous, and operational in nature.

Methodological issues

The empirical study was conducted from a critical realist perspective, which is close to an interpretative approach- thus taking an intermediate position between positivism and social constructivism. Case studies were conducted in order to observe processes and to assess configurations of causal factors. After a pilot study, the environmental behaviour of six large business organizations in a variety of sectors was studied. Data were collected through semi-structured interviews, site visits, and secondary documents. Interviews were conducted in two rounds to observe longitudinal changes. The first round involved all major internal and external stakeholders, while the second-round interviews were confined to the central informants. All interviews, salient impressions from visits, and relevant parts from documents were transcribed. All transcripts were analysed in a standardized way. Transcripts were coded with the help of a qualitative software package. Case reports were subsequently written on the basis of clusters of coded pieces of text. These referenced reports were converted into the final case analyses.

Empirical results

In the first empirical chapter, the contextual backgrounds of the different cases are provided. These consist of organizational antecedents and environmental management structures. Besides, an overview of the major stakeholders is given for each case. The second empirical chapter identifies causal factors and processes. It deals with influences of internal and external stakeholders and organizational learning for each of the focal cases. Finally, the three hypotheses are tested, first individually and then on a cross-case basis.

The first hypothesis is corroborated. At three organizations with a high learning capacity, the interests of internal stakeholders are (largely) compatible with the

demands of important stakeholders. The case studies also reveal other examples of effective learning, which stem from a combination of compatible and inevitable stakeholder demands. The environmental areas in which the focal organizations are competent suggest causal relationships with critical stakeholder demands. The second hypothesis is also confirmed by the evidence from the case studies. In two cases, the concurrence of three critical stakeholder roles is associated with a high organizational learning capacity. In three cases of effective learning, all four learning roles are in evidence. The remaining case shows a low learning capacity in conjunction with the presence of only two roles. The third hypothesis is partially falsified. All findings from the first observation period confirm this hypothesis: the organizations that have accumulated relatively many insights into a particular area have more focused sets of stakeholder relations. The results from the second round are mixed. Three focal organizations have become more focused in their stakeholder relations than the period before. But the remaining organizations have broadened the scopes of their stakeholders, while they have learned more. In these three cases, the widening of scopes is caused by discontinuities experienced by the organizations. In one case, it is also caused by the consistent failure to meet important stakeholder demands that had been expressed earlier. Here, the organization has understood that a higher degree of responsiveness is in its own interest (at the same time, it involves a broader scope).

Discussion

The empirical results lead to the adjustment of the basic model. The new model includes stakeholder demands for radical change. These demands for radical change are, to a certain extent, provoked by the continuous organizational resistance to important stakeholder claims. The central research question can thus be answered as follows. Stakeholder influences occur when actors formulate 'demands' (i.e., claims or expectations) or offer 'supplies' (i.e., resources to meet demands). When important stakeholders formulate environment-related demands, organizations are induced to engage in actions. However, not all inducements involve compliant actions. Organizations consist of actors with different stakes and objectives. When the envisaged actions are perceived to have negative effects on the interests of major organizational actors, negotiation or resistance is the most likely organizational response. Once organizations respond in a certain way, they are unlikely to respond differently to demands of the same kind in the future if other responses involve changes of internal spheres of influence. The formulation of compliant organizational responses requires the alignment of the behaviour of major organizational actors. This occurs when stakeholder inducements are either compatible with the objectives of the internal actors involved in responding to stakeholder demands or when these actors cannot (reasonably) resist the demands that are made. Compliance requires specific

cognitive capacities. Stakeholder demands are effectively met when influential actors attune their actions and simultaneously fulfil critical roles- as to the allocation of required resources, as well as the generation, distribution, and application of ideas. Organizations that comply increase their behavioural capacities. The more organizations learn in a specific field, the more they are inclined to improve existing practices. When future problems of the same kind arise, organizations tend to narrow down the scope of their stakeholder sets. The strong inertial pressures- due to power truces, learning paths, and uncertainty avoidance- can, however, be overruled by stakeholder demands for radical changes. Such demands can be the outcome of an organization's persistent resistance to important demands or can have causes that are unrelated to existing demands.

The empirical study has also led to other observations. The composition of stakeholder networks is contingent on the contents of the strategic issues that are perceived as important. Furthermore, several cases show the existence of multilateral networks of heterogeneous influences.

Implications

This study provides insights into interrelations between stakeholder influence and organizational learning in the field of environmental management, though the results are likely to have a wider applicability. The limitations of the study are mainly in terms of sample selection bias, differences in analytical units, and the relatively small number of respondents and points in time.

The outcomes of the study lead to the following recommendations. Academics should explore common grounds between influence and learning, because there is an important potential of cross-fertilization. Academics should also pay more attention to intraorganizational processes, to longitudinal developments of organizational processes, and to a more uniform interpretation of qualifiers. Government can improve the effectiveness of its environmental policy by imposing stricter objectives, especially when they offer the potential to realize a higher eco-efficiency. Government should also impose organizational measures for companies with persistent poor environmental records and offer more informational guidance for environmental frontrunners. Business should realize that only concerted efforts are effective, necessitating a compatibility of environmental actions between different units- both vertically and horizontally. Besides, business organizations should sufficiently empower environmentally important actors, adapt their environmental practices to evolving societal demands, include financial spin-offs of environmental actions into their calculations, and take wider systemic effects into account.

Samenvatting

Introductie

De centrale vraag van deze studie is hoe invloed van belanghebbenden en leren door organisaties aan elkaar gerelateerd zijn op het gebied van milieubeheer. Hoewel invloed en leren gevestigde terreinen van organisatie-onderzoek vormen, zijn interacties tussen beide nauwelijks aan de orde gesteld. Deze studie vult dus een belangrijk hiaat in de literatuur. De studie is toegepast op de manieren waarop ondernemingen milieukwesties beheren.

Literatuuroverzicht

Milieubeheer heeft betrekking op de manier waarop een onderneming omgaat met vraagstukken die gerelateerd zijn aan natuurlijke hulpbronnen. Voor organisaties komt de relevantie van milieukwesties voort uit drie bronnen. Milieu kan een beperking zijn (wanneer externe partijen de beslissingsvrijheid van een organisatie beknotten), een marktkans vormen (wanneer milieuvriendelijke produktkenmerken leiden tot extra omzet) en een bron van hulpbronnen zijn (wanneer natuurlijke hulpbronnen ingezet worden voor economische activiteiten). Strategieën om milieu als een beperking te beheren variëren van het betwisten van milieuregulering via 'vrijwillige' acties tot het vertonen van proactief gedrag. Wanneer milieuvriendelijke produkten vermarkt worden, dient de 'groenheid' van produkten extern gelegitimeerd te worden. Het beheer door ondernemingen van milieu als een bron van hulpbronnen heeft in de literatuur nauwelijks aandacht gekregen. Milieuvraagstukken worden gekenmerkt door systeemcomplexiteit. Deze geschiedt op micro-niveau (relaties tussen verschillende niveau's en eenheden van organisaties), op meso-niveau (interacties binnen een produktketen) en op macro-niveau (relaties tussen verschillende produktketens, regio's en generaties). Belangrijke interne actoren zijn topmanagement, uitvoerend personeel en milieucoördinatoren. Overheden, leveranciers, klanten en maatschappelijke groeperingen zijn significante externe partijen.

Macht of invloed is het vermogen om het gedrag van derden te veranderen. De literatuur over invloed is omvangrijk en omvat uiteenlopende perspectieven, zoals sociale psychologie, afhankelijkheid van hulpbronnen, instituties, contingentie, collectieve actie en sociale netwerken. Omdat deze literatuur onderling moeilijk vergelijkbaar is, wordt een alomvattende, eclectische typologie opgesteld. Deze bestaat uit formele invloed (voortvloeiend uit hiërarchische autoriteit en wettelijke afdwingbaarheid), economische macht (voortkomend uit materiële prikkels), sociale invloed (gebaseerd op immateriële normen en waarden), informationele invloed

(voortkomend uit de overdracht van informatie), operationele macht (gerelateerd aan het vermogen om beslissingen te implementeren) en coaliserende invloed (gebaseerd op het bundelen van krachten met anderen). Bij het basale proces van beïnvloeding zijn een beïnvloedende partij (die beschikt over een waardevolle hulpbron) en een beïnvloede partij (die ontvankelijk is voor de hulpbron) betrokken. De strategieën van de beïnvloede partij omvatten volgzaamheid (de acceptatie van de hulpbron van de beïnvloedende partij), tegeninvloed (de poging van de beïnvloede partij om de hulpbron van de bëinvloedende partij te wijzigen) en weerstand (de actieve afwijzing van de hulpbron). Wanneer meerdere processen van beïnvloeding samenvallen, kan dit leiden tot strijdige belangen (waardoor individuele invloeden elkaar (deels) opheffen) of samenwerking (wanneer individuele processen gelijk gericht zijn en elkaar versterken). Oorspronkelijk gevormde configuraties van invloeden hebben sterk de neiging om inertie te vertonen vanwege machtsimpasses (actoren met bepaalde belangen dwarsbomen veranderingen die hun macht zouden verminderen) en de voorkeur voor onzekerheidsvermijding. De toegevoegde waarde van de literatuur over belanghebbenden is het specificeren van bronnen van invloed en het identificeren van belangrijke actoren waarmee geen direkte (contractuele) relaties bestaan. Belangrijke interne belanghebbenden zijn uitvoerend personeel, technisch ondersteunend personeel en topmanagement. Significante externe partijen zijn eigenaren, leveranciers, klanten, concurrenten, overheden en maatschappelijke pressiegroepen.

Leren komt voor wanneer een eenheid zijn gedragscapaciteiten vergroot door het verwerken van informatie. De literatuur over leren wijst eenduidig twee polaire types aan: explorerend leren (wanneer fundamenteel nieuwe gedragscapaciteiten worden verworven) en exploiterend leren (wanneer bestaande inzichten worden uitgediept). Het basale leerproces omvat het verwerven en vastleggen van nieuwe kennis. Leren door organisaties verschilt van leren door individuen, omdat dit kennisdeling met zich meebrengt. Daarnaast is groepssamenstelling van belang. Heterogene groepen gedijen in exploratieve taakomgevingen, terwijl homogeniteit bevoorderlijk is voor de exploitatie van bestaande activiteiten. Zodra organisaties zijn begonnen met het verkennen van bepaalde gebieden, hebben ze de neiging om hun verbintenis hiermee te bestendigen. Deze padafhankelijkheid, die leidt tot exploiterend leren, wordt ingegeven door cognitieve vertekening (een hoge ontvankelijkheid voor informatie die gerelateerd is aan bestaande kennis), efficiëntie-overwegingen (bestaande paden leiden sneller tot resultaat) en de voorkeur voor onzekerheidsvermijding. Kritische rollen in het leerproces zijn ideeën-generatoren (die fundamenteel nieuwe ideeën voortbrengen), interne ondernemers (die vage ideeën omzetten in concrete acties), bruggenbouwers (die locale actoren verbinden met externe informatiebronnen) en sponsoren (die nieuwe initiatieven aanmoedigen en beschermen).

Uit de drie literaturen is een dynamisch procesmodel afgeleid. Het model toont een verzameling van relaties tussen belanghebbenden, die bepaalde aanspraken formuleren. Deze aanspraken zetten organisaties aan tot acties. Een hoge mate van tegemoetkoming aan deze aanspraken is mogelijk wanneer organisaties de beschikking hebben over kritische inputs van belanghebbenden. Leren door organisaties vindt plaats als gevolg van tegemoetkoming aan aanspraken, omdat de ervaring van responsieve acties leidt tot een vergroting van de bestaande gedragscapaciteiten. Zodra organisaties een bepaald antwoord hebben geformuleerd, hetgeen een leerproces met zich meebrengt, zijn toekomstige relaties met belanghebbenden een uitvloeisel van eerder aangegane relaties vanwege de neiging tot inertie. Op basis van het model worden drie hypotheses geformuleerd. De eerste hypothese postuleert dat leren door organisaties in gang wordt gezet door aanspraken van belanghebbenden die hetzij onvermijdelijk zijn hetzij verenigbaar met de doelstellingen van belangrijke actoren binnen organisaties. De tweede hypothese luidt dat leren door organisaties het effectiefste is wanneer invloedrijke belanghebbenden gelijktijdig minstens drie kritische rollen vervullen: bruggenbouwer; sponsor; ideeën-generator en/of interne ondernemer. De derde hypothese postuleert dat naarmate organisaties meer leren op bepaalde gebieden, hun verzamelingen van belanghebbenden stabieler, homogener en operationeler van aard worden.

Methodologische kwesties

De empirische studie is ondernomen vanuit een kritisch-realistisch perspectief. Dit is verwant aan een interpretatieve benadering en is aldus gesitueerd tussen positivisme en sociaal-constructivisme. Gevalstudies zijn uitgevoerd om processen en configuraties van causale factoren te kunnen observeren. Na een teststudie is het milieugedrag van zes grote ondernemingen in uiteenlopende sectoren bestudeerd. Data zijn verzameld door halfgestructureerde vraaggesprekken, bezoeken aan bedrijfslocaties en bestudering van secundaire documenten. Vraaggesprekken zijn in twee rondes gehouden om longitudinale veranderingen te observeren. Bij de eerste ronde zijn alle belangrijke interne en externe belanghebbenden betrokken, terwijl de vraaggesprekken in de tweede ronde beperkt zijn tot centrale informanten. Alle gesprekken, saillante indrukken van bezoeken en relevante onderdelen van secundaire documenten zijn uitgeschreven. Alle transcripten zijn geanalyseerd op een gestandaardiseerde wijze. Transcripten zijn gecodeerd met behulp van een kwalitatief softwarepakket. Vervolgens zijn verslagen van gevalstudies gemaakt op basis van gecodeerde stukken tekst. Deze van referenties voorziene verslagen zijn omgezet in de uiteindelijke analyses van de gevalstudies.

Empirische resultaten

In het eerste hoofdstuk zijn de contextuele achtergronden van de verschillende gevalstudies geschetst. Deze bestaan uit de antecedenten en milieubeheersstructuren van de diverse organisaties. Verder is per gevalstudie een overzicht gegeven van belangrijke belanghebbenden. Het tweede empirische hoofdstuk identificeert causale factoren en processen. Het behandelt invloeden van interne en externe belanghebbenden en leren op organisatie-niveau voor de verschillende gevalstudies. Tenslotte zijn de drie hypotheses getoetst, eerst per organisatie en vervolgens op een vergelijkende basis.

De eerste hypothese wordt bevestigd. Bij drie organisaties met een hoog leervermogen zijn de belangen van interne belanghebbenden (grotendeels) verenigbaar met de aanspraken van belangrijke belanghebbenden. De gevalstudies laten ook andere voorbeelden van effectief leren zien; deze komen voort uit een combinatie van verenigbare en onvermijdbare aanspraken van belanghebbenden. De milieuterreinen waarop de onderhavige organisaties bekwaam zijn suggereren causale verbanden met kritische aanspraken van belanghebbenden. De tweede hypothese wordt ook bevestigd op grond van de empirische bevindingen. In twee situaties is het samenvallen van drie kritische rollen van belanghebbenden gelieerd met een hoge leercapaciteit van de betreffende organisaties. In drie gevallen van effectief leren blijken alle vier de leerrollen aanwezig te zijn. In de resterende gevalstudie is er sprake van een lage leercapaciteit in samenhang met de aanwezigheid van slechtst twee rollen. De derde hypothese wordt deels gefalsificeerd. Alle bevindingen uit de eerste observatieperiode bevestigen de stelling: de verzamelingen van belanghebbenden zijn meer gefocust bij organisaties die relatief veel inzichten op een bepaald gebied hebben geaccumuleerd. De resultaten van de tweede ronde zijn gemengd. Drie organisaties hebben meer gefocuste verzamelingen van belanghebbenden dan de periode ervoor. Maar de overige organisaties zijn breder georiënteerd, hoewel ze meer geleerd hebben. In deze drie gevallen is de divergentie ingegeven door discontinuïteiten bij de onderhavige organisaties. In één geval is de oorzaak tevens gelegen in het voortdurende verzuim om tegemoet te komen aan eerdere aanspraken van belanghebbenden. Hier heeft de organisatie begrepen dat een hogere mate van volgzaamheid in haar eigen belang is; dit leidt tevens tot een grotere divergentie.

Discussie

De empirische resultaten leiden tot aanpassing van het basismodel. Het nieuwe model omvat ook aanspraken van belanghebbenden om radicale veranderingen door te voeren. Deze aanspraken zijn, tot op zekere hoogte, een uitvloeisel van de weerstand van organisaties tegen belangrijke claims van belanghebbenden. De

centrale onderzoeksvraag kan dus als volgt worden beantwoord. Invloeden van belanghebbenden komen voor wanneer actoren een 'vraag' (d.w.z. een aanspraak of verwachting) formuleren of een 'aanbod' (d.w.z. een hulpbron ter inwilliging van een vraag) doen. Wanneer belangrijke belanghebbenden een aan milieu gerelateerde vraag formuleren, worden organisaties aangezet tot acties. Echter niet alle stimulansen leiden tot inwilligende acties. Organisaties bestaan uit actoren met verschillende belangen en doelstellingen. Wanneer de beoogde acties negatieve effecten hebben op de belangen van belangrijke actoren binnen organisaties, is onderhandeling of weerstand het meest waarschijnlijke antwoord van de organisatie. Als organisaties eenmaal een bepaald antwoord hebben geformuleerd, is het onwaarschijnlijk dat ze in de toekomst bij soortgelijke kwesties anders zullen reageren indien dit leidt tot een verschuiving van invloedssferen. Het formuleren van een tegemoetkomend antwoord door een organisatie vereist het op één lijn krijgen van belangrijke actoren binnen een organisatie. Dit gebeurt wanneer stimulansen van belanghebbenden hetzij verenigbaar zijn met de doelstellingen van interne actoren die betrokken zijn bij de beantwoording hiervan, hetzij wanneer deze actoren niet (redelijkerwijs) weerstand kunnen bieden aan de gestelde vraag. Inwilliging vereist specifieke cognitieve capaciteiten. Aan de vraag van een belanghebbende wordt effectief tegemoetgekomen wanneer invloedrijke actoren hun acties op elkaar afstemmen alsmede gelijktijdig kritische rollen vervullen voor wat betreft de allocatie van de vereiste hulpbronnen en het genereren, verspreiden en toepassen van ideeën. Organisaties vergroten door tegemoetkoming hun gedragscapaciteiten. Hoe meer organisaties op een specifiek terrein leren, hoe meer ze geneigd zijn om bestaande praktijken te verbeteren. Wanneer toekomstige problemen van een soortgelijke aard optreden, hebben organisaties de neiging om hun blikveld, zoals bepaald door de verzameling van relevant geachte belanghebbenden, te versmallen. De sterke neiging tot inertie- ingegeven door machtsimpasses, leerpaden en onzekerheidsvermijding- kan echter worden overheerst doordat belanghebbenden vragen om radicale verandering. Een dergelijke vraag vloeit voort uit de voortdurende weerstand tegen belangrijke aanspraken of uit causaal niet gerelateerde claims.

De empirische studie heeft ook tot andere observaties geleid. De samenstelling van netwerken van belanghebbenden is afhankelijk van de inhoud van de kwesties die als strategisch belangrijk worden ervaren. Verder hebben verschillende gevalstudies het bestaan getoond van multilaterale netwerken van heterogene invloeden.

Implicaties

Deze studie verschaft inzicht in de relaties tussen invloeden van belanghebbenden en leren door organisaties op het gebied van milieubeheer, hoewel de resultaten ervan waarschijnlijk breder toepasbaar zijn. De beperkingen van de

studie zijn met name in termen van vertekening bij de selectie van bestudeerde organisaties, verschillen in analytische eenheden en het relatief kleine aantal respondenten en tijdstippen per gevalstudie.

De uitkomsten van de studie leiden tot de volgende aanbevelingen. Wetenschappers zouden raakvlakken tussen invloed en leren meer moeten bestuderen, want er bestaat een belangrijk potentieel voor kruisbestuiving. Tevens zouden ze meer aandacht moeten schenken aan processen binnen organisaties, aan longitudinale ontwikkelingen van bedrijfsprocessen en aan een meer eenduidige interpretatie van kwalitatieve aanduidingen. De overheid kan de effectiviteit van haar milieubeleid verhogen door stringentere doelen op te leggen, met name wanneer deze kunnen leiden tot een hogere eco-efficiëntie. De overheid zou tevens organisatorische maatregelen moeten opleggen aan bedrijven die bij voortduring slechte milieuprestaties afleveren en voorlopers op milieugebied meer met raad en daad moeten bijstaan. Ondernemingen zouden zich moeten realiseren dat enkel gezamenlijke acties effectief zijn, hetgeen de noodzaak met zich meebrengt om de acties van verschillende eenheden- zowel verticaal als horizontaal- op elkaar af te stemmen. Bovendien dienen ondernemingen voldoende bevoegdheden te verstrekken aan bij milieukwesties belangrijke actoren, hun milieupraktijken aan te passen aan maatschappelijke ontwikkelingen, financiële nevenproducten van milieuacties mee te nemen in calculaties en bredere systeemeffecten in ogenschouw te nemen.

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