Unfit to Learn? How Long View Organizations Adapt to Environmental Jolts

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UNFIT TO LEARN? HOW LONG VIEW ORGANIZATIONS ADAPT TO ENVIRONMENTAL JOLTS[1]

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Abstract

Long view organizations have a technical core combining high levels of Woodwardian (1958) technological complexity and Thompsonian (1967) technological intensity. This significantly diminishes their capacity for operational flexibility and strategic adaptation. Little is known about how such organizations manage to learn from rare events. We shed light on this issue by reporting a thirteen-year longitudinal study of a major oil company, tracing its experiences with a socio-political crisis from original preparations to learnings that did not fully materialize until years after the event. We use three alternate templates to interpret the organization's struggle to maintain its technical core under conditions of fierce contestation by changing constituent groups and dwindling public support: (1) a stakeholder template mapping shifts in the salience of constituent groups that punctuate long-standing negotiated equilibria; (2) a legitimacy template showing migration towards new forms of legitimacy while old forms crumble; and (3) a capability template highlighting how pre-existing stocks of capabilities hinder learning before being supplanted by new ones. These templates are tied together in a set of integrative propositions stating how long view organizations learn from rare events.

THE PLIGHT OF THE LONG VIEW ORGANIZATION

Notions like organizational learning and adaptation suggest that organizational effectiveness is at least in part dependent on organizations' ability to adapt fast and decisively to events emanating from their environments. Many contributors have suggested that as long as organizations are 'flexible' (Birkinshaw & Hagström, 2000) or 'ambidextrous' (O'Reilly and Tushman, 2004), they are in good shape to cope with environmental jolts or capitalize on learning opportunities. Many organizations, however, are by design *not* flexible or ambidextrous, and thus apparently unable to adapt to or learn from rare events. As Weick (1991) puts it, such organizations "are not built to learn. Instead they are patterns of means-ends relations deliberately designed to make the same routine response to different stimuli, a pattern that is antithetical to learning in the traditional sense" (p. 119). Particularly resistant to adaptation and learning are organizations combining Woodwardian (1958) technological complexity – requiring them to make immense investments in facilities that are inherently difficult to redesign, with Thompsonian (1967) technological intensity – demanding them to durably uphold a negotiated truce with all external parties involved in the application of the technology. We denote such organizations as *long view organizations* (cf. Schwartz, 1998), and define them as social collectives that are necessitated by their core technologies and environmental interdependencies to organize for distant futures.

Long view organizations are comparatively vulnerable to cataclysmic upheavals. Due to the extraordinary technological and relational constraints they face, they have fewer defenses against *environmental jolts* – "transient perturbations whose occurrences are difficult to foresee and whose impacts on organizations are disruptive and potentially inimical" (Meyer, 1982: 515) – than organizations with shorter planning cycles. Organizations that draw on highly complex, highly intense core technologies simply cannot shorten their planning cycle times or otherwise alter the pace and rhythm of their business decisions in the face of unusual experiences (cf. Brown and Eisenhardt, 1997). They must thus somehow reconcile the conflicting demands of

adapting to jolts *and* working towards distant strategic objectives. This provokes the following research question: *How do long view organizations adapt to environmental jolts?*

Studying long view organizations requires a research design that matches their experience of time. A cross-sectional study is unlikely to capture significant changes in an organization that is used to making business decisions with a 30 to 50 year time horizon. We thus decided in favor of a longitudinal set-up. We selected an archetypical long view organization – the Shell Group oil company – and tracked it intensively for thirteen years. Our observations commenced when it was preparing for what turned out to be one of the most severe socio-political crises in its century-long history, notably: the Brent Spar controversy. Our interest lay not in Shell's crisis handling skills, and our empirical focus will not principally be on the few months that Shell had to absorb the episode directly. Rather, we focus on the less immediate aftermath of the crisis: the slow but fundamental transformation that was triggered by the controversy but that far outlasted the crisis' lifespan. The story of this transformation is monolithic, but far from monologic. We therefore use three alternate templates (Langley, 1999) – grounded in stakeholder theory, neo-institutional theory, and the resource-based view of the firm – to explore various themes in the voluminous qualitative data we collected. The upshot of this exercise is a set of integrative propositions stating how long view organizations adapt to environmental jolts.

THEORY REVIEW: ADAPTATION IN LONG VIEW ORGANIZATIONS

Long View Organizations

All organizations rely on some form of technology to accomplish their goals. These technologies generally range from simple to complex (Woodward, 1958). Simple and intermediately complex technologies, such as artisanal craft production and industrial batch manufacturing, are comparatively flexible. This flexibility derives from their modularity, a quality which refers to the "degree to which a system's components can be separated and recombined" (Schilling, 2000:

312). When organizations employing these technologies are confronted with an unusual experience, they can adapt to it by "reshuffling" their systemic elements in an attempt to restore their structural "fit" with environmental contingencies (Drazin and van de Ven, 1985). In contrast, organizations characterized by high levels of technological complexity, such as those involved with continuous process production (Woodward, 1958), tend to be less modular and thus relatively inflexible. Their rigidity derives from the tightness of the coupling between the various system elements, and from the rules comprising their systems architecture, which often prohibit the mixing and matching of components due to systemic needs for high reliability (Schilling, 2000; Weick & Sutcliffe, 2001). Organizations using highly complex technologies thus tend to adopt a long view (Schwartz, 1998), in an attempt to make the organization more robust against environmental disturbances to which they cannot adapt on short notice.

An additional factor limiting organizational flexibility is technological intensity (Thompson, 1967). Intensity denotes the extent to which the selection of organizational technologies, as well as their combination and the order in which they are put to use, are determined by feedback from the external parties involved in their application (Thompson, 1967: 17-18). Intensive technologies are custom technologies, in that the success of their deployment depends on the approval they can muster from the unique coalition of constituents involved in each individual project. These dependencies inevitably have consequences for the organization's adaptive potential (Aldrich and Pfeffer, 1976). Organizations employing low-intensity technologies are comparatively flexible, as they can adapt their core technologies without having to take external interdependencies into account – given resource constraints. In contrast, high-intensity organizations are relatively inflexible, as any decision they make to initiate technological change can realistically be blocked or at least hindered by third parties from their task and institutional environments. Organizations employing intense technologies must therefore focus on the longer term to negotiate some durable form of truce with the external parties on whose support they critically depend (Pfeffer and Salancik, 1978).

Long view organizations thus adopt longer planning horizons and more distant strategic objectives than their peers, due to the fact that their core technologies are so complex and intense that they 'forbid' shorter-term orientations. Testifying to the relevance of the long view thematic is that many popular management scholars have found inspiration in it. Former Shell executive Peter Schwartz (1998), for example, has suggested that long view organizations can use scenario planning, "a tool for ordering one's perceptions about alternative future environments in which one's decisions might be played out" (p. 4), to prepare for rare events. Arie De Geus (1997), another Shell executive, has proposed that long view organizations owe their longevity to being "living companies," willing to learn from all unusual experiences that surround them. Finally, Jim Collins and Jerry Porras (1994), consultants to Shell, have suggested that long view organizations need a unique vision, offering them a frame for interpreting unforeseen crises as well as a roadmap detailing how to conquer them. All these contributors see long view organizations as a unique subset of a wider population of organizations, which owe their exceptional qualities to the fact that their success and longevity are two sides of the same coin.

Organizational Adaptation

The concept of organizational adaptation refers to the processes by which organizations foresee, absorb, and recuperate from disturbances in their environments. An authoritative model of organizational adaptation has been suggested by Meyer (1982). This model is best seen as a pre-theoretical template or handmaiden theory, in that it offers a basic chronological platform onto which alternate theoretical templates can be grafted in order to reflect on organizational adaptation from various theoretical angles. We add these theoretical implants at a later stage, but here we restrict ourselves to a brief description of Meyer's model. It identifies three consecutive stages: (1) anticipation, (2) adaptation, and (3) readjustment.

During the anticipatory phase, several alternatives are open to organizations to prepare their members for eventualities. They may use early warning systems (Dutton and Ottensmeyer,

1987), environmental scanning techniques (Aguilar, 1967) or other types of competitive "antennae" to identify particular events. Alternatively, they may rely on forecasting systems such as scenario planning (Schwartz, 1998) or the Delphi method (Linstone and Turoff, 1975) to draw up contingency plans stating how the organization is supposed to act under various imaginable states of the world. Good intentions aside, however, it is not always possible, or necessary, to foresee exactly what is in the future. Rather than prepare for specific events, organizations may also build up a general-purpose "war chest" of internal slack resources (Cyert & March, 1963) or a "reservoir of goodwill" (Heugens *et al*., 2004) in the eyes of outsiders, which they can draw upon in the event they are confronted with an unforeseen shock.

During the adaptation phase, organizations cope with a jolt as it unfolds. As this usually involves decision-making under conditions of ambiguity, stress, and time pressure, adapting organizations tend to stick with what they know and enact only well-learnt responses (Heugens, 2005; March and Simon, 1958). Analytically, this process is referred to as first-order change (Meyer, 1982). It is a conservative form of organizational adaptation, as the organization's prevailing strategic orientation and systemic inertia bind it to change that is consistent with well-established patterns in its history (Fox-Wolfgramm *et al*., 1998). Empirical evidence shows that first-order change is the dominant adaptation pattern for approximately 70 percent of all organizations, even under conditions of considerable upheaval (Meyer *et al*., 1990; Meyer *et al*., 1994). Thus, during adaptation, organizations often limit themselves to conservative measures like: laying off redundant employees (Meyer, 1982); crafting a public display of control and mastery over the situation (Basu *et al*., 1999); and framing organizational measures in terms that cohere well with the value-sets of dominant stakeholders (Fiss and Zajac, 2006).

When environmental jolts subside, the readjustment phase sets in. Organizations then take stock of the consequences of their adaptations, and attempt to move back to a "business as usual" state of operations. This state is oftentimes not very different from the *status quo ante*, and first-order changes can rapidly dissolve again when organizations revert to their antecedent states

7

(Meyer, 1982). Only a fraction of all organizational adaptations will lead to strategic reorientations or other permanent changes to the underlying organizational architecture (Fiol and Lyles, 1985; Fox-Wolfgramm *et al*. 1998). When they do occur, however, episodes of 'framebreaking' or 'second-order' change tend to allow a highly insightful window on how organizations develop complex new rules of operation, associations between previously untapped reservoirs of knowledge, and understandings of causation (Fiol and Lyles, 1985).

Constraints on Adaptation

Meyer's (1982) model is helpful in terms of ordering and analyzing long view organizations' adaptive efforts. Yet, high levels of technological complexity and intensity impose additional constraints on adaptation. These are crucially important, as they structurally limit long view organizations' repertoire of strategic options, and thus effectively impose boundary conditions on their ability to learn from rare events. These conditions do not necessarily limit learning potential in an absolute sense, but they do constrain and direct it in predictable ways. We identify two such boundary conditions here, and describe how they influence learning abilities.

A first boundary condition is high opportunity costs. Technological complexity reduces modularity (Schilling, 2000) and thus increases the specificity of the assets (Williamson, 1991) contained in the organization's technical core. High opportunity costs are the result, as many investments in continuous process production systems are significantly less valuable in their next-best use – provided that an alternative form of use is available in the first place. This practically rules out any short- to medium-term adaptations to the technical core, focusing organizational efforts on responses preserving the core's integrity. These include sealing off the technical core from environmental influences ("buffering," cf. Thompson, 1967: 18-20) and smoothing the amplitudes of these environmental disturbances themselves ("leveling," cf. Thompson, 1967: 20-21). Thus, our expectation is that long view organizations are more likely than their technologically less complex counterparts to be engaged in buffering and leveling activities.

8

A second boundary condition is external dependencies. Organizations are dependent on a specific party in their environment to the extent that they have a need for substantive or symbolic resources which the party can provide (Pfeffer and Salancik, 1978). These dependencies are diminished when other parties can provide similar resources (Emerson, 1962). Dependencies weigh in more heavily under conditions of high technological intensity, as external parties are now not merely resource providers but also active participants in the process of technology application. To manage these dependencies, organizations employing intensive technologies have traditionally resorted to vertical integration (Thompson, 1967), quasi-vertical integration (Pfeffer and Nowak, 1976), and cooptation (Selznick, 1949). Long view organizations thus tend to adapt to jolts by inducing nominally independent parties to surrender part of their autonomy through mechanisms like absorption, contract, or interest-alignment. Hence, we expect long-view organizations to be more preoccupied with demanding forms of adaptation like external absorption, and less with simpler, less-exacting forms like dialogue.

METHODS

Empirical Setting: Shell Group and the Brent Spar Crisis

The Royal Dutch Shell Group is the product of a 1907 merger between the Royal Dutch Petroleum Company and Shell Transport and Trading Company. Soon after its founding, Shell Group became the world's leading oil company. It rapidly expanded internationally, becoming involved in exploration activities in the US, South America, and the Middle East. The Second World War threw the company in a deep crisis, as it saw many of its assets destroyed, occupied, or confiscated. Though reconstruction was prohibitively expensive, the post-war explosion in the civilian demand for oil products not only saved the company but also spurred a period of unprecedented growth. Shell Group transformed itself during the 1960s and 1970s from a colonial company in which upper management typically consisted of Dutch and British expatriates to a

truly international company pursuing the recruitment of Asians, Africans, and South-Americans. Further reorganizations gave the company a new governance structure, culminating in the 2005 move of its headquarters from London to The Hague. At present, the company constitutes a global group of more than 2,000 energy and petrochemical companies, operating in more than 140 countries and territories, and employing some 109,000 people.

Telling for the present project is that Shell has a long history of off-shore oil exploration. In 1949 the company drilled its first sub-sea oil well in the Gulf of Mexico. In 1955 it already owned and operated more than 300 offshore wells. In the 1970s the company began developing oil fields in the North Sea. Initially this decision seemed to be a great gamble. Due to the adverse weather conditions and the instability of the seabed, oil exploration in that region is very difficult and demanded the construction of new classes of drilling platforms and storage facilities. Consequentially, the cost price per barrel of North Sea oil is significantly higher than that of oil gained from more accessible sources, and a regime of high oil prices is needed to make North Sea oil extraction profitable. Soon the 'gamble' paid off, however, due to political instability in the Middle East, culminating in several oil boycotts which drove up oil prices to unprecedented levels. With its North Sea investments in place, Shell was now in an excellent position to offer an alternative to Middle Eastern oil, and profited immensely as a consequence. The 1980s and 1990s brought continued growth for the company through acquisitions and the development of even more challenging offshore exploration projects. Most recently, the company has sought involvement in several oil and gas exploration projects in Russia, at Salym and Sakhalin.

In the early 1990s, several of Shell's North Sea facilities began approaching the end of their economic life cycles, and the company had to start devising plans for their disposal. The first major structure to be dismantled was the 'Brent Spar,' a large floating structure that was used for storing oil from the Brent exploration field. In 1995, after a series of decommissioning studies, Shell decided to sink the Spar at a disposal site in the North Atlantic. This decision soon triggered the greatest socio-political crisis for the company to date. Several environmentalist groups, led by

Greenpeace, strongly opposed Shell's decommissioning plan. Their objections were not only directed at the disposal of the Spar itself, but especially at the precedent this would set for all other major structures to be written off in the future. Greenpeace subsequently occupied the Spar on April 30, 1995, attracting unprecedented media attention. Even though Shell initially decided to stick with the original disposal plan and evacuated the platform, a torrent of consumer boycotts, negative publicity, and an intervention by European ministers eventually brought the company to its knees after a several months-long war of attrition. In a public acknowledgement of its defeat, Shell announced on June 20th, 1995, that it had "decided to abandon deep-water disposal and seek from the UK authorities a license for onshore disposal" (Rice and Owen, 1999: 97). In the remainder of this paper, we briefly touch upon Shell's anticipatory activities and first-order responses to this crisis, but our main interest lies in the company's second-order adaptations, many of which did not fully materialize until years after the event.

Data Collection

To gain insight into the processes by which Shell Group adapted to the Brent Spar jolt, we chose a naturalistic inquiry approach (Lincoln & Guba, 1985). Our principal source of data consists of a large number of real-life encounters with people who played an important role in either the crisis itself or in the organizational adaptation process that followed it. Most of these encounters consisted of focused research interviews (Merton & Kendall, 1946), following the usual set-up of a researcher asking questions, the respondent providing answers, and the researcher in turn recording and later transcribing them. Yet, some of these encounters followed less formal patterns of interaction. They unfolded as normal conversations around research visits to various Shell premises, after in-company trainings, or as a by-product of other academic-practitioner interactions. We found that especially during these less formal encounters the involved parties spoke more freely and typically engaged in broader observations than during formal research interviews. In line with ethnographic research traditions, we made these encounters accessible as

research data by writing up detailed 'encounter reports,' in virtually all cases within two days of the actual event (cf. Geertz, 1973). In all, this paper is based on 73 encounters: 28 with high-ranking people at Shell, 24 with various consultants whom assisted Shell with its first- and second-order adaptation processes, and 21 with parties representing Shell's civil society stakeholders or 'publics.' The length of these encounters varied from 25 minutes to well over 3 hours, with a median duration of 70 minutes. Table 1 provides detailed information on the composition of our research sample.

Insert Table 1 about here

One of the main strengths of naturalistic research methods is that they allow for the combination of several different sources of evidence (Yin, 2003). In order not to "jump to conclusions" on the basis of a single strand of data, we triangulated (Denzin, 1989; Jick, 1979; Patton, 1987) our encounter reports with secondary data sources, which helped us to establish the reliability and convergent validity of our observations (Eisenhardt, 1989; Yin, 2003). This secondary data came from two principal sources: (1) direct communications from Shell and civil society stakeholders like Greenpeace in the form of publications, press releases, and website texts; and (2) mediated messages about the conflict and its aftermath in the form of magazine and newspaper articles, trade and scholarly publications, teaching case studies, and several books written by research journalists.

Data Analysis

Data analysis is often one of the least codified aspects of the qualitative research process as it is written down in academic articles (Eisenhardt, 1989; Miles and Huberman, 1984), largely because surprisingly little guidance is available in the form of qualitative 'how-to' books. Qualitative researchers can only arm themselves against the ever-present danger of "death by data

asphyxiation" (Pettigrew, 1988; cited in Eisenhardt, 1989: 540) with a set of self-devised tools for reducing data and imputing relationships between variables. The researcher thus works as "a kind of professional do-it-yourself" person (Levi-Strauss, 1962: 17) as he or she crafts plausible but often improvised procedures for connecting data to conclusions.

In addition to such inevitable acts of 'bricolage' (Denzin & Lincoln, 1998), we largely follow a set of procedures in this study that have been pioneered by researchers like Brown and Eisenhardt (1997), Burgelman (1983), and Van Maanen (1988). First, we used NVivo software to create a database of our encounter reports (formal interview transcripts as well as informal conversation notes), indexed by sector (Shell, consultant, or civil society organization), respondent number, and chronological order. Second, using this primary data, we drafted three initial vignettes ("focused description[s] of a series of events taken to be representative, typical, or emblematic in the case [one is] doing;" Miles & Huberman, 1994: 81) which told and retold Shell's organizational adaptation story in different terms, each highlighting specific events and phenomena. Third, we went back to the organizational literature, and selected three alternate theoretical frameworks on the basis of their fit with each of the three vignettes (the 'stakeholder,' 'legitimacy,' and 'capability' templates). Fourth, and finally, in a series of subsequent iterations we went back and forth between the theory and our data, continuously rewriting our vignettes and bringing in data from secondary sources in order to optimize the conceptual and empirical fit between observations and reflections.

Alternate Templates Design

As stated, we refrained from providing a singular 'official' reading of our research finding, and instead decided to write up three complementary vignettes. Such an alternate templates design is a sensemaking strategy whereby an analyst deliberately proposes several alternative interpretations of the same naturalistic data, based on different sets of theoretical premises (Langley, 1999). The purpose of the design is to assess the extent to which each theoretical template furnishes a

suitable explanation for the observed phenomena (cf. Allison, 1969; Collis, 1991; Lapointe and Rivard, 2007). Given the complexity of our research topic, and the amount of primary and secondary data that exist about it, we opted for the alternate templates strategy because it provides a way of dealing with the richness of the data without getting lost in them. As Langley (1999) puts it: "Overall this strategy combines both richness and theoretical parsimony (simplicity) by decomposing the problem. Qualitative nuances are presented through the alternative explanations, and theoretical clarity is maintained by keeping the different theoretical lenses separate (…) Between them, then, different theoretical perspectives provide overall accuracy, although each one is inaccurate on its own" (p. 699).

RESULTS: THREE VIGNETTES

We report our results in the form of three vignettes, 'short stories' about our focal company which weave together the actions and decisions of the protagonist and the antagonists into a storyline or 'plot' (Ricoeur, 1984). The fact that multiple vignettes are available captures an essential quality of storytelling, notably that of each tale multiple accounts are likely to exist that struggle amongst one another for dominance (Boje, 1991). Each vignette is half-empirical, half-theoretical in that it uses a specific theoretical lens to carve out a theoretically meaningful slice of 'reality.' This lens focuses our understanding on specific 'facts' and allows us to conveniently ignore others, which are then left to be picked up by another lens. This theoretically-laden selectivity makes the vignette an analytical device rather than an instrument of synthesis. It helps us gain a better partial understanding of the world, only to postpone the integration of that partial view with a broader, more empirically well-rounded world-view until later (cf. Heugens *et al*., 2004). Vignettes thus precede and call for a later synthesizing exercise. Here we present three vignettes on Shell's dealings with the Brent Spar crisis: (1) a stakeholder vignette, (2) a legitimacy vignette, and (3) a capability vignette. These vignettes were especially selected in terms of the locus of their

analyses, as they range from a wholly external perspective (stakeholders) through a mixed-mode perspective (legitimacy) to a wholly internal perspective (capabilities). We 'tell' these vignettes along the episodic lines suggested by Meyer (1982). Factual statements can be traced to the respondents presented in Table 1 via superscript references.

Vignette 1: Stakeholders

The first perspective we selected to analyze Shell's adaptation process is a stakeholder lens. A stakeholder is commonly defined as "any group or individual who can affect or is affected by the achievement of the organization's objectives" (Freeman, 1984: 46). Seen from the focal organization, there are two broad reasons for granting any specific party stakeholder status. The first is prudence. The focal organization is well-advised for practical reasons to denote as its stakeholders those parties that have the power to directly or indirectly withhold or control resources that are of crucial importance for maintaining the organization's effectiveness (Frooman, 1999). The second is moral obligation. Organizations may, often in a more discretionary sense, allow stakeholder status to those parties with whom they are involved in some broad scheme of fairness (Phillips, 1997) or in a more confined normatively-laden contractual relation (van Oosterhout *et al*., 2006). The stakeholder lens is by no means omniscient, but it usefully directs our attention to the process whereby the extant stakeholder set of our focal firm was broadened to include a completely new set of parties with whom it previously entertained no relationship.

Anticipation. In a somewhat loving sense, Shell people tend to refer to their own managers as "technocrats".[S11, S22] Shell has always defined itself as a technology-driven company, whose unique core competencies lie in the exploration of oil under difficult and challenging circumstances that tend to shy away less technologically advanced oil companies.[S13] More so than in the case of many of its competitors, this has restricted Shell's immediate stakeholder focus on its immediate task environment. For Shell managers, "stakeholders" had always been national and

supranational governments and their offices who upheld the law and extended commissions for oil exploration in areas under their jurisdiction, the company's legal and technical consultants who aided it in solving complex problems, and a loyal 'family' of subcontractors and franchisees providing services like engineering, shipping, cleaning, and surveillance. That a broader set of parties could ultimately exercise a decisive influence on how the company operated its core technologies really never quite dawned on them until the Brent Spar Crisis.[S06, C07, P11] As one Shell manager put it: "We asked ourselves, is this the right thing to do technically? Is it legal? Have we dotted our I's and crossed our T's and asked the permission of the organizations whose permission is required?"[S03]

First-order response. Shell ultimately could not maintain its self-selected isolationist policy. New stakeholders literally forced themselves upon the company by occupying its assets. It took Shell wholly by surprise. As one Shell executive put it to us well after the events: "We thought all greens were blue, like Prince Phillip, who chairs a World Wildlife Fund meeting in the morning on how to save the panda in China and then goes on in the afternoon and shoots deer in his private park. It completely escaped us that there are also red greens, ex-leftists that have reconverted to radical environmentalism, and green greens, whom are the critical ecology greens."[S05] Confronted with the unforeseen Greenpeace reaction, Shell chose the technocrat's solution and tried to radically buffer the new stakeholders from its technical core. It sued Greenpeace in the Scottish Court of Session, demanding the summary ejection of the protestors; it evacuated and reoccupied the Brent Spar with the help of "security officers" and the police; it furnished more scientists to present evidence that the deep sea disposal option it had selected was indeed the best practicable one; and it feverishly hired more communications consultants to 'fix' the public relations mess it had created.[C02, C04] When the company finally submitted to Greenpeace' demands some two months after the start of the occupation, the company's managers were still fumbling in the dark as to whether they should broaden their definitions of who were their stakeholders.[S04]

Second-order responses. After the decision was made to dispose of the Spar on-shore, public interest in the issue inevitably ebbed away. But all was not well for Shell. It was not only stuck with a solution that was roughly four times as expensive as the original plan (estimated to be £46 million versus £11.8 for deep-sea disposal; Rice and Owen, 1999), it had also suffered revenue drops of up to 30 percent (in Germany) due to consumer boycotts (Engber, 2006), as well as immeasurable reputation damage. Many Shell managers found that they fundamentally had to broaden the set of stakeholders they involved in their day-to-day affairs, and that the company had to develop instruments for managing these new relationships.[S01] In the years that followed the crisis, through an extensive trial-and-error learning process, Shell developed two instruments for engaging with new stakeholder groups while simultaneously delineating its obligations towards them: (1) issue portfolios and (2) key performance indicators.[C01, C05]

It was quite confrontational for Shell managers to experience that "Greenpeace was much better prepared than we were to fight the public relations battle surrounding the Brent Spar episode."[S20] One important implication they derived from the affair was that they "had to start picking their fights" in the sense of matching their stakeholder management efforts with their core strengths and areas of attention.[S17, C06] Through a process of vicarious learning encompassing several years, Shell began stipulating and demarcating its responsibilities vis-à-vis its societal stakeholders by creating an 'issue portfolio' (taking its inspiration from Greenpeace as well as from more issue-savvy companies like Dow Chemical): a closed-ended list of issues for which the company had formulated a position statement, acknowledged partial responsibility, and envisaged a roadmap towards (partial) resolution.[C07, C14] In February 2007, Shell's issue portfolio contained the following issues: climate change, product stewardship, business integrity, personnel safety, community relations, corruption, and globalization (www.shell.com). There is no denying that this is a formidable list. But *is* delineated. One consultant outlined to us that by adhering to this list with almost religious fervor, the company sort of says: "These are our core responsibilities. Other issues are not our concern. Please contact BP or your local government.

Good luck."[C16] In other words, issue portfolios are a first instrument by which Shell seeks to demarcate its responsibilities towards new stakeholder groups.

Shell managers also seek to delineate their responsibilities towards stakeholders with respect to the issues that have made it to the issue portfolio. For this purpose they use issue-specific key performance indicators (KPIs): metrics to quantify the company's performance on its self-selected issues, to be used in both its internal management control systems and external communications.[S08] For example, with respect to the issue of climate change, the company uses KPIs like: total greenhouse gas emissions, energy efficiency of oil and gas production, and total amount of natural gas 'flared' (i.e., burned for lack of a better use) during exploration and production of oil. There are a number of rationales behind the use of KPIs. First, it is a clear attempt to gain control over the environmental standards of effectiveness against which the performance of the firm is assessed (cf. Pfeffer and Salancik, 1978). Second, KPIs are a kind of desensitizing device in that they potentially allow for an objective discussion on subjects about which two parties may disagree. Third, and most importantly, KPIs are again a kind of responsibility delineation tool – they stipulate a finite number of metrics the organizations is willing to be held accountable for, declaring other metrics less relevant.

Vignette 2: Legitimacy

The second perspective we chose to analyze Shell's adaptation efforts is a legitimacy lens. One widely accepted definition of legitimacy suggests that it is: "a generalized perception or assumption that the actions of an entity are desirable, proper, or appropriate within some socially constructed system of norms, values, beliefs, and definitions" (Suchman, 1995: 574). For our present purposes, it is important to distinguish between two types of legitimacy. The first is pragmatic legitimacy. This type rests on the self-interested calculations of an organization's most immediate constituents (Suchman, 1995), and it entails the continued support on which an organization can count as long as it nurtures its interdependencies with these constituents

(Emerson, 1962; Pfeffer & Salancik, 1978). The second is moral legitimacy. This type refers to a positive normative evaluation of the organization itself or of its objectives (Aldrich & Fiol, 1994; Scott, 2001). Moral legitimacy contrasts sharply with pragmatic legitimacy in that it does not rest on a self-interested evaluation of a given activity, but rather on whether it is "the right thing to do" (Suchman, 1995: 579). One should not expect the legitimacy lens to provide a comprehensive account of the situation, but it helpfully directs our attention to a possible shift in terms of the criteria by which our focal organization was judged.

Anticipation. In preparation for its efforts to dispose of the Brent Spar, Shell had exclusively sought for ways to legitimize its intended actions on pragmatic grounds. The company wanted to dispose of the structure that was taken out of commission in October 1991. As storage buoys have limited recycling value, the simplest and cheapest way to dispose of them is to topple them where they stand or drag them to deep water and sink them there (Rice & Owen, 1999). Deep sea disposal soon etched itself in the mind of Shell's managers as the most preferred solution, making the remainder of the trajectory seem straightforward: the Brent Spar stood in the UK sector of the North Sea, so they merely required the permission of the UK government to go forward with their plans. Under British law, Shell had to go through a legalistic procedure to demonstrate that deep water disposal was in fact the Best Practicable Environmental Option (BPEO). The procedure consisted of several steps, including the exploration of alternative options, comparing them on criteria like engineering complexity, risk to the workforce, cost, and environmental impact.[P01] The BPEO procedure became Shell's sole point of attention. Crucially, it did not publicize its intended disposal option before the operation commenced. By denying itself this option, Shell essentially cut off the possibility of testing the public sentiment about alternate ways of disposal.[C04] Consequentially, Shell had no idea how deep the opposition to the deep sea disposal plan ran.

First-order response. Shell's commitment to action grounded in pragmatic legitimacy backfired dramatically. Not only were the pragmatic reasons in favor of the deep water disposal

option challenged by environmentalists; they also attacked the company on moral grounds. In April 1995 Greenpeace published the report *No Grounds for Dumping* (Reddy, 1995), in which it evaluated several decommissioning options for the Brent Spar, including scenarios like "walk away" (leaving the platforms *in situ*) and "rigs to reefs" (disposal in shallow water to turn the rig into an artificial reef). The report discarded all alternate options to the on-shore removal option on rational grounds. The invoked arguments included the other options' larger potential damage to the environment and their illegality under the Geneva Convention on the Continental Shelf, as well as the on-shore option's positive impact on employment in the declining offshore construction industry and the technical feasibility of this option as demonstrated by the prior removal of several hundreds of platforms in the Gulf of Mexico. Less directly understood by Shell's managers was that Greenpeace also questioned the company's moral legitimacy.[P02] Most pressingly, Greenpeace stressed that the higher monetary cost of the on-shore option could not legitimately be used as a reason for dumping waste by a company that habitually realized multi-billion dollar profits. In its first-order response, Shell completely ignored this threat to its moral legitimacy, and defended itself strictly on pragmatic grounds. It made considerable play of the fact that it had commissioned some 30 separate reports by specialist consultants prior to deciding to sink the Spar in deep water. As the company started and stubbornly persisted in its mudslinging contest with Greenpeace over scientific facts, it became rapidly clear to outside observers that Shell had let itself be lured into a public relations war it could not win.[C03, P17]

Second-order responses. In the years that followed the passing of the event, it began to dawn on Shell managers – doubtlessly supported in their sensemaking efforts by the numerous communication consultants they hired to help them identify the causes for the fiasco – that to retain their societal license to operate, their company needed to ground its actions not just in pragmatic legitimacy, but also in moral legitimacy.[S01, S09] Shell's managers had sufficient social intelligence to realize that any attempts to 'acquire' moral legitimacy quickly or 'on the cheap' through, for example, heightened attention to its extant philanthropy and corporate community

involvement programs were likely to ricochet. Instead, the company adopted a longer-term and certainly more gradual three-pronged policy to establish its moral grounds for existence: (1) greater emphasis on the company's core purpose; (2) increased outward transparency; and (3) image consolidation.[S11, S15]

Soon after the public attention to the jolt began to wane, the company started with a soul-searching exercise, to identify which claims it could lay on moral legitimacy. To lead the exercise it hired Jim Collins – a fortunate casting choice for a long view organization, as Collins is the co-author of the management best-seller *Built to Last*. The outcome of the process was threefold. It lead to a new identity statement – "Make a difference" – which was meant to stress both internally and externally that the world would be worse off without Shell. It also culminated in a new core purpose statement – "Helping people create a better world" – which underwrote the company's intention to facilitate morally just actions by its workforce towards society. In fact, the company had the intention to "create Shell 'ambassadors' out of every employee" (Oechsle & Henderson, 2000: 75). Finally, it also updated its "Shell General Business Principles" – the company's code of ethics – for the first time since their inception in 1976 – to restore their fit with the company's changing institutional environment.

A further insight that materialized in the minds of Shell management was that to earn moral legitimacy, the company had to become drastically more transparent towards the outside world.[S12, C01] The Brent Spar episode and the corresponding threats to the corporation's moral standing could probably have been prevented entirely had the company been more open about its intended disposal plans well before the removal process commenced. To create more openness, Shell began in 1997 to publish an annual social report in which it outlined the company's impact on its natural and social environment.[C02, S06] Whereas the practice of social reporting was not exactly new, the company was one of the first to seek third-party verification of the performance it reported against its own KPIs by audit firms like KPMG and PricewaterhouseCoopers. Shell managers strongly believed in the importance of having their claims audited. In the words of one

of them: "By making your performance claims testable, and by writing testability into your reports, you reduce the possibility of being attacked unfairly. At the very least you make sure that there is an objective 'other side to the story' which has been checked on its facts."[S03]

Finally, to minimize the risk of future legitimacy loss, the company tried to consolidate its public image and the legitimacy claims it put forward. At the time of the Brent Spar crisis, Shell Group consisted of more than 3,000 operating entities. Many of them were immediately recognizable as Shell entities, as 95% of the group's assets were invested in firms carrying the Shell name. The loosely federative structure of the group certainly contributed to the escalation of the crisis. As one Shell manager shared with us: "We were confronted with the problem of being a multinational characterized by a loose association of companies. At the height of the crisis, Shell UK [the company that administered the Spar] still thought it was pursuing a just course of action, as it enjoyed the full backing of the UK authorities. At the same time, thousands of upset consumers sent angry letters to Shell Germany and Shell Netherlands, and violent consumer boycotts [also involving sabotage and arson attempts directed at German gas stations] were unfolding in continental Europe."[S06] To regain control, Shell's top management reduced its number of operating units to 2,200 and presently employs less than half of its capital in firms carrying the Shell name.

Vignette 3: Capabilities

The third perspective we selected to interpret Shell's adaptation process is a capabilities lens. Organizational (dynamic) capabilities draw on the organizational resource pool and sometimes on that of the firm's network partners, such that they allow managers to: "integrate, build, and reconfigure internal and external competencies to address rapidly changing environments" (Teece *et al*., 1997: 516). Though this may seem abstract, capabilities actually consist of identifiable and specific organizational processes which help organizations achieve new resource configurations in order to overcome new challenges imposed by their market and non-market environments

(Eisenhardt and Martin, 2000; Lampel and Shamsie, 2003). One aspect of capabilities that is of particular importance to the current project is that they entail path dependence. For any firm, but for a long view organization in particular, "previous investments and its repertoire of routines (its 'history') constrain its future behavior" (Teece *et al*., 1997: 522-23). The capabilities lens can of course only provide a partial take on issues of organizational adaptation, but it does usefully direct our attention to how first-order changes can be severely constrained and even misguided by extant resource pools, which can in turn only be adjusted through arduous and lengthy processes of second-order adaptation.

Anticipation. Regardless of all that has been written about Shell, the company was not wholly unprepared for a public relations crisis. In fact, the company had a complex 'external affairs' (EA) structure – which is how Shell denotes its public affairs function – in place well before the jolt struck the company.[S02] The company employed some 400 EA professionals at the time. Three characteristics of the pre-Brent Spar EA organization are noteworthy. First, the function was highly decentralized. The bulk of the corporation's EA expertise was concentrated in its operating units and country organizations, and these lower-level functionaries enjoyed a great level of autonomy and delegated decision authority, in line with Shell's business philosophy that local problems ought to be addressed locally. Second, all EA capabilities were fully 'locked up' in staff offices, in the sense that line managers never communicated with the media or with interested stakeholder groups directly, but directed all communication tasks to EA professionals. Finally, Shell's human resource practices at the time were that EA management was a terminal function, in the sense that individuals who were recruited as EA functionaries could normally expect to spend their entire career in various EA positions.[S02, C15]

First-order response. Shell's first-order response was clearly hampered by the organization's decentralized EA structure. In the words of one executive: "after the event, we had to rethink our local approach of the event. We were captives of our own external affairs organization. We waited far too long before making this whole affair a group-level issue."[S03] As

the event unfolded, Shell UK persisted in its sole ownership of the issue. Working towards a 'local solution,' its EA personnel were trying to resolve the issue with help of legal means and law enforcement, and persisted in factual quarrels with Greenpeace over issues like the amount of oil, PCBs, and other 'nasties' still left in the Brent Spar (it was established after the event that Shell's original estimates of these quantities, which had so vigorously been contested by Greenpeace, were in fact on all major points correct). Meanwhile, the rest of Europe burnt. Ritt Bjerregaard, EU Commissioner for the Environment, stated on Danish television that "most countries in Europe think [dumping the Spar] is dirty and should be stopped (…) it is good that Greenpeace is around to ensure these things do not go on secretly." At the fourth North Sea Conference, starting in Esbjerg on June 7, 1995, ministers from Sweden, Denmark, Belgium, Germany and the Netherlands attacked Britain for granting permission to dispose of the Brent Spar in deep sea. German Chancellor Helmut Kohl even turned to British Prime Minister John Major directly and stated: "my urgent advice is not to do it." When Shell Headquarters finally took control over the issue, the public relations battle over the Spar could no longer be won.[C04]

Second-order responses. In the years after the event, Shell crafted two second-order responses that were aimed, respectively, at the quality and the architecture of its EA capabilities. To improve their quality, Shell started a considerable in-house training and capability development program. From 1998 onwards, Shell began bringing together its best-and-brightest EA managers in classes of about 25 for annual instruction in the latest EA models and techniques at its London campus. To a large extent, this effort was oriented at increasing the human capital of its EA functionaries. But there was also a second-purpose. As the chair of the training program told us during one of the sessions: "We are closely monitoring these young men and women with respect to their intelligence and ability. Each year, we select a number of them for the most senior EA jobs in the company, at our London Group EA Unit. Many others will move on to become senior business managers in their respective country organizations."[S02] In other words, Shell actively began to assign EA managers to line functions in many parts of the country. Whereas it

used to be the case that most senior managers were engineers who were unaccustomed to communicate with outsiders, Shell now slowly became to be infused with a new stock of line managers who knew from experience how it was to deal with the media and with stakeholders.

In terms of the architecture of its EA capabilities, the company radically broke with its full decentralization tradition.[S02, S11] In the new EA setup, the company began to experiment with a cascaded capabilities organization. Only the smallest, local problems remained to be resolved at the decentralized level. Whenever a crisis grew beyond a localized event in terms of the attention paid to it by the international media, the company would denote it as a "business issue." In practice, this meant that the London office would compile an interdisciplinary issue management team that became responsible for handling the crisis. Over the years, it has developed a detailed database outlining the specific competencies of 400 of its international EA employees, such that useful teams can be compiled per issue or event.[S03, S15] Events of the highest order – as the Brent Spar once was – are now denoted corporate issues. These are managed wholly, and much sooner than in the past, from the London-based Group EA Unit.[S05]

SYNTHESIS: ADAPTATION BY LONG-VIEW ORGANIZATIONS

So how do long view organizations adapt to environmental jolts? The three vignettes each provide a narrative account of how such organizations furnish first- and second-order responses to jolts (Meyer, 1982) or strategic surprises (Lampel and Shapira, 2001) emanating from their environments. But since vignettes are analytic devices which each represent a specific take on the evidence, they are closer to a collection of separate sub-studies than to a single integrated study with convergent findings (cf. Yin, 2003: 97-101). They therefore call for a synthesizing effort to draw implications across the individual narratives. Here, we develop synthesizing conjectures along three different lines, notably about long view organizations': (1) first-order adaptations; (2) second-order adaptations; and (3) first- and second-order adaptations combined.

First-order Adaptations and Organizational Trajectories

Long-view organizations are more than alternate organizational forms tied to path-dependent trajectories, which make them unable to shake off the effects of past decisions and which limit the feasible set of future action alternatives to those that 'fit together' with their present technologies and administrative rule structures (cf. David, 1994: 213-15). In all three vignettes, we found evidence of how the preparations the organization made during the anticipatory phase forced it onto a history-bound trajectory that virtually dictated its first-order responses. First, nominally independent parties that were historically involved in the application of the organization's core technology continued to receive the better part of the attention it paid to outside constituencies during the crisis, seemingly irrespective of the modest role they played in it. Second, the company was evidently unable to shed its decades-long reliance on pragmatic legitimacy to justify its actions when it was confronted with a jolt that questioned the very basis of that pragmatism. Third, by 'locking up' its EA capabilities in staff departments with which line managers were not supposed to interact, the organization effectively put on a Janus-face which looked one way when it came to justifying its existence and often to the exact opposite direction when it came to guiding practical action. To sum up, in all three vignettes we found evidence of organizational trajectories dictating responses, such that any adaptive effort was more likely to be selected on the basis of its coherence with the organizational past than on grounds of its fit with the jolt at hand. See Proposition 1:

> *Proposition 1: Long view organizations are more likely than other organizational types to engage in past-coherent rather than jolt-specific first-order adaptations.*

Second-order Adaptations and Organizational Technology

In readjusting organizational life after being confronted with an environmental jolt (Meyer, 1982) or strategic surprise (Lampel and Shapira, 2001), second-order adaptations serve the role of

durably restoring the fit between the organization's internal structure and systems on the one hand and the demands emanating from its environment on the other (Drazin and van de Ven, 1995). To restore fit, organizations have two basic options at their disposal: bridging and buffering (Meznar and Nigh, 1995). When bridging, organizations attempt to reestablish fit by altering their core technologies and associated activities until they again meet environmental demands. In contrast, buffering entails a process whereby organizations seek to regain fit by controlling and managing these environmental factors directly (cf. Aldrich and Pfeffer, 1976; Thompson, 1967). In all three vignettes, we found considerable emphasis on buffering. Through the stipulation of KPIs and issue portfolios, the organization sought to control its stakeholder environment rather than engage in a completely open dialogue with it. With respect to the company's attempts to establish greater moral legitimacy, it is telling that it focused on creating greater transparency concerning its means and motives rather than altering these means and motives themselves. In terms of the changes it made to its stock of capabilities, it is informative that it focused almost exclusively on its EA capabilities, but did very little to bring about or speed up any changes to its core technology. What these insights add to the existing literature is that in addition to known antecedents of buffering like resource importance and size (cf. Meznar and Nigh, 1995), technological complexity and intensity also seem to favor adaptation attempts that focus on altering and controlling external rather than internal environments. See Proposition 2:

>   *Proposition 2: Long view organizations are more likely than other organizational types to engage in buffering- rather than bridging-style second-order adaptations.*

Organizational Adaptations and Identity Inertia

Organizational scientists have long argued that organizational identity – a social collective's answer to the 'who are we?' question – determines the amount of attention an organization pays to a given jolt (Hoffman and Ocasio, 2001), influences its definition of it (Glynn, 2000), and

shapes its responses to it (Dutton and Dukerich, 1991). It has been suggested that to respond effectively to environmental jolts, an organization's identity must to a certain extent be dynamic and mutable. Without some minimal degree of adaptive instability, an "organization would find itself trapped with an inevitably stagnant identity, unprepared to address demands that might have survival implications" (Gioia *et al*., 2000: 74). Strong identities can then perversely act as biased filters leading to misperception, misclassification, and misinterpretation of aspects of the external environment, a phenomenon which has alternatively been denoted as "dominant logic," "collective blindness," "frames of reference," and "interpretive schemes" in the literature (Walsh, 1995: 284-285). In all three vignettes, we indeed found a notable absence of adaptive instability, as all the organization's first- and second-order responses seemed fully coherent with an inert organizational self-definition as a technocratic, technology-driven, engineer-lead, and control-oriented company. In its first-order responses, the organization persisted in its attempts to manage the crisis 'according to plan,' even when it had become abundantly clear to most outsiders that the contingency required a drastically different approach. With respect to its second-order responses, it is telling that to achieve its goals of reaching out to stakeholders, building moral legitimacy, and developing its EA potential, the company's response in all three cases was to design and build complex, sophisticated, technology-intense management systems in an attempt to control all eventualities. What these findings suggests is that technologically complex and intense organizations are more likely than representatives of other organizational types to become attached to relatively stable identity frames. In other words, it seems hard to develop a mutable identity in the face of an immutable core technology. See Proposition 3:

Proposition 3: Long view organizations are more likely than other organizational types to be hampered in their adaptive abilities by inert organizational identities.

CONCLUSION

More so than representatives of other organizational types, long view organizations are relatively inflexible creatures, due to their long term commitment to complex and intense technologies. Yet they are by no means immune to environmental jolts (Meyer, 1982) or strategic surprises (Lampel and Shapira, 2001). This raises the question as to how such organizations adapt to sudden environmental changes. A longitudinal alternate templates study (Langley, 1999) of Shell Group's dealings with the Brent Spar crisis showed that long view organizations tend to respond to jolts in several unique ways. First, in their first-order responses they are strongly bounded to previously chosen technological trajectories (David, 1994). Due to their deep commitment to long-standing core technologies, their initial adaptations to crises tend to reflect coherence with their technical cores rather than with the demands of the event at hand. Second, their second-order responses tend to center on buffering rather than bridging (Meznar and Nigh, 1994). Hampered as they are by low-modularity core technologies (Schilling, 2000), they are naturally drawn to fit restoration attempts that change their external rather than their internal environments. Third, both their first- and second-order adaptations carry the imprint of relatively inert identity frames (cf. Gioia *et al*., 2000), ingrained in each long view organization through a long-standing commitment to unalterable core technologies and exacting external dependencies. In sum, irrespective of the aura of might and status that surrounds many long-view organizations, their repertoire of adaptive responses is in fact limited by a formidable set of constraints, making the prolonged survival of any such organization in particular a highly remarkable feat.

REFERENCES

Aguilar, F. J. 1967. *Scanning the business environment*. New York: Macmillan.

Aldrich, H. E., & Pfeffer, J. 1976. Environments of organizations. *Annual Rev. Sociology*, 2: 79-105.

Aldrich, H. E., & Fiol, C. M. 1994. Fools rush in? The institutional context of industry creation. *Acad. Management Rev.*, 19(4): 645-670.

Allison, G. T. 1969. Conceptual models and the Cuban missile crisis. *Amer. Political Sci. Rev.*, 63(3): 689-718.

Basu, O. N., Dirsmith, M. W., & Gupta, P. P. 1999. The coupling of the symbolic and the technical in an institutionalized context: The negotiated order of the GAO's audit reporting process. *Amer. Sociological Rev.*, 64: 506-526.

Birkinshaw, J. M., & Hagström, P. 2000. *The flexible firm: Capability management in network organizations*. Oxford: Oxford University Press.

Boje, D. M. 1991. The storytelling organization: A study of story performance in an office-supply firm. *Admin. Sci. Quart.*, 36(1): 106-126.

Brown, S. L., & Eisenhardt, K. M. 1997. The art of continuous change: Linking complexity theory and time-paced evolution in relentlessly shifting organizations. *Admin. Sci. Quart.*, 42(1): 1-34.

Burgelman, R. A. 1983. A process model of internal corporate venturing in the diversified major firm. *Admin. Sci. Quart.*, 28(2): 223-244.

Collins, J. C., & Porras, J. I. 1994. *Built to last: Successful habits of visionary companies*. New York: Harper Collins.

Collis, D. J. 1991. A resource-based analysis of global competition: The case of the bearings industry. *Strategic Management J.*, 12: 49-68.

Cyert, R. M., & March, J. G. 1963. *A behavioral theory of the firm*. New Jersey: Prentice-Hall.

David, P. A. 1994. Why are institutions the 'carriers of history'? Path dependence and the evolution of conventions, organizations and institutions. *Structural Change and Econom. Dynam.*, 5(2): 205-220.

de Geus, A. 1997. *The living company: Habits for survival in a turbulent business environment.* Boston: Harvard Business School Press.

Denzin, N. K. 1989. *The research act: A theoretical introduction to sociological methods* (3rd ed.). New York: McGraw-Hill.

Denzin, N. K., & Lincoln, Y. S. 2005. Introduction: The discipline and practice of qualitative research. In N. K. Denzin, & Y. S. Lincoln (Eds.), *The Sage handbook of qualitative research*, 3rd ed.: 1-42. Thousand Oaks, CA: Sage.

Drazin, R., & Van de Ven, A. H. 1985. Alternative forms of fit in contingency theory. *Admin. Sci. Quart.*, 30(4): 514-539.

Dutton, J. E., & Ottensmeyer, E. 1987. Strategic issues management systems: Forms, functions, and contexts. *Acad. Management Rev.*, 12(2): 355-365.

Dutton, J. E., & Dukerich, J. M. 1991. Keeping an eye in the mirror: Image and identity in organizational adaptation. *Acad. Management J.*, 34: 517-554.

Eisenhardt, K. M. 1989. Building theories from case study research. *Acad. Management Rev.*, 14(4): 532-550.

Eisenhardt, K. M., & Martin, J. A. 2000. Dynamic capabilities: What are they? *Strategic Management J.*, 21: 1105-1121.

Emerson, R. M. 1962. Power-dependence relations. *Amer. Sociological Rev.*, 27: 31-40.

Engber. 2006. Power to the pumpers: Do gas boycotts really work? *Slate Magazine* (www.slate.com).

Fiol, C. M., & Lyles, M. A. 1985. Organizational learning. *Acad. Management Rev.*, 10(4): 803-813.

Fiss, P. C., & Zajac, E. J. 2006. The symbolic management of strategic change: Sensegiving via framing and decoupling. *Acad. Management J.*, 49: 1173-1193.

Fox-Wolfgramm, S. J., Boal, K. B., & Hunt, J. G. 1998. Organizational adaptation to institutional change: A comparative study of first-order change in prospector and defender banks. *Admin. Sci. Quart.*, 43(1): 87-126.

Freeman, R. E. 1984. *Strategic management: A stakeholder approach.* Boston: Pitman.

Frooman, J. 1999. Stakeholder influence strategies. *Acad. Management Rev.*, 24(2): 191-205.

Geertz, C. 1973. *The interpretation of cultures.* New York: Basic Books.

Gioia, D. A., Schultz, M., & Corley, K. G. 2000. Organizational identity, image, and adaptive instability. *Acad. Management Rev.*, 25(1): 63-81.

Glynn, M. A. 2000. When cymbals become symbols: Conflict over organizational identity within a symphony orchestra. *Organ. Sci.*, 11(3): 285-298.

Heugens, P. P. M. A. R., van Riel, C. B. M., & van den Bosch, F. A. J. 2004. Reputation management capabilities as decision rules. *J. Management Stud.*, 41(8): 1349-1377.

Heugens, P. P. M. A. R. 2005. A neo-Weberian theory of the firm. *Organ. Stud.*, 26(4): 547-567.

Hoffman, A. J., & Ocasio, W. 2001. Not all events are attended equally: Toward a middle-range theory of industry attention to external events. *Organ. Sci.*, 12(4): 414-434.

Jick, T. 1979. Mixing qualitative and quantitative methods: Triangulation in action. *Admin. Sci. Quart.*, 24: 602-611.

Lampel, J., & Shapira, Z. 2001. Judgmental errors, interactive norms, and the difficulty of detecting strategic surprises. *Organ. Sci.*, 12(5): 599-611.

Lampel, J., & Shamsie, J. 2003. Capabilities in motion: New organizational forms and the reshaping of the Hollywood movie industry. *J. Management Stud.*, 40(8): 2189-2210.

Langley, A. 1999. Strategies for theorizing from process data. *Acad. Management Rev.*, 24(4): 691-710.

Lapointe, L., & Rivard, S. 2007. A triple take on information system implementation. *Organ. Sci.*, 18(1): 89-107.

Levi-Strauss, C. 1962. *The savage mind. Chicago: University of Chicago Press*.

Lincoln, Y. S., & Guba, E. G. 1985. *Naturalistic inquiry*. London: Sage.

Linstone, H. A., & Turoff, M. 1975. *The Delphi method: Techniques and applications*. Reading, MA: Addison Wesley.

March, J. G., & Simon, H. A. 1958. *Organizations*. New York: Wiley.

Merton, R. K., & Kendall, P. L. 1946. *Amer. J. Sociology*, 51: 541-557.

Meyer, A. 1982. Adapting to environmental jolts. *Admin. Sci. Quart.*, 27: 515-537.

Meyer, A. D., Brooks, G. R., & Goes, J. B. 1990. Environmental jolts and industry revolutions: Organizational responses to discontinuous change. *Strategic Management J.*, 11: 93-110.

Meyer, A. D., Goes, J. B., & Brooks, G. R. 1994. Organizations reacting to hyperturbulence. In G. P. Huber, & W. H. Glick (Eds.), *Organizational change and redesign: Ideas and insights for improving performance*: 66-111. New York: Oxford University Press.

Meznar, M. B., & Nigh, D. 1995. Buffer or bridge? Environmental and organizational determinants of public affairs activities in American firms. *Acad. Management J.*, 38(4): 975-996.

Miles, M. B., & Huberman, A. M. 1994. *Qualitative data analysis: An expanded sourcebook* (2nd ed.). Thousand Oaks: Sage.

O'Reilly, C. A., & Tushman, M. L. 2004. The ambidextrous organization. *Harvard Bus. Rev.*, 82(4): 74-81.

Oechsle, S., & Henderson, T. 2000. Identity: An exploration into purpose and principles at Shell. *Corporate Reputation Rev.*, 3(1): 75-77.

Patton, M. Q. 1987. *How to use qualitative methods in evaluation*. Newbury Park, CA: Sage.

Pettigrew, A. 1988. *Longitudinal field research on change: Theory and practice*. Paper presented at the U.S. National Science Foundation Conference on Longitudinal Research Methods in Organizations, Austin, Texas.

Pfeffer, J., & Nowak, P. 1976. Joint ventures and interorganizational interdependence. *Admin. Sci. Quart.*, 21: 398-418.

Pfeffer, J., & Salancik, G. R. 1978. *The external control of organizations: A resource dependence perspective.* New York: Harper and Row.

Philips, R. A. 1997. Stakeholder theory and a principle of fairness. *Bus. Ethics Quart.*, 7(1): 51-66.

Reddy, S. 1995. *No grounds for dumping: The decommissioning and abandonment of offshore oil and gas platforms.* London: Greenpeace International.

Rice, T., & Owen, P. 1999. *Decommissioning the Brent Spar*. London: Routledge.

Ricoeur, P. 1984. *Time and narrative*. Chicago: University of Chicago Press.

Schilling, M. A. 2000. Toward a general modular systems theory and its application to interfirm product modularity. *Acad. Management Rev.*, 25(2): 312-334.

Schwartz, P. 1998. *The art of the long view: Planning for the future in an uncertain world*. Chichester: Wiley.

Scott, W. R. 2001. *Institutions and organizations* (2nd ed.). Thousand Oaks, CA: Sage.

Selznick, P. 1949. *TVA and the grass roots*. Berkeley: University of California Press.

Suchman, M. C. 1995. Managing legitimacy: Strategic and institutional approaches. *Acad. Management Rev.*, 20: 571-610.

Teece, D. J., Pisano, G., & Shuen, A. 1997. Dynamic capabilities and strategic management. *Strategic Management J.*, 18(7): 509-533.

Thompson, J. D. 1967. *Organizations in action: Social science bases of administrative theory*. New York: McGraw-Hill.

Van Maanen, J. 1988. *Tales of the field: On writing ethnography*. Chicago: University of Chicago Press.

van Oosterhout, J., Heugens, P. P. M. A. R., & Kaptein, S. P. 2006. The internal morality of contracting: Advancing the contractualist endeavor in business ethics. *Acad. Management Rev.*, 31: 521-539.

Walsh, J. P. 1995. Managerial and organizational cognition: Notes from a trip down memory lane. *Organ. Sci.*, 6(3): 280-321.

Weick, K. E. 1999. The nontraditional quality of organizational learning. *Organ Sci.*, 2(1):116-124.

Weick, K. E., & Sutcliffe, K. M. 2001. *Managing the unexpected: Assuring high performance in an age of complexity*. San Francisco: Wiley.

Williamson, O. E. 1991. Comparative economic organization: The analysis of discrete structural alternatives. *Admin. Sci. Quart.*, 36: 269-296.

Woodward, J. 1958. *Management and technology*. London: Her Majesty's Stationery Office.

Yin, R. K. 2003. *Case study research: Design and methods* (3rd ed.). Thousand Oaks, CA: Sage.

Table 1: Listing of Research Participants

Number	Organization	Job Title	Timing	Meetings
S01*	Shell Group	CEO	2004, 2005	2
S02	Shell Group	Group External Affairs Trainer	2004	1
S03	Shell Group	Issue Manager	1995	1
S04	Shell Group	Visiting Professor of Scenarios and Corporate Strategy	1996	1
S05	Shell Group	Group Policy and External Relations	2004	1
S06	Royal Dutch Shell	Issue Manager	1999, 2001	2
S07	Royal Dutch Shell	External Communications Advisor	2004	1
S08	Shell International	Issues Advisor	2004	1
S09	Shell Chemicals	Resolution Performance Products	2001	1
S10	Shell Downstream	Internal Media Manager	2004	1
S11	Shell Hydrogen	External Affairs and Communication Manager	2004, 2005	3
S12	Shell Solar	External Affairs and Communication Manager	2004	1
S13	Shell Exploration & Production International	External Affairs Advisor	2007	1
S14	Nederlandse Aardoliemaatschappij	Manager Media Relations	2004	1
S15	Deutsche Shell	External Affairs Central Europe	2004	1
S16	Shell Brasil	Reputation manager	2004	1
S17	Shell Bulgaria	HR Director	2004	1
S18	Shell Gabon	Director of Public Relations	2004	1
S19	Shell Kenya	External Affairs Manager	2004	1
S20	Shell Nigeria	Manager Government and Public Relations	2004	1
S21	Shell Representative Office Oman	External Affairs Manager	2004	1
S22	Shell Oceania	Corporate Communications Manager	2004	1
S23	Shell Pakistan	External Affairs Manager	2004	1
S24	Shell Philippines	Regional Communications Advisor	2004	1
C01	KPMG Integrity Consulting	Partner	1997, 1999	2
C02	KPMG Integrity Consulting	Senior Consultant	1999, 2001, 2005	3
C03	KPMG Staffing & Facility Services	Manager Public Relations & Public Affairs	2001, 2004	2
C04	Hill & Knowlton	Senior Consultant	2003	1
C05	Bersay Strategic Communications Consultancy	President	2001	1
C06	McKinsey & Company	Consultant	1997	1
C07	Boer & Croon Corporate Communication	Partner	1999, 2003, 2005	3
C08	Boer & Croon Corporate Communication	Partner	2005	1
C09	Boer & Croon Corporate Communication	Consultant	2005	2

C10	Boer & Croon Corporate Communication	Consultant	2006	1
C11	Schuttelaar & Partners	Consultant	1998, 1999	2
C12	Independent consultancy	Issue manager	2004	1
C13	Independent consultancy	Communication advisor	1997	1
C14	Independent consultancy	Risk Communication Consultant	2003	1
C15	Independent consultancy	PR Consultant	2003	1
C16	Independent consultancy	Managing Director	1999	1
P01	Greenpeace	Campaign Manager	1998	1
P02	Greenpeace	Oil Campaigner	1997	1
P03	Consumer & Biotechnology	Associate	1998	1
P04	Dutch Consumers League	Policy Coordinator	1999	1
P05	Issue Management Council	President	2001	1
P06	Foundation for Public Affairs	Executive Director	2003	1
P07	Sustainable Industry: A California Public Benefit Corporation	Research Director	2001	1
P08	Het Financieele Dagblad (Dutch daily newspaper)	Editor	1998	1
P09	De Volkskrant (Dutch daily newspaper)	Editor	1999	1
P10	European Academy of Business in Society	President		1
P11	Dutch Ministry of Economic Affairs, Directorate of Communication	Coordinator Speeches	2000, 2004	2
P12	Dutch Ministry of Economic Affairs, Directorate of Industry and Services	Coordinator Biotechnology	1998	1
P13	Dutch Ministry of Transport, Public Works and Water Management	Strategy Advisor	2002	1
P14	Dutch Ministry of Agriculture, Nature Management and Fisheries	Policy Coordinator	1998	1
P15	Holland International Distribution Council	PR Officer	2002, 2006	2
P16	Dutch Normalization Institute	Consultant Industry Division	1999	1
P17	DSM	Senior External Communications	1998	1
P18	DSM	Director of Public Affairs	1998	1
P19	Strukton Railinfra	Advisor	2002	1
		Total: 73		

* 'S', 'C', and 'P' denote encounters with, respectively, respondents from 'Shell,' 'consultants to Shell,' and 'publics of Shell'

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