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Why and How Will a Group Act Autonomously to Make an Impact on the Development of Organizational Capabilities?

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ABSTRACT In this paper I report the findings of an inductive, interpretative case study of proactive and autonomous actions instigated by a group at a major pharmaceutical firm in order to accelerate and shape organizational capability at this firm. This two-year field research was seen as an ideal vehicle for investigating *why* a group within a firm proactively engages with a pattern of capability development, *how* such proactive engagement is conducted, and *what* these proactive activities are. I assert that autonomous action originates from intra-firm heterogeneity of group-level cognitive frames and social identities. The evidence suggests that a group with a particularly distinct perception of the strategic value of a capability will be more likely to initiate autonomous action with the aim of making an impact on capability development. The likelihood of autonomous action increases further if a group acts to strengthen the distinctiveness of its own identity by raising the perceived value of a capability that compares unfavourably with other firms' capabilities. The field observations suggest that in circumstances of high inter-group dependency and limited group authority, the group attempts to make an impact on capability development by adopting creative and socially complex framing practices. The group formalizes a collective and cognitive search process in order to legitimize the preferred action and subtly sells the issue to higher authority without causing conflict, while still sustaining the group's intent.

INTRODUCTION

Organizational capabilities, conceptualized as firm-specific patterns of *collective* knowledge *accumulation* that enables firms to get things done, have been central to understanding sources of competitive advantage and inter-firm heterogeneity (Dosi et al., 2000; Eisenhardt and Martin, 2000; Helfat and Peteraf, 2003; Winter, 2000, 2003; Zollo and Winter, 2002). Studies of organizational capabilities have been accompanied by scholarly interest in their micro-foundations and constitutive elements (Collis, 1994). Research on the foundations of organizational capabilities has sought to clarify relationships

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between individual, purposeful agency, and collective capabilities (Felin and Foss, 2005; Felin and Hesterly, 2007). Efforts to explore individual agency as a foundational element of organizational capabilities have led scholars to investigate entrepreneurial agency (Teece, 2007), cognitive representations (Gavetti, 2005; Kaplan, 2008a), and human motivations (Gottschalg and Zollo, 2007).

Although renewed interest in individual and managerial foundations of organizational capabilities suggests a fresh research direction, the instrumentality of agency for understanding the concept of organizational capabilities has never been completely divorced from the scholarly debate. Penrose (1959) argues that entrepreneurial or managerial engagement with a firm's resources generates organizational capabilities and renders them valuable. Similarly, Simon (1993) asserts that evolutionary patterns are amenable to serving the purpose of human design, which suggests that an act of design stands for an intentional engagement with evolutionary patterns (e.g. accumulation of organizational capabilities) to transform these into a particular strategic outcome (Augier and Sarasvathy, 2004). These conceptual arguments are supported by the empirical evidence that managers exercise their discretion to align firms' capabilities to external change (Peteraf and Reed, 2007), and that middle-level managers (Burgelman, 1994, 1996) act as internal selectors by mediating resource allocation that redirects and steers capabilities in a new and preferable direction. The strategic-renewal literature (e.g. Floyd and Lane, 2000) makes a step forward in describing roles that managers play in renewing capabilities (Stopford and Baden-Fuller, 1994). This focus exposes the relevance of activities and practices (Jarzabkowski, 2005; Johnson et al., 2003) of individuals or groups on the development of organizational capabilities.

The relevance of different forms of agency to influencing the patterns of capability development is recognized, yet many aspects of such intentional engagement with capabilities remain scarcely explored. It is clear that individuals use their entrepreneurial and managerial competency to influence capability development, but it is less obvious *why* they choose to do so. The question of *why* becomes even more intriguing if the focus switches from an individual top manager (Burgelman, 2002) or generically categorized middle managers (Mantere, 2008) to exploring the distributed agency of a *group*. Groups are recognized as important lower-level units that provide the basis for understanding actions in an organizational context (Haslam et al., 2003a), yet actions initiated by groups are rarely studied as drivers for capability development. This focus on distributed agency confined to a particular group fills the void left by stylized representations of the two extremes, which imply either that a firm holistically engages with capabilities or that managers from different levels influence capability development. In particular, I explore why a group *autonomously* acts to make an impact on capability development. Burgelman (1983a) defines *autonomous* strategic action as initiatives of individuals and groups that are outside the scope of the corporate strategy and that typically involve engagement with new capabilities or capabilities perceived as less familiar to the firm. Autonomous actions therefore represent activities that are *proactive*, yet less aligned with corporate strategy, or even potentially contested within a particular strategic context. Proactivity here also implies that a group initiates action without being explicitly forced by external change (Wiltbank et al., 2006).

If a group proactively acts to impact capability development, then the next question is: *how* are these autonomous and proactive acts conducted? How is this proactivity manifested in the organizational context, and what form does it take? A focus on the activities of engaging with capabilities is, not surprisingly, largely absent from the analytical descriptions of capabilities development. The majority of the above-mentioned empirical literature has focused on studying historical chronologies of events and decisions.

The questions of *why* and *how* autonomous action is initiated address two highly interrelated aspects of a group's engagement with capabilities. The question of *how* is motivated by understanding the processual nature of autonomous engagement, identifying practices adopted and actions implemented. The question of *why* aims rather more deeply, driven by the quest for the foundations of a group's engagement with a pattern of capability development. In the next section, I review the theory and empirical evidence that informed my empirical research. This is followed by a section that provides empirical evidence and a discussion that focuses on relationships between group agency and the development of organizational capabilities.

THEORETICAL BACKGROUND

The existing literature on causal relations between cognition and organizational capabilities, and the research on social framing practices, provide an appropriate starting point to engage conceptually with the foundations and processes of proactive engagement with organizational capabilities.

Group Cognition and Development of Organizational Capabilities

It is argued that managerial cognitive frames drive organizational search and, therefore, the development of capabilities (Gavetti, 2005; Gavetti and Levinthal, 2000). Kaplan (2008b) suggests that such cognitive frames for strategic choices within firms can be diverse and even contrasting. Gavetti (2005) introduces one of the sources of such intra-firm cognitive diversity by arguing that the accuracy of cognitive frames varies according to where managers are situated in the hierarchy. This is in line with the assertions that proximity between individuals and capabilities is instrumental in explaining sources of actions (Burgelman, 1983b; Noda and Bower, 1996); the argument suggests that top managers are too distant from the development of organizational capabilities and, therefore, less inclined to initiate proactive actions that directly impact on capability development. The above literature is less explicit on specifying whether individual or some form of collective cognition is responsible for guiding capability development. It is, however, not impossible to transfer the notion of cognitive guidance in capability development from individuals to groups. Walsh (1995) extensively reviews group-level cognition and suggests that if a group of individuals is brought together, some kind of a group-level cognitive frame is likely to exist. This is even more likely if the notion of proximity to a particular capability is incorporated into the debate. A group representing a stable community of individuals who work closely with one another, share expert knowledge, and participate in similar practices (Amin and Roberts, 2008; Brown and Duguid, 1991) will be more likely to develop a form of collective mind, as introduced

by Weick and Roberts (1993). Tyler and Gnyawali (2009) further argue that collective cognition will differ across business functions and departments, which suggests also that group-level cognitive frames vary within a firm.

This notion of intra-firm diversity in group-level cognitive frames, and its relevance for capability development, can be further explored if some characteristics of organizational capability are analysed. Winter (2000) argues that the value of a capability is often a matter of perception and usually varies over time. It is therefore possible to hypothesize that different groups within a firm will have different perceptions of the value of different capabilities. Similarly, it is possible to speculate that a distinctive group will have a specific perception of the value of a particular capability, as well as cognitive understanding of a fit between the capability and future opportunities (Loasby, 1998).

The diversity and distinctiveness of collective cognitive frames at a group level provides an appropriate starting point to explore the question of *why* a group proactively engages with a particular capability. Yet it remains questionable whether a distinct cognitive frame can be a sole driver for autonomous action. It is argued that the cognitive frames of top managers are transferable to action (Daft and Weick, 1984; Thomas et al., 1993), yet does the same hold true for transferring *group-level* cognition into *autonomous* action?

Framing Practices and Context of Autonomous Actions

The literature on capability development is mostly silent on creative and social framing practices deployed within autonomous actions. It is possible, however, to distil some factors that affect practices of autonomous engagement with capabilities. Burgelman (1994, 1996) argues that top management subsequently recognizes the consequences of autonomous decisions and consolidates corporate strategy for the future. He credits middle managers with the *authority* to make decisions that cause a divergence from the old pattern of capability development. Although he recognizes that the process of establishing a new capability as a source of future strategic direction is socially complex – demanding championing, strategic forcing, facilitating, and communicating with the top team (Burgelman, 1983a; Floyd and Lane, 2000) – the assumed authority makes penetration of autonomous action through organizational *hierarchy* less central to his debate.

This process of transferring autonomous action through organizational hierarchy is central to the notion of *issue selling* to top management or to other parties in a firm (Dutton and Ashford, 1993; Dutton et al., 1997). The work of Dutton and Ashford (1993) suggests that if a group wants to make an impact on capability development, it first needs to sell the issue to top management, which then makes appropriate decisions or authorizes proposed actions. In this scenario, a group does not have the *authority* to make impactful decisions, but can initiate proactive actions to create *strategic input* that will persuade top management to consider and authorize preferable actions. Dutton et al. (2001) show that generating and pitching such a strategic input is a highly creative activity, and that the way other people are involved in the selling attempt is crucial for success or failure.

The literature on issue selling does not provide much insight into circumstances in which a group would include others in autonomous action. Finding such a contextual

factor may be of great importance in understanding autonomous action that aims at changing the pattern of capability development, since implementing such a change may demand interactions between different groups. Any autonomous action that aims to change significantly an organizational capability will be highly likely to expose interdependency between different groups in a complex organization.

The relationships between hierarchy, organizational structures (e.g. groups), and capabilities are central to the literature on adaptive search. This literature suggests that the higher the interdependency between organizational elements (e.g. groups), the bigger the role of the centrally coordinated search for new capabilities (Rivkin and Siggelkow, 2003; Siggelkow and Rivkin, 2006). This establishes *inter-group dependency* as an important contextual factor that shapes practices of autonomous action. It suggests that the focal group driving autonomous action in the circumstances of high inter-group dependency intensifies information flows between parties (Siggelkow and Rivkin, 2005). The literature on adaptive search in general favours hierarchical over autonomous action in the context of interdependency. This puts even more weight on the relevance of group practices in autonomous action.

Missing Link between Cognition and Framing Practices

The existing literature on autonomous action and organizational capabilities fails to bridge convincingly the gap between the cognition of actors and the socially complex practices that are needed to implement actions that impact on capability development. The distinctiveness of group-level cognition could explain the existence of the group's engagement with a capability, but explains less well the degree of proactive actions. Not all groups that have a distinct cognitive frame for a capability's strategic relevance will mobilize in order to act. Distinct group-level cognition is necessary but insufficient to explain the origins of autonomous action on the development of organizational capabilities. Group-level cognition also does not explain *how* a group enacts its own perception of capability to other parties within a firm or what influence enactment and framing have in complex organizational settings.

METHODOLOGY

I followed an inductive theory-building approach (Eisenhardt, 1989), using a single case study strategy (Siggelkow, 2007) to explore activities of a group to shape the pattern of capability accumulation. Developing an understanding of such activities is complex, since it demands that a researcher grasps the distinctiveness of the single group within the observed firm and comprehends the environmental changes that shape the perceptions of the value of organizational capabilities. The complexity is increased by the need to analyse a wider historical context and to build a chronological account of events and decisions that precede the activities studied in real time (e.g. design of the strategic input) in order to understand better *why* these proactive actions were initiated in the first place.

Access to the firm was negotiated at the beginning of 2006 and a non-disclosure agreement signed to guarantee the company anonymity in all research publications. When access was being negotiated, the group started to plan the activities that then

became the focus of the real-time observation. This had an important consequence for the design of the field research and the iterative nature of the conceptualization, because I observed the unfolding activities and actions without any prior knowledge of the possible outcomes of the process.

Research Setting

The field research was carried out in a major global pharmaceutical group, which I shall refer to as 'PHARMA Inc.'. It is characteristic for firms from the pharmaceutical industry to share a similar R&D-driven business model that singles out similar capabilities as the core ones. This business model is fundamentally driven by using high accounting profits to drive high-risk, long-term R&D to deliver innovative new medicines that are protected by intellectual property so as to permit premium pricing. Any significant reduction in profits – whether through pricing pressure, poor R&D performance, or reduced patent protection – has dramatic consequences for the firm's competitiveness. The development of innovative products is key, and is often the sole driver of growth; this makes the rapid development of new products a core organizational capability at all pharmaceutical firms. PHARMA Inc. is no exception to this rule. Its core capability of science-driven product innovation is accompanied by the capability to commercialize new medicines and maximize the brand value. The competitive advantage of pharmaceutical firms is therefore predominantly built on scientific excellence in developing innovative medicines, and marketing capabilities in commercializing new drugs.

It is also an industry characteristic that operational and manufacturing capabilities are considered less core than R&D and marketing capabilities. Operational excellence, defined as high-level capability to eliminate trade-offs between cost effectiveness, operational flexibility, quality, and speed of delivery (Hayes and Pisano, 1994; Clark, 1996), is usually perceived as a supportive capability and not as a direct source of competitive differentiation. The Manufacturing Division at PHARMA Inc. sees its mission as *supporting* the introduction of new products and associated commercial endeavours. This is not to say that this division, which has been a particular focus of this research, is dwarfed by the rest of the group in terms of size and scale of operations. It comprises a network of 79 sites in 37 countries and employs over 33,000 people. Its organizational structure consists of 20 functional departments. Despite the size and complexity of the manufacturing and supply operations, there is a shared understanding that historically the role of operations has been in not holding the firm back and in providing a level of performance that is as good as that of competitors. Regulatory frameworks and the historical success of the R&D-driven business model provided incentives neither to innovate radically in the area of operational processes nor to redefine the industry's expectation of operational excellence. The latest changes in the external environment and foreseeable changes in regulatory frameworks, however, potentially increase the value of operational capabilities and create fresh challenges for the Operational Excellence Group (OEG).

PHARMA Inc. offers an appropriate research setting, because it consists of numerous formal groups and departments; this enables transparent observation of the diversity within the firm of groups' identities and the perceived values of capabilities. The OEG in particular engages with a capability that is historically seen as less important to the

firm's competitive advantage. Its attempts to engage proactively with the existing capabilities are informative, because it differs from those studies that predominantly focus on the creation of new capabilities.

Data Collection

This field study makes use of multiple methods for gathering predominantly qualitative data. The research combines retrospective research, active observation, and collection of reflections on recent events (e.g. workshops).

The research started with the retrospective case study that enabled me to gain familiarity with PHARMA Inc., understanding its business model and the perceived values of its capabilities, as well as changes in the external environment. Most importantly, the retrospective case study was used to construct a chronological picture of actions and events that led the particular group to instigate a purposeful action with the aim of shaping and accelerating the development of capabilities. The retrospective research therefore enabled me to understand the context in which the observed events were initiated. In this research, multiple sources of data were used. I interviewed informants who were able to assist me with constructing the chronology of events and actions and to help me understand the characteristics of the pharmaceutical industry and the idiosyncrasies of the selected firm. In order to structure the chronology, I studied publicly available archival documents such as annual reports from when the firm was first established onwards, as well as some internal documents that are not in the public domain.

The second part of the study was the observation of the three one-day workshops where upwards of 30 participants were engaged in a collective and distributed search process for constructing the future state of the firm's operational capabilities. During the preparation for the workshops, I was present at two meetings dedicated to discussing the content and the format of workshops. This helped me to be close to the preparation process and enabled me to identify some important dilemmas facing organizers designing the workshops. Working closely with the individuals from the OEG enabled me to appreciate better the uniqueness of their expertise in the context of PHARMA Inc. The observation at workshops was active, because I was able not only to observe the events passively, but also to discuss with participants the results of their immediate activities. For example, when participants worked in groups, I was able to join them, discuss what exactly they meant by a particular description, and explore why they came out with a particular idea. I was also able to discuss with them their emerging reflections on activities they were engaged in at the workshops. Throughout the workshops, I intensively made notes in electronic form, in which I documented activities, insightful quotes, and also my immediate observations and theoretical associations. I was also allowed to take photos of the material that resulted from the collective search process.

After the workshops, I conducted 20 interviews with 15 participants. The interviews were semi-structured and focused on the participant's reflection on the activities at the workshops and on their expectations about the impact of the outcomes from the workshops. It must be emphasized that I was unconcerned with how the workshops were structured and facilitated. I predominantly focused on participants' reflections on the

complexity and creativity of the process in which they participated. I conducted four follow-up interviews with the informants that were directly involved in the executive strategic review at which the strategic input generated at the workshops was presented. In addition to conducting interviews, I had access to the internal documents that showed how the outcomes of the workshops were shaped and developed. After the executive review, I had the opportunity of analysing some of the communications available on the firm's intranet. This combination of interviews and emerging written documents enabled me to comprehend better how the strategic input was shaped and reshaped in order to achieve an impact on capability development.

Data Analysis and Conceptualization

Throughout the research, I used the NVivo software to manage and organize the data, which consisted of taped recordings, interview transcripts, archival documents, internet sources, email messages, photos, and observational notes.

In an inductive field study like this, which allowed for a continual interplay between emerging concepts and data, it is difficult to separate clearly data collection, analysis, construct development, and conceptualization. I oscillated between inductively building concepts from data and deductively searching for the data that would support and further refine the nascent concepts. Figure 1 attempts to depict the final structure of the data and the accompanying steps that led to the conceptualization of raw data into theoretical inferences.

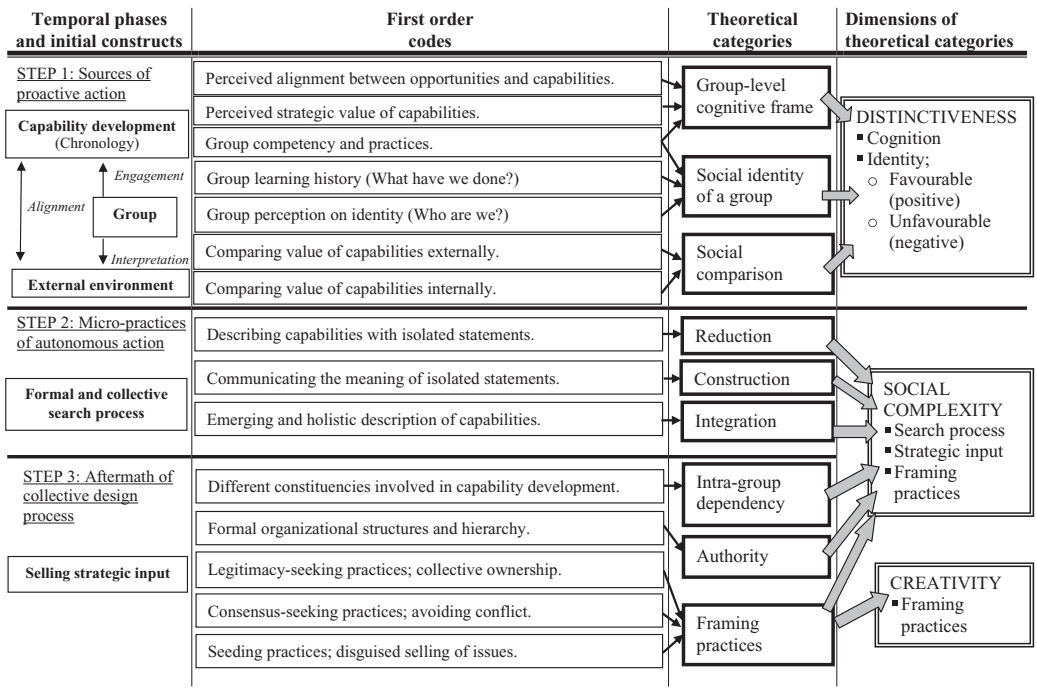


Figure 1. Data structure for developing theoretical inferences from raw data

I began my field research knowing that I would be able to observe the development of strategic input through the formalized process of collective search in real time (steps 2 and 3 in Figure 1). To engage with the question of *why* such a process was initiated in the first place by the focal group, I needed to understand the history of capability development and its alignment with the external environment. I began the analysis by chronologically organizing the data from the retrospective part of the research. The analysis of the chronology of capability development, the focal group's engagement with capability development, and the group's interpretation of changes in the external environment provided a basis on which to analyse *why* the proactive actions were undertaken by the studied group. These retrospective accounts were then analysed jointly with relevant data derived from observations and from the aftermath of the observed events. In particular, evidence of the OEG's distinctive identity and references to social comparison have been surfacing throughout the field research and cannot be easily attached to a particular temporal phase.

First, I organized the data into first order codes that represented groupings around the emerging themes. This intermediate stage helped me to strengthen the internal validity of theoretical inferences. For example, I systematically compared transcribed data grouped within the first order codes with different archival sources, which enabled me to make inferences about the degrees and dimensions of the group's distinctiveness. The first order codes also helped me to identify informative theoretical constructs. For example, different perceptions of the strategic value of operational excellence confirmed the relevance of group-level cognition very early in the research. The identification of group identity as an important concept emerged less clearly and with a higher degree of inductiveness. I certainly did not start my field research with an awareness that the social identity of a group is central to foundations of autonomous action. The relevance of social identity emerged from numerous semi-structured interviews as well as from informal conversations with informants. Discovering the instrumentality of social identity has led me to draw on social identity theory when building theoretical inferences.

As the next step, I analysed the data and notes deriving from observations at the three workshops in order to identify micro-practices of the collective and distributed search processes that led to the development of the strategic input. This analysis was conducted immediately after the events and provided the basis for preparing topics to address in semi-structured follow-up interviews. Also, the first order codes, as outlined above, enabled me to compare my observational notes with photos taken and with written documents in which the group summarized the outcomes of the workshops. This analysis enabled me to distil the characteristics of identified micro-practices and also to identify certain practices as being particularly relevant to making theoretical inferences about the importance of the strategic input.

As the third step, I analysed the data derived from interviews and documents that considered the aftermath of the workshops. As often happens in inductive and real-time case-study research, some insights proved surprising and led to amendment of the interview questions and the selection of informants. It soon became clear that the organizers of the workshops and other participants did not share a perception of how the impact of workshops would best be achieved; I carried out separate interviews with members of the OEG and with other participants in order to analyse better the

differences between these two groups. I was, for example, unaware that the issue of legitimizing the strategic input and seeking consensus would be of such importance to the members of the OEG, and this insight guided my analysis in order to make valid inferences about creative framing practices.

This research consisted of three temporal phases. Although each phase created its own codes, themes, and conceptualizations, the study is distinctive in that special attention was devoted in the conceptualization to further development of insights by linking all the phases. This involved making sense of process data (Langley, 1999).

FINDINGS

The story derived from the field research is organized into three temporal phases. The first subsection covers a chronology of actions and events that illustrate the historical development of operational excellence. The second subsection provides an account of the observed series of workshops where future capabilities were discussed. This is followed by the third subsection, covering the period after the last workshop.

The Capability Development Journey and Sources of Proactive Action

Figure 2 depicts the chronology of actions and events relevant to the development of capability in operational excellence at PHARMA Inc., the engagement of the OEG, and the structure of changes in the external environment that could potentially alter the perceived value of operational excellence.

The merger of two established pharmaceutical firms in 2001 created not only a major healthcare group but also a need to deliver the promised synergies and cost savings to the

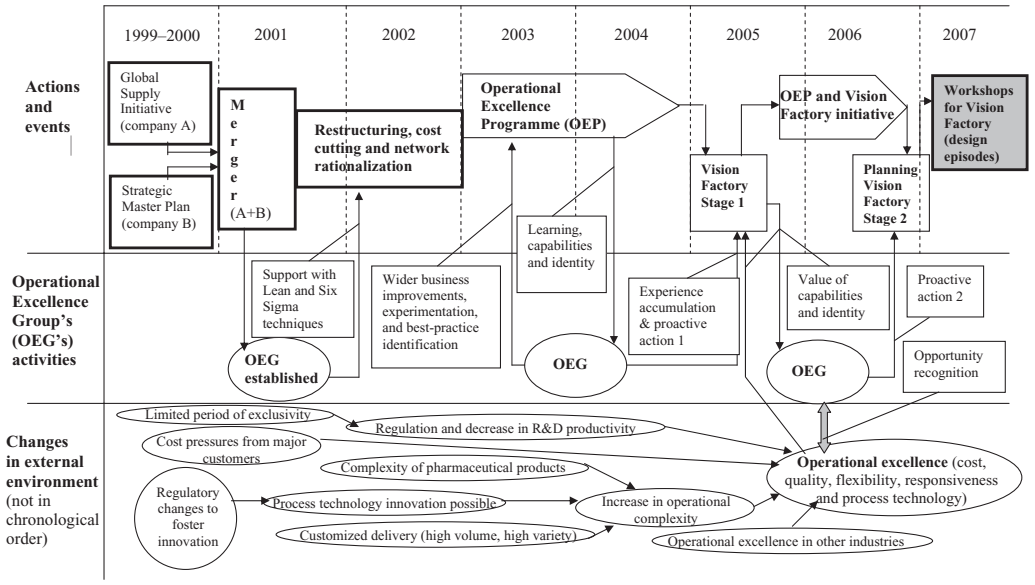


Figure 2. Chronology of actions and events that led to the instigation of proactive action in designing the strategic input

group's new owners. Both firms started similar long-term operational improvement programmes in 1999 in order to enhance competitiveness and productivity at their respective manufacturing networks. Both programmes emphasized network rationalization and introduced different Lean Operations and Six Sigma techniques. The two improvement programmes were fused into one major initiative for restructuring operations and rationalizing the manufacturing network in order to deliver major cost savings while maintaining security of supply. At the same time, the OEG was established in order to support the implementation of the restructuring and rationalization efforts. This group of about 30 experts in Lean Operations and Six Sigma techniques used its collective competency to help deliver major cost savings at the newly established firm. In 2003, the restructuring programme successfully delivered the forecast total annual merger and manufacturing restructuring savings of £1.8 billion, and the future role of the OEG became debated at the firm's executive level.

The group's unique and distinct competency in operations improvement techniques was so closely associated with cost-cutting efforts that the delivery of promised savings almost threatened its existence. Although the two-year period from 2001 to 2002 was perceived as successful in terms of cost-cutting, the OEG members shared the belief that their competency was somehow underutilized by the sole focus on cost reduction. They described this period as collecting 'low-hanging fruit' – that is, making easy merger savings. This illustrates their specific perception and belief that their distinct competency in operations improvement techniques should go beyond the cost-reduction efforts and should significantly complement the firm's core capabilities of science-driven new product development and commercialization. In 2003, the decision was made to continue with the coherent Operational Excellence Programme in order to improve performance further across the manufacturing network. The OEG avoided being dismantled and instead became the group with the biggest responsibility in guiding improvements in operational excellence. It quickly became evident that making huge savings would be harder to achieve after the initial and most obvious improvements had been made; hence, the improvement efforts focused on major products and projects that promised the highest potential gains for the firm. In 2003 and 2004, the OEG targeted wider improvements in business processes by implementing a variety of techniques and identified best practices. Experiences gained from this period further increased the group's belief that more radical change in the operational model could make an important difference for the firm.

Encouraged by the four years of collective experience in implementing operational improvement programmes, and motivated by the perception that the value of capability in operational excellence is underestimated within PHARMA Inc., the group embarked on its first major proactive action. At the beginning of 2005, the OEG used the firm's regular manufacturing conference, attended by more than 300 manufacturing managers, to launch the ambitious Vision Factory programme. The group deliberately organized various simulation games in order to persuade participants that the generic lean principles and the lessons learned from major improvement projects could be spread throughout the manufacturing network. This 'issue selling' (Dutton and Ashford, 1993) succeeded and the Vision Factory, labelled as 'the journey towards the simpler, more efficient operating model that the firm's manufacturing system has committed to imple-

ment in order to support the commercial ambition of the entire firm', became an integral part of the Operation Excellence Programme.

The OEG has regularly used the benchmark data showing the pharmaceutical industry as lagging behind other high-volume manufacturing industries in terms of operational excellence to highlight the relevance of this capability within the firm. The relevance of operational excellence has been further strengthened by the changes in the external environment documented in Figure 2 (see 'Changes in external environment'), which potentially threaten the long-established pharmaceutical business model.

This comparison of the strategic value of operations excellence across industries exposes important aspects of the OEG's identity. Members of the OEG have frequently referred to the fact that their competency, so widely cherished in some other sectors of high-volume manufacturing, is far less recognized in the pharmaceutical industry. The OEG's expertise in a set of techniques for operations improvement, quality, and knowledge management sets the group apart from the firm's other departments and divisions, which are embedded in the scientific competencies of chemistry, life sciences, and marketing. The OEG is clearly aware that its identity is distinctive for PHARMA Inc., but more importantly its members believe their intrinsic competence has far less status than in other manufacturing industries. Such intra-industry comparison quickly converts into intra-firm comparison, suggesting that the status of the group unfavourably compares to the status of groups engaged in R&D and marketing activities. Every rise in strategic value of operational excellence therefore potentially increases the status and distinctiveness of the OEG. Although the supporting role of operations excellence in science-driven product innovation and product commercialization is a characteristic competitive model for the pharmaceutical industry, this does not prevent the OEG from having a very different perception about the value of operational excellence.

This unique perception of the fit between capability in operational excellence and future opportunity, as well as motivation to strengthen the distinctiveness of the OEG's identity, instigated the second major proactive action. In 2006, the OEG's management decided it was time for the second stage of the Vision Factory programme. The activities, labelled 'Beyond Future State 1', aimed to identify future capabilities, and to set out targets and actions for enabling those capabilities needed for the next decade to be developed. The group started to plan a series of three major workshops, designed to provide a forward-looking roadmap for changes in the firm's operational capabilities. This series of events clearly represents proactive action undertaken by the OEG in order to explore opportunities that emerged due to external changes, and to accelerate the historical accumulation of capability in operational excellence. It is also indicative that the group maintained continuity with the successful strategic input (Vision Factory) and designed the next strategic input – about persuading other partners and those in higher authority – as the next stage of the existent programme.

In 2006, the OEG gave the clear impression of being a group with a mission. Despite operational excellence being a historically underdeveloped capability in the pharmaceutical industry and despite the official responsibility of the OEG being to provide capability in driving continuous improvements in process robustness, quality, performance, and customer service, the OEG members showed their strong conviction

in being responsible for a more profound change. In 2006, members of the OEG described themselves as change agents; this is certainly not mentioned in their official job description, which is about being responsible for continuous improvements. It is also highly unlikely that they would have described themselves similarly in 2001, when the group was established as a part of cost-cutting and rationalization efforts. This illustrates an idiosyncratic journey that the group has made from being a one-dimensional task force trying to cut costs to seeing its identity as initiating major change in the strategic value of the capability to which its distinctive competency closely corresponds.

Table I provides some evidence for identifying distinct group-level cognition and identity as sources of autonomous action. The combination of a distinct perception about the strategic value of a capability for addressing future opportunities and mission-driven identity that favours change, suggests a strong imperative for autonomous action. This is further compounded by unfavourable comparisons between operational excellence and other capabilities of the firm.

Designing Strategic Input through a Distributed Search Process

In November 2006, the OEG received the green light to progress with the Beyond Future State 1 activities. Three workshops were scheduled for March and April 2007 in order to provide the input for the executive strategic review and strategic planning cycle for 2008 to 2010. During the intensive preparation process, different manufacturing sites, departments of the Manufacturing Division, and the R&D and Marketing Divisions were asked to provide short statements describing their visions of the firm's capabilities for 2010 and 2017. These two timeframes symbolically introduced the dual nature of the workshops. In one of the documents introducing the objectives of the workshops, the OEG stated that the aim was to 'agree clear and realistic targets and measures for capabilities for the period 2008–10 plus a few longer-term objectives'. During the preparation process, the problem of striking the right balance between discussing long-term, potentially radical change and more mundane performance measures for the period of the next three years surfaced. The organizing team was seeking a long-term perspective and creative suggestions, but at the same time was keen to avoid too much unstructured blue-sky thinking. The team was also aiming to obtain clear and tangible descriptions of capabilities, but was wary of participants being too constrained when discussing future opportunities. The workshops were therefore designed to provide a balance between ambitious ideation and efficient operationalization. The first workshop was dedicated to describing aspirational capabilities and discussing their building blocks; the second workshop aimed to translate these aspirations into medium-term targets and performance measures; and the third workshop aimed to provide a detailed action plan for the period 2008 to 2010.

On 21 March, more than 30 participants gathered at the first workshop. The team consisted of representatives from the Manufacturing Division's departments, R&D, Marketing, and some manufacturing sites. The two executive sponsors introduced the series of workshops. The first one asked the participants to look for the future capabilities that should support the existent mission and strategy of the Manufacturing Division. He

Table I. Foundational elements of group-level autonomous action

Social comparison of capability's value		*Distinct group identity*		*Distinct cognitive frame*	
Unfavourable inter-industry	'We know that the industry [pharmaceuticals] as a whole lags behind other manufacturing industries [in operations excellence capability]. We don't have a Dell [operational excellence as core] of our industry. We have seen facts and data; we have visited other industries and compared performance levels.' (Semi-structured group interview with members of the OEG)	Distinct competency	'Operational excellence [responsibility of the OEG] remains a critical tool to simplify and standardize the way we do business . . . by deploying lean manufacturing, six sigma processes and continuous improvements . . .' (Archival strategic document)	Perceived alignment between opportunities and capabilities	'We've got those external pressures we've talked about; we are looking at them and realizing that we might be able to do things differently and that there are many other opportunities to innovate . . . We could be looking at significant improvements, almost a transformational change in terms of operations compared to what we've historically done.' (Head of the OEG, semi-structured interview)
		Learning history	'We [the OEG] have put in place a huge improvement programme [Vision Factory], which is what we have been doing since 2005.' (Member of the OEG, semi-structured interview)		
Unfavourable intra-firm	'Historically the focus is on R&D and marketing . . . from the perspective of the entire firm, manufacturing operations have never been at the core. I would say as long as manufacturing doesn't cause problems it is OK. Innovation comes from R&D and power from marketing.' (Head of the OEG, semi-structured interview) 'It is not a source of advantage [manufacturing operations] . . . if we [PHARMA Inc.] hit the budget and [manufacturing] don't create shocks and cause concerns with regulator . . .' (Member of the OEG, semi-structured interview)	Perception of identity	'We're change agents: we're allowed to go in and do that [initiate actions]. Part of our remit is to identify the levels of business performance and what operating philosophy we should be driving towards in the future. The group is in essence about delivering business improvement and change: it is our remit to identify what business improvements are required and to help to drive that change.' (Head of the OEG, semi-structured interview)	Perceived strategic value of capability	'We [the OEG] believe that levels of capabilities for providing quality, service and responsiveness will be significantly different compared to what we do today.' (Member of the OEG, semi-structured interview)

defined the problem space for the workshops as being to address the middle ground between high-level and generic statements of the existent manufacturing strategy, and short-term operational targets and measures. The second sponsor was more aspirational. He explicitly challenged participants to be imaginative about the future capabilities and to describe them as 'they will be seen, felt, and experienced in the future'. He also advised them not to be too generic and vague by relying on phrases such as 'World-Class Manufacturing'.

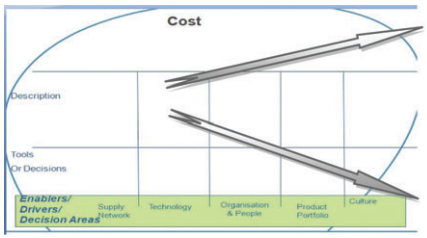
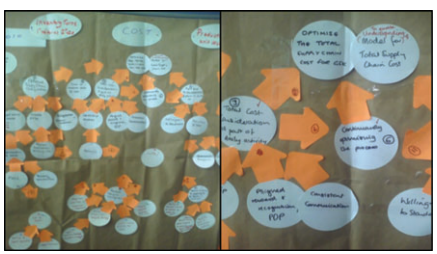
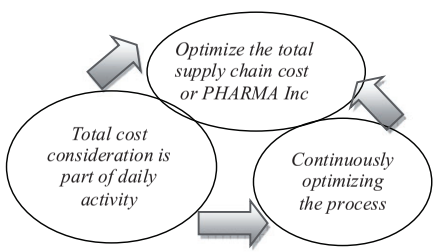
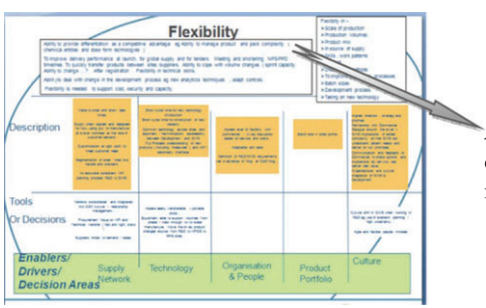
Table II shows some evidence that allows the identification of micro-practices of such a collective and cognitive search through which strategic input is designed. Visual evidence shows artefacts characteristic of the three identified micro-practices of distributed search efforts.

Participants split into groups, each group discussing one of the generic operational capabilities: quality, cost effectiveness, flexibility, speed, and responsiveness. To describe how these capabilities would look in the future, participants were given a matrix that consisted of generic decision areas such as technology, products, supply network, people and organization, and culture. Despite being explicitly challenged to describe future capabilities, participants clearly struggled with the imaginative nature of the task. They evidently felt more comfortable relying on generic statements that were not well articulated (see example (a) in Table II). They started to design future capabilities in a bottom-up mode, by first identifying their building blocks. Instead of focusing first on high-level and forward-looking descriptions, they focused on details and potential solutions, and then attempted to discuss capabilities. Throughout this phase, participants did not hide the fact that it is difficult to adopt changes in manufacturing operations in this industrial sector in general and at PHARMA Inc. in particular. For example, after I challenged one group about making such general statements that they could be applied to every firm's strategy, they responded that the statements might sound very general to an observer from outside the company, but were actually quite radical for them.

Such *reductionism*, illustrated by isolated and generic statements, was characteristic for most of the first workshop. However, it created a need for constructing the meaning of different building blocks, setting themes, connecting them, and identifying relationships. Participants equipped with numerous statements that emerged through discussion started building connections and causal relationships between different elements that constitute capabilities (see example (b) in Table II). This *construction* process was intensive and collective, and seemed to be the most creative part of the workshops. Groups were engaged in the process of recombining, structuring, and giving a meaning to different statements; and of reflecting on, clarifying, cross-checking, and building common understanding. After this process had been completed, participants seemed more comfortable with talking about future capabilities; then more descriptive accounts of the future capabilities started to emerge.

The richness and complexity of the construction phase of the process, in which participants imparted meaning to different isolated statements and tried making meaningful connections between constructed elements, highlight the importance of *integration* and of summarizing ideas (see example (c) in Table II). This is illustrated by the situation at the beginning of the second workshop. The facilitator summarized the ideas

Table II. Evidence of complex social practices for a collective and formalized search process

Phases	*Visual evidence from observations*	*Evidence from observation*	*Comments*
Reductionism (a)		• Total supply change costs • Sustainability • External network should match internal competences • Close to customers • Managing complexity • Optimizing supply cost • Visibility of total costs • Shortening lead time • Optimized total supply chain • Proactive life cycle management	Formulating isolated statements that potentially represent building blocks of future capabilities
Construction (b)			Collectively constructing future capabilities by exploring relationships between building blocks, communicating the meaning of isolated statements and clarifying different perspectives
Integration (c)		Ability to deal with change in product development, structure of global supply network and reacting to tenders	The results of the construction process, integrated and summarized as descriptions of the capabilities readily available for the strategic input

about flexibility produced at the first workshop. One of the participants commented to me: 'This summary is much better than the original.' The other participants made a comment with a slightly different connotation: 'It is also slightly different.' The facilitator later admitted that integrating the inputs of the first day was difficult, because they were not well described. This example shows that the integration of inputs is an important activity for designing strategic input. A facilitator can easily destroy the richness of input, creatively add value to the final outcome, or alter the input into preferable direction.

Reduction is perhaps an unwanted practice that can be amended by appropriate facilitation of the workshop, and creative construction is an expected and sought-after practice of the collective and cognitive search process. Yet the process of integrating and summarizing proved to be the most intriguing part, especially where the design of strategic input was concerned. The process of integrating and summarizing was not as open as that of reduction and construction, because these practices were conducted solely by members of the OEG. This gave the OEG a large amount of discretion in shaping strategic input without necessarily losing the collective ownership of the input.

Reshaping and Feeding the Strategic Input

Exploring the aftermath of the three workshops might at first glance be assumed to involve engaging with the outcomes and gauging their impact. However, the in-depth study of the aftermath period suggests it is far more relevant to understand how the leading group uses outcomes creatively than how creative these outcomes are. It is also important to comprehend how the lead group understands the way in which an impact can be achieved. Table III offers some evidence of creative framing practices for issue selling. It provides characteristic quotes from semi-structured interviews that illustrate roles for the strategic input played in this 'issue selling' effort and how the selling process (Dutton and Ashford, 1993) unfolded.

The series of workshops was partly introduced by the agenda to spark some creative ideas and discussions about more radical change in the firm's operating capabilities. The head of the OEG agreed that the workshops failed to produce ideas for drastic changes, yet in his opinion this does not make the workshops less useful.

His view was shared by the majority of participants at the workshop. The following were all listed as reasons for the perceived lack of novel ideas: the process not providing enough support for creative ideation; a big group of participants, some of whom carried a narrow functional agenda; and the operational mindset of the participating middle-level managers, who were less experienced in engaging with long-term challenges. Despite all of this, OEG members have not expressed any particular concerns or dissatisfaction. The reasons for this are different. The three workshops were characterized by plurality of objectives. Detailed targets and measures for the next three-year planning cycle were identified. The workshops clearly highlighted the need for better communication between functions and divisions, and the OEG feels it now understands better the needs of other manufacturing functions and of the firm's divisions. The creative outcomes of the workshop were, after all, intended as the strategic input to the executive strategic review; but even here, lack of really

Table III. Evidence of complex social practices for creative framing of issue selling

Characteristics	*Evidence from semi-structured interviews after workshops*
Legitimacy seeking (a)	'If three of us sat down and said these are the three key themes for the organization, those themes would have no *legitimacy* even though people would have looked at them and said, "Well, those are the right themes". The workshops to me were very much around ownership of the output [strategic input] and it being owned as a Manufacturing Division output rather than an OEG output.' (Head of knowledge management at the OEG) 'The OEG is influential with the Vision Factory programme and we [the R&D division] do feel a part of the process [the workshops], but I still don't see the outcome, as I have seen it, as my product.' (Representative of the R&D group at the workshops)
Consensus seeking (b)	'You can see that this is a *consensus* organization, so to actually get *consensus* enough to agree to, to look at, something to make a decision, you know, you probably have to get round quite a large number of people.' (Project manager of the three workshops) '. . . the fact that a small group already knew it [knowledge of important themes and preferred actions] doesn't mean that everybody else knew it and got it.' (Head of the OEG)
Seeding practices (c)	'I took some of my people and *seeded* them into each of those groups, and the group that was looking at the operating model took effectively the output from this workshop and said, "What do we need to do differently in terms of our business model to achieve a more agile and responsive organization?" ' (Head of the OEG) 'The material that we produced [at the workshops] was robust and has been used to *feed* some other work that I mentioned [the operating model project] . . . Looking at it now after four months [since the executive strategic review], my sense is that the most impactful outcome is taking those *seeds* around flexibility and responsiveness and saying that actually being able to be agile, responsive, and flexible is a potential next step.' (Head of the new development group tasked with developing a new operating model, and workshop participant who is not a member of the OEG) 'It's a lot about shadow shifting, and influencing opinions and ideas, rather than actually coming out with something concrete . . . We *fed* some of the key messages. We weren't feeding any of the details. We hold the detail in reserve for later, so that once executives have been enthused and they come out and say this is where we have to go then we can roll out the details and work out how to deploy it and actually achieve it.' (The project manager responsible for integrating the material generated at the three workshops and presenting it at the executive strategic review)

novel suggestions did not concern the organizers of the three workshops. The quotes from Table III (see example (a)) strongly suggest that the OEG views the workshops not only as a collective search process for producing creative outcomes, but also as a means to sell the group's intentions to other constituencies in the firm and, by doing that, to legitimize the strategic input, making it appropriate for impacting on the development of the targeted capability. They recognize *legitimacy* of the strategic input as being instrumental in

achieving the impact. Additionally, they highlight *consensus* (see example (b) in Table III) as an important aspect that accompanies the creativity, implementability and legitimacy of the strategic input, and that significantly helps to overcome impediments to selling the issue. The formal and collective process of designing strategic input suggests a group is genuinely interested in formulating creative and novel suggestions that can be implemented in order to achieve an impact on capability development. It also proves that members of the OEG are highly aware that making an impact on capability for operational excellence will demand intense interactions between groups; this puts legitimacy- and consensus-seeking motivations at the centre of social practices of autonomous action. Consensus is even more illustrative, because it suggests the OEG is deliberately avoiding any conflict or competition that could undermine its effort to increase the strategic relevance of the undervalued capability.

A closer look at the executive strategic review shows that the outputs from the three workshops were supported by an overview of Beyond Future State 1 (emphasizing the list of potential actions in the areas of supply network, products, technology, people and organization, and culture) and a separate presentation on agility, covering the capabilities of flexibility and responsiveness that were debated at the workshop. The explicit focus on agility, flexibility, and responsiveness was salient, because these operational capabilities were absent from the firm's Manufacturing Strategy document. This was also evident at the workshops, where flexibility and responsiveness were debated intensively and with much less consensus than the well understood cost efficiency and quality. The topic of agility did not enter the executive review directly from the series of workshops. After the three workshops, a team was established to look at the new operating model for the Manufacturing Division. This initiative was, however, very closely linked to the Beyond Future State 1 activities.

At the executive review, the decision was made to launch two development programmes, one focused on costs and the other on developing a new operating model for the manufacturing network. While the former is considered less of a novel development because the notion of cost leadership has regularly appeared in the firm's strategic documents, the latter is perceived as something new. Its explicit focus on 'developing more effective ways of working between central functions and supply divisions, and targeting greater flexibility, responsiveness to change and faster decision making' highlights the capabilities that are absent from the Manufacturing Strategy document, which emphasizes cost effectiveness and quality.

The reflections from OEG interviewees after the workshop and from the executive strategic review clearly indicate that selling the issue is achieved through the mechanism usually described as 'seeding' or 'feeding' (see example (c) in Table III). Such a disguised and indirect way of selling the issue to the higher authority is in stark contrast to the entrepreneurial pitches that demand clear commitment or presentations based on information-rich business plans as discussed by Dutton et al. (2001). Here, the OEG uses the strategic input creatively in order to influence future strategic actions that promise to impact on the development of the targeted capability. The interviews with some other participants, however, indicate that this way of selling the issue may not be recognized by all the participants at the workshop. Some participants, although supportive of the overall outcomes of the workshops, expressed reservations about the collective ownership

of the results. The *ex-post* interviews with OEG members show that they accept the view that they have the strongest influence on the outcomes of the workshop, with complete ownership of the results and influence on 'feeding and seeding' strategies for selling the issue.

In October 2007, the global health care group announced a significant new £1.5 billion Operational Excellence Programme to improve operational efficiency and productivity. The themes of agility/responsiveness and cost reduction, through a continued focus on the Vision Factory and performance management, were part of the programme.

DISCUSSION

I constructed Figure 3, which summarizes theoretical constructs and their dimensions as well as the relationships among them. The figure consists of two parts corresponding to the two questions that guided this study. The bottom part addresses the foundations of autonomous action performed by a group. It engages with two questions: *why* does a group act autonomously, and what explains the levels of proactive engagement? The top part of the figure illustrates the process of autonomous action in order to answer the questions: *how* is the group acting proactively and *how* is this proactive action practised in the organizational context?

In Figure 3, I identify both diverse cognitive frames (Kaplan, 2008b) *and* groups' identities (Haslam et al., 2003b) as instrumental to understanding the sources of autonomous actions. The detection of *group identity* and *inter-group social comparison* as salient drivers for capability development suggests that social identity theory (Ashforth and Mael, 1989; Turner, 1975) provides an explanatory engine to complement collective cognition in understanding the autonomous action of a group. The basic tenet of social identity theory proposes that a group's identity has a distinct impact on people's behaviour and motivates them to act (Haslam, 2001; Rowley and Moldoveanu, 2003). The theory has been developed to facilitate understanding of the basis of inter-group differentiation and distinctiveness, and therefore provides additional theoretical mechanisms to address the question of *why* a group acts autonomously. When individuals identify with a group, they engage in the process of *social comparison* (Ashforth et al., 2008) and act in order to improve, re-establish, or maintain the distinctiveness of its identity.

The concept of group social identity also enables the gap to be bridged between the questions of *why* autonomous action gets initiated and *how* it unfurls; this conceptually connects both parts of Figure 3. A group engaged in inter-group comparison will deploy strategies of social creativity or social competition in order to improve or maintain its identity (Haslam, 2001). Groups deploying social creativity strategies avoid direct confrontation with other groups; on the other hand, groups deploying social competition strategies deliberately create open conflict in order to make preferable change. As shown in Figure 3, the socially complex process of autonomous action is influenced by the group's authority and inter-group dependency levels, and unfolds through collective search processes followed by creative framing practices for selling the issue deemed to be of strategic importance.

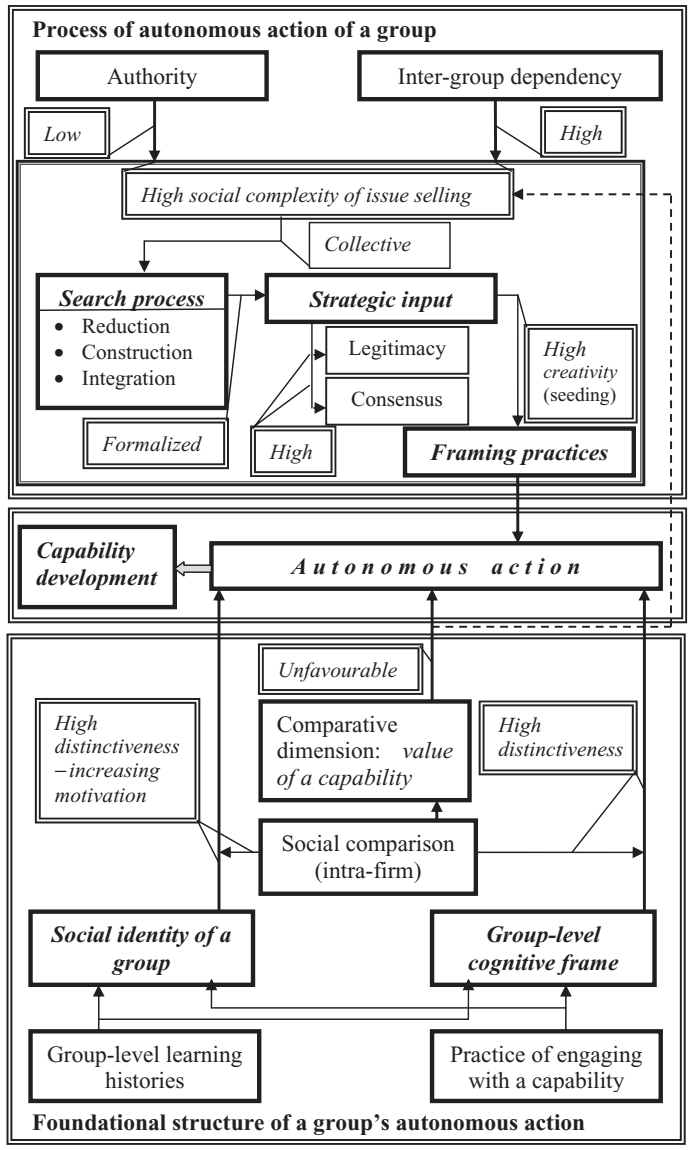


Figure 3. Model of foundations and creative practices of group autonomous engagement with organizational capabilities

The Role of Group Distinctiveness in Autonomous Action

The case evidence suggests that autonomous action takes place because of imperfect congruency between the cognitive frames and social identities of different groups that – in line with the assertion of Astley and Zajac (1991) – act as collections of self-interested coalitions, negotiating orders of resource allocation and exchange. The two proposed central constructs (group-level cognitive frames and social identities) should not be analysed in isolation from practices in which they are both embedded and from

historical context through which they are developed. The evidence derived from this study supports the existing argument about the importance of *proximity* for the development of cognitive frames that potentially guide capability development. Groups of individuals do indeed engage with patterns of capability development; the closer they are to these capabilities, in terms of their responsibility, competency, experience, and everyday practices, the higher the likelihood of developing a cognitive frame that guides the future patterns of capability development. This study is also consistent with research that suggests practices (e.g. close engagement with a particular capability) influence the social identity of groups (Millward et al., 2007; Pratt et al., 2006). This notion of proximity is necessary but not sufficient to explain the level of autonomous engagement, because not all groups close to capability development will eventually act proactively.

This research points out that a level of *distinctiveness*, which characterizes both group-level cognitive frames and social identities of groups, is an important variable when a foundation of autonomous action is concerned. *Distinctiveness* here implies that social identity and/or the cognitive frame of a focal group clearly and significantly differ from other groups' identities and/or cognitive frames. The distinctiveness of a cognitive frame could also suggest that a group does not share the predominant causal understanding of the fit between capabilities and competitive advantage that determines the firm's strategic behaviour. It could also imply that group identity is in contrast to the overall firm's identity, although distinctiveness here does not imply sharp and abrupt disconnections between groups as reported in Elsbach and Bhattacharya (2001). This research identifies two sources of such group distinctiveness, namely a unique group-level learning history and specific group-level competency. The proposition that unique learning history and competency determine distinctive group-level cognitive frame and identity comes very close to the resource-based view (RBV) arguments of the value of unique resources (Barney, 1991) and organizational learning (Dierickx and Cool, 1989), but with one important difference. RBV installs uniqueness and distinctiveness as sources of *inter-firm* heterogeneity. This research on the other hand advocates that levels of a group's uniqueness and distinctiveness *within* a firm explain the sources of autonomous action. This research also complements the existing studies of the dynamics of identity development (Gioia et al., 2000) and links between organizational learning and identity (Brown and Starkey, 2000). While this literature suggests that an existing identity is often a defence mechanism against organizational change and that such an inertia could be mitigated through the process of organizational learning, this research reports an idiosyncratic process of group-level identity development that causes proactive action aimed at creating change. This proposes that a group's social identity, if distinctive within a firm, increases the likelihood of organizational change. Identity is therefore not necessarily a source of stability in organizations, but could present a potent source of organizational change.

Awareness of group distinctiveness originates from social comparison within a firm. A group initiating autonomous action aimed at capability development is most likely aware of the distinctiveness of its perception about the strategic value of a capability. In the likely situation of intra-firm heterogeneity about the perceived values of capabilities, the group whose cognitive frame about a particular capability is the most

distinct from the perceptions held by other groups (including top management) will most likely initiate proactive action in an autonomous manner. If all groups share perceptions about the value of the firm's capabilities, then any autonomous action is highly unlikely.

A group-level cognitive frame with a high degree of distinctiveness is necessary but not sufficient to explain the likelihood of autonomous action, because it remains unclear what motivates a group to transform the group cognition into preferable action. Two aspects closely associated with the distinctiveness of a group's identity provide some explanations. The likelihood of autonomous action will rise if the envisaged consequences of action increase the distinctiveness of the group's identity. If the development of new capability, or renewal of the existent capability, improves the status of a group or increases the perceived value of its unique competency within a firm, then this group will be highly motivated to act. The role of a group's identity distinctiveness in initiating proactive action is further compounded if it believes the capability is underutilized as a source of competitive advantage. The likelihood of autonomous action will further increase if a group believes that the strategic value of a capability on which the distinctiveness of the group's identity is based compares unfavourably with that of other capabilities within a firm. The degree to which the strategic value of a capability is perceived as underestimated correlates with the group's homogenization and eagerness to increase the capability's perceived value.

Social and Creative Framing Practices to Influence Capability Development

The evidence from this research offers some additional insights into the very process of autonomous action (Burgelman, 1994, 1996) and the literature on issue selling (Dutton and Ashford, 1993; Dutton et al., 2001). This case study is an illustration of a group with *low* authority making decisions that directly influence capability development, in a context characterized by *high* inter-group dependency. Hinings et al. (1974) argue that a group lacking formal authority increases its informal power (Brass and Burkhardt, 1993) if it positions itself centrally to other groups (Astley and Sachdeva, 1984) and renders other groups dependent on its core competency. In the context of *autonomous* action the notion of higher inter-group dependency suggests that multiple groups (Rivkin and Siggelkow, 2003) need to be consulted in order to make an impact on pervasive organizational capability. Inter-group dependency is more likely to be symmetric and originate from mutual dependency among groups that are closely engaged with targeted organizational capability. It is evident, however, that the group leading autonomous action positions itself centrally within the autonomous initiative and this gives it an informal power for shaping the strategic input for issue selling. This suggests that a high breadth of involvement in issue selling process (Dutton and Ashford, 1993) requires informal power to streamline the strategic input.

High intra-group dependency entails high social complexity of issue selling. A group that leads autonomous action needs to persuade others to contribute to the endeavour and securing such a buy-in process (Kanter, 1985) is socially complex, because it consists of negotiating a variety of interests, interpretations, and managing multiple relations

(Levina and Orlikowski, 2009). Evidence that a group brings others into the selling process and that a formal approach is favoured is broadly in line with the work of Dutton and Ashford (1993). It extends this work in emphasizing the importance of distributed and formalized search processes as part of the pre-selling effort (Kanter, 1985). Intra-group dependency and social complexity create two types of challenges for a group that engages in autonomous action. First, they increase the need for a process of searching for new capabilities to be *collective* and *distributed*. A group that initiates autonomous action will be highly likely to involve other individuals as representatives of interdependent groups to participate in the collective and cognitive (Gavetti and Levinthal, 2000) search process. Second, high levels of social complexity of issue selling increase the need for the collective search process to be *formalized*. A group needs to create strategic input that is appealing in terms of its novelty, usefulness, and implementability. Such strategic input is not always readily available, especially if it promises to make an impact on capability development – an endeavour prone to a large degree of uncertainty, due to the evolutionary nature of the development process. The creation of strategic input in circumstances of high social complexity of issue selling will require a focal group to design and orchestrate a formalized search process that appropriately seeks and packages the input. Strategic workshops, as exemplars of the formalized search process, are therefore useful not only as formal events to devise top-down strategies (Hodgkinson et al., 2006), but also as events instrumental for autonomous action that demands an environment for a diverse group of individuals to engage in creative (Woodman et al., 1993) and cognitive search processes.

A closer look into these collective and formalized search processes enables identification of characteristic micro-practices. *Reduction* and *construction* characterize such processes, and the evidence suggests that middle managers often struggle with a form of forward-looking and cognitive search to design future capabilities. This collective construction process provides outcomes that are poorly structured and inappropriate as strategic input for issue selling; this in return emphasizes the importance of *integrating* ideas through the mechanism of *summarizing*. It also highlights that the one who leads this transformation from 'raw outcomes' of collective search to the final, 'summarized' outcomes truly influences and owns the strategic input and, at the same time, is in a position to claim legitimately that the outcomes resulted from collective activities. Perception of collective ownership increases the legitimacy (Lounsbury and Glynn, 2001) of the proposed actions.

The strategy of social creativity deployed by groups that aim to change a predominant cognitive frame (e.g. causal understanding of a capability's strategic value) provides another explanation of why a group opts for a collective and formalized search process. A group that finds that the value of a capability on which its identity is based compares unfavourably to other capabilities will, in the context of high inter-group dependency, collectivize the cognitive search process in order to change cognitive frames *consensually*. This suggests that wider consensus needs to be achieved on the proposed action being desirable, proper, and appropriate within the strategic context of the firm (Cattani et al., 2008).

In such circumstances, a group will avoid engaging in highly confrontational framing practices, as illustrated by Kaplan (2008b). It will be aware that when high interaction

between groups is needed in order to impact on the development of a capability that is underestimated as a source of competitive advantage, then a confrontational style of enacting its perception about the capability will most likely be counterproductive. Collective search orchestrated by a focal group therefore acts as a bridging exercise between different cognitive frames.

This research shows that the strategic input, after being developed through a formalized process of collective search, is further amended and *creatively* reconstructed by the initiating group in order to be fed into the future decision-making processes that will influence the development of future capabilities. This suggests that an impact on organizational capability neither overly depends on the creativity and implementability of preferable actions nor is always achieved by winning a contest of ideas. It shows that in the context of high social complexity of issue selling, the creative framing practices that subtly implant the preferred action into the relevant processes, that legitimize actions by the impression of collective ownership, and that create seeds for achieving impact have a good chance of influencing the development of organizational capabilities. *Seeding* the strategic input suggests that such creative framing practices may be especially useful where the development of capabilities is concerned. The concept of seeding advances the notion of repetitive selling introduced in Dutton et al. (2001). Future capabilities can hardly be engineered through formalized processes, and their evolutionary patterns are better influenced by seeding inputs, which are then collectively influenced through the myriad of actions characterized by different degrees of proactivity and reactivity, and deliberation and emergence.

Implication for Research on Organizational Capabilities

This research shows how proactive and autonomous action is instrumental to understanding not only a creation of new capabilities but also a revitalization of established ones. Instrumentality of autonomous action raises some additional questions for better understanding of relationships between the collective nature of capability development and knowledgeable agents who make autonomous decisions and act with intent. If autonomous action becomes the central unit of analysis then the researchers would benefit from an established classification of autonomous actions. What are the characteristic dimensions that enable differentiation between different types of autonomous actions? Do different drivers of autonomous action determine deployment of different framing strategies? Are different types of autonomous action dependent on different organizational and/or environmental contexts? Do the drivers and processes of autonomous action change if the influenced capability is pervasive to an entire organization (e.g. Intel's strategic exit; Burgelman, 1994) or a new capability is developed in a new organizational form (e.g. corporate venturing)?

This research indicates that the groups are capable of leading distributed search processes and performing socially complex framing practices in order to navigate through the diversity of cognitive frames and social identities that populate complex organizations with complex structures of organizational capabilities. More nuanced understanding is needed of the political processes (Narayanan and Fahey, 1982) through which coalitions for supporting autonomous actions are developed. What are the tactics

of coalition formation if autonomous action is not characterized by sharply contested goals and competing interests (Eisenhardt and Zbaracki, 1992)?

More specifically this research raises some additional questions related to the role of intra-firm comparison of the capabilities' strategic values in initiating autonomous action. This research suggests that unfavourable comparison motivates autonomous action for increasing the perceived strategic value of underrated capability. Could unfavourable comparison lead to development of new organizational capabilities and why would that happen? Could autonomous action originate from favourable comparisons between firms' capabilities?

Limitations

This study has some limitations. Reliance on a single case and close engagement with its idiosyncrasies inevitably limit generalized induction. The empirical context of this study clearly indicates the instrumental role of identity, but in other organizations under different circumstances diverse forms of self-interest could complement identity as drivers of autonomous action. Perhaps more intriguingly, reframing a capability's strategic value could not only increase the distinctiveness of a group, but also endow a group with power based on expert knowledge (Astley and Sachdeva, 1984) about the capability. Further methodological limitations associated with my field work were experienced when observing the aftermath of the workshops. It is difficult for a researcher observing a process unfolding in real time to set a clear line when the story actually ends. This study therefore reports an attempt to influence capability development without providing the evidence that an impact has actually been achieved.

CONCLUSION

I argue in this paper that when a group has a highly distinctive cognitive frame for the strategic value of a capability, combined with a high level of motivation to increase the distinctiveness of the group's identity and to improve the strategic status of the comparatively unfavourable capability, the likelihood of autonomous action increases and the group becomes more proactive. I also assert that when a group is not in possession of authority to influence development of a particular capability directly, and when contesting cognitive frames is considered less productive due to high inter-group dependency and a comparably unfavourable perception of a capability's strategic value, then a socially complex process of collective search for developing a strategic input, legitimizing preferred action, and subtly implanting a strategic input into decision-making processes characteristically leads the autonomous action. My field observations suggest that group-level social identity serves as a complementary basis to group-level cognition for explaining the behavioural motive to engage autonomously with a pattern of capability development. The distinctiveness and idiosyncrasy of social identity and cognitive frames make them a valuable strategic resource.

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