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CAPABILITY BUILDING THROUGH ADVERSARIAL RELATIONSHIPS: A REPLICATION AND EXTENSION OF CLARKE AND ROOME (1999)

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Cooperative interorganizational relationships are seen by many as indispensable vehicles for accessing external knowledge and accumulating capabilities. Surprisingly, the question of whether companies can also build capabilities through adversarial relationships has received little attention. This paper reports a study of the learning–action network of a major Anglo-Dutch food and personal care company. The firm's present relationships with consumer representatives and environmental activists are strongly adversarial, due to the recent introduction of genetically modified ingredients. The study shows that companies can still build capabilities in a hostile environment, but that adversity influences capability building processes as well as capability content. Copyright © 2003 John Wiley & Sons, Ltd and ERP Environment.

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INTRODUCTION

Over the last two decades, two trends have made the jobs of environmental managers ever more demanding. First, the number of available 'best practices' for managing a firm's environmental impact has grown at a prolific rate (Christmann, 2000; Stead and Stead, 1995). Second, the general technological environment has become increasingly complex (Gomes-Casseres, 1996; Mytelka, 1991). These dual trends have disturbed the balance between firms' endogenous R&D efforts and their attempts to adopt existing technologies developed by others (Hagedoorn and Duysters, 2002). Consequentially, the number of technology alliances mushroomed in the 1990s, as firms found that autonomous R&D efforts no longer sufficed for keeping up with the demands of their competitive environment (Powell, 1998).

The environmental management field has adopted these insights from the strategic management literature, and has proposed *cooperative* relationships with outside stakeholders as appropriate vehicles for accessing external

stocks of knowledge (Clarke and Roome, 1999; Turcotte and Pasquero, 2001; Westley and Vredenburg, 1997). Nevertheless, most environmental managers would readily admit that many of their relationships with outside stakeholders can be quite prickly from time to time, since waste control, pollution prevention, materials recycling and sustainable manufacturing (to name but a few) represent 'hot' societal issues. Surprisingly, few contributors have focused on the role of *adversarial* relationships as ways to gain access to outside knowledge. In this paper I aim to address this void by exploring the following research question: *How do firms build competitively valuable capabilities through their network of* adversarial *stakeholder relationships?* This broad theme can be decomposed into three sub-questions.

(i) How do firms build environmental capabilities through networks of *cooperative* relationships?
(ii) How does the capability building *process* in networks of adversarial relationships differ from that in cooperative networks?
(iii) What are the effects of having a strong adversarial component in the stakeholder network on the *content* of the resulting capabilities?

These questions will be addressed by reviewing the literature on collaborative capability building (question (i)), and by replicating and extending an earlier study (questions (ii) and (iii)) by Clarke and Roome (1999). My empirical contribution consists of a detailed case study of Unilever, one of the world's leading producers of fast-moving consumer goods. Like the earlier study, I focus on learning–action networks: relationships that lie over and complement formal organizational structures linking individuals together by the flow of knowledge, information and ideas (Clarke and Roome, 1995). This study is a literal replication in as far as I focus on the cooperative part of learning–action networks. Unlike Clarke and Roome (1999) I also focus on adversarial aspects, however, extending their contribution by assessing the effects of adversity on capability building processes and capability content.

CAPABILITY BUILDING THROUGH COOPERATIVE RELATIONSHIPS

Many scholars have pointed at networks of cooperative interorganizational relationships as a fertile *context* for breeding competitively valuable capabilities (Hagedoorn and Duysters, 2002; Teece, 1992). Especially with respect to complex environmental management and sustainable development problems – which typically transcend the boundaries of individual organizations – interorganizational cooperation has been heralded as an indispensable source of solutions (Hart, 1995; Throop *et al.*, 1993; Westley and Vredenburg, 1997).

The popularity of collaboration can be understood from a resource complementarity perspective (Harrison *et al.*, 2001; Teece, 1986). Environmental management problems tend to affect multiple firms simultaneously, and often impact entire supply chains (de Bakker and Nijhof, 2002). Hence, these predicaments require a combination of resources for their resolution that 'are not found readily under a single roof' (Powell, 1998, p. 233). Strategic alliances then offer attractive means for enhancing resource bundles, especially when an organization's extant capabilities are insufficient for achieving the desired environmental outcomes (Hoskisson and Busenitz, 2002). Research has demonstrated that a potential partner's resource profile is an important component of the alliance formation process, and that firms often search for partners possessing the resources which they lack themselves (Gulati *et al.*, 2000; Stuart, 2000).

Process

Two complementary views exist on how organizations build environmental capabilities through cooperative relations, namely (i)

through an *intra*-organizational process of knowledge absorption (de Bakker and Nijhof, 2002; Hastings, 1999), or (ii) via an *inter*organizational institutionalization process of environmental management best practices (Bansal and Roth, 2000; Hoffman, 1997).

The first perspective portrays capability development as an interconnected process through which organizations value, absorb and apply externally generated knowledge (Cohen and Levinthal, 1990). Zahra and George (2002) have recently split this process up into four distinct but potentially overlapping stages. In their view, capability building starts with the identification and *acquisition* of externally generated knowledge that is critical to the company's operations (Mowery *et al.*, 1996). Subsequently, this knowledge needs to be *assimilated* into the company's own resource bundles by analysing, processing and interpreting the information obtained from outside sources (Szulanski, 1996). Next, companies *transform* their newly acquired knowledge by combining it with existing knowledge stocks, even if the two sets of information appear incongruous (McGrath, MacMillan and Venkatraman, 1995). In the fourth and final step, which March (1991) has labelled *exploitation*, firms use these newly acquired knowledge stocks to refine and leverage existing capabilities and create new ones by incorporating this internalized information into their operations.

In contrast, the institutionalization perspective does not portray capability development as a completely voluntaristic process through which organizations can select and assimilate any type of available outside knowledge at will (Hoffman, 1999). Rather, institutionalists propose that organizations can only choose between narrowly defined sets of legitimate options, whose appropriateness is collectively and socially determined by the group of actors comprising the firm's organizational field (Scott, 1991). In the field of environmental management, for example, the International Organization for Standardization is an important source of normativity through its ISO 14001 guidelines, and firms complying with its standards may be perceived as more legitimate and appropriate than those lacking ISO 14001 certification (Delmas, 2001). Hence, the institutional perspective predicts that the development of competitive capabilities through cooperative relations is not an unrestricted process, but rather that social norms and standards focus firms' knowledge absorption attempts on those externally generated stocks of knowledge that are commonly seen as more appropriate than others (Suchman, 1995). In brief, the knowledge absorption view explains how firms internalize external information, whereas the institutional perspective clarifies why certain sources of external information are more desirable than others.

Content

With respect to the outcome of the aforementioned processes, three types of capability are usually identified in the environmental management literature: (i) technical, (ii) relational and (iii) sustainability skills.

Technical skills refer to the redesign of production or service delivery processes in order to minimize their impact on the natural environment. These skills include pollution output prevention, substituting less polluting inputs, recycling by-products of production processes and innovating less polluting processes (Dechant and Altman, 1994; Porter and van der Linde, 1995). Hastings (1999), for example, identifies 'environmental management' capabilities for limiting environmental impacts. Furthermore, Russo and Fouts (1997) describe a capability for acquiring and installing new technologies that allow companies to reap benefits such as waste reduction and increased operational efficiency. Sharma and Vredenburg (1998) also found a capability that they labelled 'continuous innovation', enabling companies to repeatedly preempt their competitors with respect to the implementation of new environmental impact-reducing procedures.

Relational skills allow firms to develop value-added partnerships with a broad range of internal and external stakeholders. This capability is often called 'stakeholder integration' in the literature (Hart, 1995; Heugens *et al.*, 2002; Sharma and Vredenburg, 1998). Russo and Fouts (1997) describe both the internal and external aspects of this capability. Internally, they argue, companies should focus on their human resources because the use of environmental technologies adds complexity to the tasks of workers at all levels of the firm. Externally, companies should try to establish a reputation for leadership in environmental affairs because this will increase sales among customers who are sensitive to such issues.

Sustainability skills are capabilities for dealing with economic and ecological problems simultaneously (Shrivastava, 1995). These 'product stewardship' (Hart, 1995) or 'ecocentric management' (Shrivastava, 1995) skills enable firms to minimize the environmental impact of their operations throughout the entire life-cycle of their products, 'from product design through manufacturing, use, and disposal' (Christmann, 2000, p. 664). Hastings (1999) describes a skill for developing programmes that enhance the social capital of affected communities while also minimizing environmental impact. Sharma and Vredenburg (1998) identify a capability for 'higher-order learning', which enables firms to envisage different paths of learning and knowledge creation on the business/natural environment interface. According to Shrivastava (1995), such skills help organizations to identify ecologically sustainable generic strategies, which represent unique combinations of product choices, operating systems, customer and supplier relations and technologies.

CAPABILITY BUILDING THROUGH ADVERSARIAL RELATIONSHIPS

How does the capability building *process* in networks of adversarial relationships differ from that in cooperative networks? What are the effects of a strong adversarial component in the stakeholder network on the *content* of the resulting capabilities? I intend to answer these questions by replicating and extending a case study by Clarke and Roome (1999). More specifically, I will use the framework of propositions they developed and apply it in the context of Unilever's learning–action network.

Background

Unilever was formed in 1930 when the Dutch margarine company Margarine Unie merged with British soap maker Lever Brothers (www.unilever.com). Even today the company's corporate centre has offices in both the Netherlands and the United Kingdom. Unilever is one of the largest companies in the world, with sales (2001) over €52 billion. The company employs some 265 000 people, of which 6000 are salaried managers enjoying share options (2001). As of January 2001, Unilever is organized into two divisions: Food (with strong positions worldwide in margarine, tea and ice cream) and Home and Personal Care (selling soap, detergent and skin- and hair-care products). In 2000, the company sold 1800 brands through 300 subsidiaries in 88 countries worldwide, with exported products on sale in 70 more.

In this case study I exclusively focus on the Dutch part of Unilever's learning–action network in the foods sector (leaving the Home and Personal Care division and the international network of Unilever out of the analysis). The study examines this network from 1992 to 2001, when genetically modified crops were first introduced in Western Europe. Two of these crops (soy and corn) represent important ingredients for Unilever's major food product lines. The introduction process caused considerable controversy in the Netherlands, as well as in the rest of Europe (Heugens, 2002). Consumers, activists, government agencies and non-governmental organizations (NGOs)

Table 1. The theoretical framework of this study

Proposition 1	Corporate effectiveness in developing responses to environmental concerns and sustainable development is critically influenced by context and organizational pre-conditions that pre-dispose an organization to mutual learning and change with other stakeholder groups.
Proposition 2	Companies that are open and responsive to multiple perspectives are more disposed to acquire new knowledge and take actions that meet environmental management and sustainable development needs than those that develop knowledge and act within their existing resources.
Proposition 3	Companies that acquire knowledge that contributes to effective environmental management and sustainable development have access to managers with highly developed networks, networking skills and capabilities in facilitating change through those networks.
Proposition 4	Effective environmental management and sustainable development require companies to use networks of stakeholders as a means to inform, confirm and validate their approach to environmental management or sustainable development.
Proposition 5	Effective environmental management and sustainable development involve inclusive networks for learning and action. The more inclusive a network is, the greater the demands on the 'process skills' of managers to reconcile the problems that stem from the difference of perspective and language used by network members.
Proposition 6	Effective environmental management and sustainable development involve highly developed skills in facilitating inputs from multi-stakeholder networks at all levels of a company – strategic, environmental and technological as well as operational.

Source: Clarke and Roome (1999, pp. 308–309).

engaged in vigorous protests against the use of genetically modified ingredients by large multinational firms, and many parties tried to urge consumers to boycott Unilever's products.

Methods

A detailed case study was conducted of the learning–action network of Unilever. I decided to use the case study methodology because this is the preferred strategy when 'how' or 'why' questions are being posed, when investigators have little control over events and when the focus is on a contemporary phenomenon within some real-life context (Yin, 1994). With this study I intended to replicate and extend the earlier (1999) work of Clarke and Roome on learning–action networks by applying the framework of propositions they developed in a different national and corporate context. Their original propositions appear in Table 1.

The case study was compiled from four complementary data sources in a triangulating fashion (Denzin, 1989). First, I conducted 23 open-ended interviews with members of Unilever's learning–action network. The interviewees included company officials, journalists, consumer representatives and other NGO members. Second, I conducted an archival study on the records of the Product Board for Margarine, Fats and Oils (a semi-public organization, founded to advance the interests of the Dutch food industry). These archives contained large amounts of personal correspondence (including letters, faxes and internal memos) between members of the Product Board and the other members of Unilever's learning–action network. Third, I organized three industry roundtable discussions about the issue of genetic modification, attracting company officials, industry representatives and members of various NGOs. Fourth, I used articles clipped from various Dutch and international newspapers and magazines.

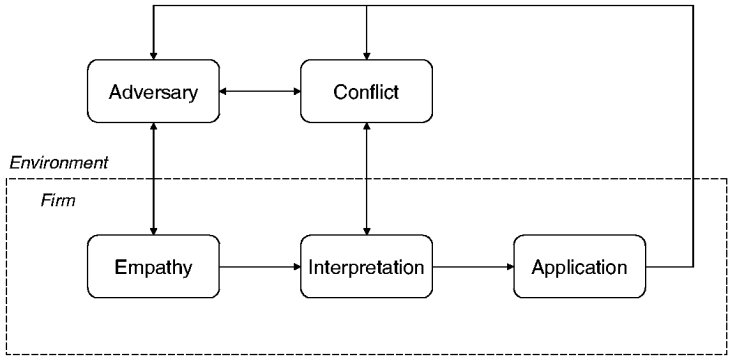

Figure 1. The process of capability building through adversarial relationships

Process

Clarke and Roome (1999) posit that the organizational context (which they strictly operationalize as a company's learning–action network) critically influences the process through which actors develop responses to espoused concerns about environmental affairs. Yet, even though these authors strictly focus on cooperative relations, it must be kept in mind that learning–action networks in fact consist of two interrelated parts. First, each network indeed has a *cooperative* part, containing all parties with whom the company is involved in dyadic or multi-party collaborative initiatives. Second, however, there is also an *adversarial* part, which entails all the parties with whom the company fundamentally disagrees about the terms or objectives of collaboration. The question now becomes how this adversarial part of a company's learning–action network influences its capability building *processes*. An answer to this question is provided by the conceptual framework depicted in Figure 1, which is based on the Unilever study and which will briefly be explained below.

Adversaries objecting to the use of modern biotechnology

A number of parties (e.g. environmentalists, consumer representatives, political parties and religious authorities) regularly express their concerns about modern biotechnology. Their objections are threefold. First, they argue that biotechnology exposes the public to health risks, such as the creation of new pathogens and allergens. Second, they are concerned about environmental risks such as diminishing biodiversity and the creation of 'superweeds'. Third, some groups (especially political parties and religious organizations) have ethical or religious objections against the purposive intervention in life by human beings.

Parties using modern biotechnology

A large number of food companies have started to use modern biotechnology. Most of them are passive users, in the sense that they are not involved in fundamental biotechnological research. Instead, they are processors of genetically modified ingredients such as soy and corn. Most of these companies do not voluntarily opt for the use of genetically modified ingredients, but are forced to use them because they must rely on unsegregated imports from countries whose farmers use the new technology. In the United States, for example, some 30% of all cornfields and almost 60% of all soy acreage consisted of the new crops in 1999 (*Economist*, 1999). Unilever is one of those passive adopters, and uses genetically modified ingredients for many of its major food product lines. The company is a reluctant adopter, however, and is very concerned about

the societal legitimacy of the new technology. The company's chairpersons have consistently stressed in the media that they support the thoughtful use of genetic modification, but that they would immediately ban modified ingredients from their products if they were informed about any detrimental effects of the new technology on human health or the natural environment. To add credibility to its 'safety first' policy, Unilever made sure to be the first company in the Netherlands to put information about the modified origin of its ingredients on the labels of its branded products.

Empathy towards adversaries

There is an obvious clash between the interests of Unilever and the views of biotechnology opponents. The company is therefore urged to build capabilities for keeping its relationship with these adversaries manageable. This study has shown that this process often starts with empathy, the ability to share another party's emotions, thoughts, or feelings. As one government representative put it while reflecting upon the introduction process of genetically modified soy,

> Deep knowledge of the other parties that are involved in the process is a necessary precondition for reaching compromises. Without it the entire negotiations become futile at best, because then people won't even know why they are talking to one another. It is not a matter of providing more information. It is a matter of understanding the basic beliefs of the other people at the negotiation table.

Interpretation of the conflict

The present study shows that understanding a conflict involves more than just understanding one's adversaries. Previous research indicates that industry insiders often mistakenly conceive of public issues as technical problems (Meznar and Nigh, 1995). Like those of Clarke and Roome (1999), our findings indicate that responsive companies that are eager to acquire new knowledge about environmental conflicts are likely to benefit from their interactions with outsiders. One Dutch manager phrased it as follows:

> Initially, our policy was one of 'public education'. We published a lot about modern biotechnology. But we got the door slammed right in our face. The information we provided was far too general. The public could not make the cognitive link between generic information about the technology and the products that they daily buy in the supermarket. This made us realize that we should not use biotechnology as a means to improve our image.

Applying empathic knowledge

One can only speak of capability development when knowledge about adversaries and the conflict at hand is being translated into corporate policy. After all, capabilities represent action-dependent knowledge (Nonaka and Takeuchi, 1995). Due to their largely intangible or tacit character (Hall, 1992), capabilities can only be developed, improved and retained when they are constantly being (re)applied. The first area of application for these skills is the party with whom the company maintains an adversarial relation. When I asked the Head of Communications of the Product Board for Margarine, Fats and Oils how she applied the knowledge she acquired with respect to one particular adversary, she responded as follows:

> We used to be 'anxious to raise anxiety', but those days are over. Currently, we try to reduce the distance between 'sound science' and [our adversary's] objections against it by tuning our policies and communications to their fears.

Applying knowledge of the conflict

The second area of application is the conflict itself. To develop valuable capabilities,

companies should apply the knowledge they acquired about the conflict to the problem domain. This requires an integration of the demands of external stakeholders into corporate policies (Heugens *et al.*, 2002). I received the following response from a consumer representative when I asked him about recent adaptations in the policies of Dutch companies with respect to genetic modification:

> European legislation only requires a single assessment of the safety for direct consumption of the new crops. Once that single test is passed, companies are free to use and sell the product forever. We, like many other NGOs, are in favor of continuous monitoring. This requires the continuous testing of transgenic products. We are very pleased to see that some multinationals have begun to perform such regular tests in their own laboratories, and we hope that they will support our endeavours to make these tests mandatory.

Conclusion

The general conclusion of this section is that the process of capability building is influenced significantly by the organizational context. In the cooperative part of the learning–action network, companies and their stakeholders jointly engage in knowledge acquisition, assimilation, transformation and exploitation processes (Zahra and George, 2002). In contrast, capability building in the adversarial part of the network is a solitary activity, and individual companies themselves will have to assume the sole responsibility for absorbing externally generated knowledge.

Content

What are the effects of a strong adversarial component in the stakeholder network on the *content* of the resulting capabilities? Three steps were taken to address this final question. I started by analysing the 23 interview reports with the help of a number of specific questions, all of which were related to the identification of specific organizational skills. Sample questions are (i) 'Who are Unilever's most important stakeholders?', (ii) 'How good (or bad) is Unilever's relationship with these parties?', (iii) 'How did Unilever interact with these stakeholders during the introduction of modern biotechnology?' and (iv) 'Which skills did Unilever use to facilitate the interaction process?'. Second, I clustered the various skills I discovered (which were either mentioned implicitly or explicitly in the interviews) into internally homogeneous categories, and repeated the categorization process several times to resolve the remaining discrepancies. This process resulted in five initial clusters of corporate skills. Third, I reported these clusters back to a number of my initial respondents ($n = 5$), to evaluate the internal validity of my classification (Yin, 1994). Based on the suggestions of these respondents, I decided to split two of the initial clusters in two, so that I ended up with seven clusters of organizational skills. I 'translated' these seven clusters into narrative sentences describing capabilities. These capabilities, as well as the frequencies with which they were observed (in terms of the number of interview reports in which they appeared), are listed in Table 2.

These findings show that there is a remarkable difference in content between capabilities that are built through cooperative relations and those that are initiated in an adversarial context. As alluded to in an earlier section of this paper, organizations use cooperative relationships to build technical, relational and sustainability skills. In contrast, the capabilities organizations build through their exposure to adversarial relationships are entirely different (although perhaps complementary to the former ones), and can best be referred to as 'interpretive and communication skills'.

These latter skills seem to be the constitutive parts of a more encompassing capability for what Grunig and Hunt (1984) have labelled 'two-way symmetrical communication'. 'Two-

Table 2. Capabilities built through adversarial relationships

Number	Description	Frequency[a]
1.	The capability to 'translate' the potential risks and benefits of modern biotechnology into terms that key external stakeholders can understand.	10 (43)
2.	The capability to establish a mature relationship with the press, which is rooted in both transparency and respect.	6 (26)
3.	The capability to establish an open dialogue with a wide variety of stakeholders, especially those with non-economic goals.	17 (74)
4.	The capability to understand why certain stakeholders hold an opinion with respect to modern biotechnology that differs from the one held by the firm.	7 (30)
5.	The capability to listen to the communications of stakeholders and to comprehend their point of view.	12 (52)
6.	The capability to generate understanding for what drives stakeholders by thinking along with them.	9 (39)
7.	The capability to integrate the voice of stakeholders into corporate decisions.	8 (35)

[a] Percentages in parentheses.

way' implies that organizations should engage in a dialogue with all the parties that have a stake in the organization, even when these stakeholders are adversaries. This type of information exchange stimulates organizations to overcome their self-centred cognitive biases, sometimes referred to as 'insiders' views' (Meznar and Nigh, 1995). 'Symmetrical' refers to the characteristic that communication should add to the equitable treatment of communication partners (Gray, 1989). All the parties to a communicative process should be willing to acknowledge their interdependence, while at the same time respecting each other's autonomy (Grunig, 1989). In symmetrical communication, understanding is the principal objective rather than persuasion (Grunig and Grunig, 1992).

This also implies that firms should avoid engaging in what has been labelled 'one-way asymmetrical communication' (Grunig and Hunt, 1984). The term 'one way' refers to the finding that organizations in adversarial settings tend to regress towards communicating through monologues. The word 'asymmetrical' points at communication efforts that are principally intended to disseminate information from organizations to publics, usually through the media. This communication type is usually associated with elitism and conservatism (Grunig and White, 1992). Organizations use it to preserve the status quo and persuade other parties to comply with their worldview, rather than seeking mutual adaptation.

DISCUSSION

The findings reported here justify a reinterpretation and extension of the propositions forwarded by Clarke and Roome (1999). The original propositions dealt exclusively with the cooperative part of learning–action networks, but the present study shows that a focus on the adversarial side of networks has consequences for both the capability building process and the content of the resulting capabilities.

The first proposition forwarded by Clarke and Roome (see Table 1) stated that the development of responses to societal issues is critically influenced by context, which predisposes an organization to mutual learning and change with other stakeholder groups. My findings partially confirm this proposition. The inclusive part of Unilever's network indeed formed a context in which the company could build valuable capabilities in cooperation with

others. The exclusive part of the network formed a completely different context, however, one in which Unilever had to build capabilities all by itself through empathizing, interpretation and knowledge application (see Figure 1). I therefore propose the following extension of the first proposition.

> *Proposition 1. Corporate effectiveness in developing responses to environmental concerns and sustainable development is critically influenced by context; the inclusive part of the learning–action network predisposes an organization to mutual learning and change with other stakeholders, whereas the exclusive part predisposes it to individual learning and change to cope with adversarial pressures.*

The second and third propositions of Clarke and Roome address the properties of a specific organization versus those of others (see Table 1). Since my case study focuses on the learning–action network of a single organization, I cannot address this comparative dimension. Clarke and Roome also report data on the network of a single company, but their work is part of a larger study of 'three related companies in Canada and the UK' (1999, p. 298). I assume that they implicitly base their comparative findings on this larger study, using the other two organizations as a frame of reference. Due to my focus on the learning–action network of a single organization, I will not propose any amendments to the second and third propositions of Clarke and Roome.

The fourth proposition forwarded by Clarke and Roome highlights the role of networks of stakeholders in informing, confirming and validating the environmental policies of organizations (see Table 1). My findings support this proposition. However, Clarke and Roome focus exclusively on the cooperative part of learning–action networks, whereas the present study shows that this proposition also holds true for the adversarial part. I therefore propose the following extension.

> *Proposition 4. Effective environmental management and sustainable development require companies to use both the cooperative and adversarial parts of networks of stakeholders as means to inform, confirm and validate their approach to environmental management or sustainable development.*

The fifth proposition of Clarke and Roome entails the 'process skills' of managers for reconciling problems stemming from differences of perspective and language used by network members (see Table 1). They hold that the more inclusive a network is, the greater the demands on these process skills will be. It indeed seems logical to assume that the difficulty of managing the cooperative part of a network increases with the number of parties in that part. However, my study shows that although a company's learning–action network usually consists of a cooperative part, it often also has an adversarial part. It may be expected that the demands on the process skills of managers (i.e. collecting, integrating and applying knowledge) are far greater in this adversarial part, simply because the differences in terms of perspective and language-in-use are much more pronounced here than in the cooperative part. Furthermore, parties in the cooperative part of the learning–action network are likely to work together with these practicing environmental managers towards the resolution of their differences, whereas the goals of adversarial parties may sometimes be served best by perpetuating them. I therefore propose the following reformulation of the original proposition of Clarke and Roome.

> *Proposition 5. Effective environmental management and sustainable development involve cooperative as well as adversarial networks for learning and action. The more adversarial a network is, the greater the demands on the 'process skills' of managers to reconcile the problems that stem from the difference of perspective and language used by network members.*

Finally, the sixth proposition forwarded by Clarke and Roome deals with the skill to facilitate inputs from multi-stakeholder networks. My review of the literature on cooperative networks shows that this 'relational' skill primarily relates to the corporate ability to develop value-added partnerships with a broad range of internal and external stakeholders. However, in adversarial networks 'communicative' skills are more important, because value-added partnerships are unlikely to emerge out of such networks. Such communicative skills involve the capacity to engage in a dialogue with all relevant stakeholders, even if these parties are (potential) adversaries. I therefore propose the following extension of this last proposition:

> *Proposition 6. Effective environmental management and sustainable development involve highly developed relational skills in facilitating inputs from the collaborative part of the multi-stakeholder network, as well as highly developed communicative skills in facilitating inputs from the adversarial part.*

CONCLUSION

Almost a decade after Clarke and Roome (1995) introduced the concept of learning–action networks in the environmental management literature, and a little over two years after the publication of an entire special issue of *Business Strategy and the Environment* (March/April 2001) devoted to the topic, it seems prudent to present a critical reflection on this important phenomenon. In line with earlier findings (Clarke and Roome, 1999), the present study has shown that learning–action networks are indeed indispensable vehicles for accessing stocks of externally generated knowledge. On a more novel and critical note, however, the findings presented here have also shown that the process of capability development (as well as the content of the resultant capabilities) critically depends on the size and intensity of the adversarial part of that network. I hope that this paper will stimulate other researchers to further explore the consequences of adversity in interorganizational networks for organizational learning and capability development processes.

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