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## **Eyes Wide Shut: The Role of Organizational Field Transparency for Overcoming Organisational Inertia**

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### **Abstract**

To successfully respond to the challenge of discontinuous change within their industry, incumbent organizations must strive to overcome constraints imposed by the pressures of organizational inertia, which in turn are shaped by the organization's institutional environment. Recent work has unbundled the concept of inertia into two key determinants: 'resource rigidities' and 'routine rigidities'. Using field data from 51 case studies we build a model of organizational response to discontinuous threats and opportunities. We propose that resource and routine rigidities are linked to the way managers experience their organization's institutional environment. Specifically, we observe that organizational field transparency acts to shape managerial perceptions of both threats and opportunities, which in turn varies the legitimacy and intensity of resource and routine rigidities. We find that organizations overcome both types of rigidities when managers experience their organizational fields as transparent.

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To successfully respond to the challenge of discontinuous change within their industry, incumbent organizations must strive to overcome constraints imposed by the pressures of organizational inertia, which in turn are shaped by the organization's institutional environment. Recent work has unbundled the concept of inertia into two key determinants: 'resource rigidities' and 'routine rigidities'. Using field data from 51 case studies we build a model of organizational response to discontinuous threats and opportunities. We propose that resource and routine rigidities are linked to the way managers experience their organization's institutional environment. Specifically, we observe that organizational field transparency acts to shape managerial perceptions of both threats and opportunities, which in turn varies the legitimacy and intensity of resource and routine rigidities. We find that organizations overcome both types of rigidities when managers experience their organizational fields as transparent.

**Key words**

Discontinuous Innovation; Organizational Inertia; Institutional Theory

## **Introduction**

Discontinuous innovations re-shape the existing terms of economic exchange within established markets and are based upon entrepreneurial opportunities that require established organizations to make non-linear internal adaptations relative to traditional trajectories of development (Christensen and Bower, 1996; Tushman and Anderson, 1986). At an organizational level, organizations tend to be constrained by forms of organizational inertia that limit their capacity to internally adjust in response to significant external change (Henderson and Clark, 1990; Miller and Friesen, 1980; Tushman and Romanelli, 1985). Interestingly, even when managers recognise the need for change, the organization may fail to respond (Johnson, 1988; Tripsas and Gavetti, 2000; Tushman and O'Reilly, 1996). Furthermore, institutional pressures in the form of values, norms, rules and taken for granted assumptions upon which an industry is based, have been widely offered as explanations that constrain change for incumbent organizations (Zucker 1977; DiMaggio and Powell, 1983; Scott, 2001). In particular, discontinuous innovations are by their very nature incompatible with existing institutional logics, violating institutional expectations with regard to product, technology and/or market developments (Christensen, 1997; van Dijk et al., 2011). To prosper in the face of discontinuous innovation, organizations and their managers must overcome the constraints imposed by both internal organizational inertia and external institutional rigidity.

Gilbert (2005) identified two distinct types of organizational inertia that tend to act independently from each other: resource rigidities, or the failure to change resource investment patterns and routine rigidities, or the failure to change the organizational processes that use those resource investments. In doing so, he suggested that a high

level of perceived threat acts to lower resource rigidities, but reinforces routine rigidities. He also proposed that ‘opportunity framing’ can help to overcome routine rigidities. As such, the origins of threat and opportunity perceptions become paramount to understand when organizational inertia is most likely to occur.

Taking an institutional lens, we set out to explore how managerial perceptions of threats and opportunities will be framed by the institutional environment. Dorado (2005) proposes that the level of perceived institutionalisation of an actor’s organizational field impacts their perception of opportunity for change. However, institution change research has tended to take an agency stance, and focus on how organizational actors enact change at an institutional level and the strategies they use to gain legitimacy, manipulate structures and mobilise the resources required to support the change and overcome institutional barriers (e.g. Seo and Creed, 2002; Tracey et al., 2011; van Dijk et al., 2011; Dorado, 2005). We depart from this existing research by focusing on the internal response of actors in terms of resource and routine rigidities.

In particular, we draw on Dorado’s (2005) notion of organizational field transparency and its relationship to perceptions of opportunity to enact change. Dorado (2005) suggests that the degree of multiplicity and the level of institutionalisation of the organizational field dictates an actor’s organizational field transparency to opportunity for institutional change. She argues that a highly institutional field is opaque to opportunity, a moderately institutional field becomes transparent to opportunity, but that an organizational field with low levels of institutionalisation becomes hazy to opportunity.

In this paper we link these insights from research on institutional change, to elaborate our understanding of patterns of inertia within organizations facing potential

discontinuous change. We extend Dorado's (2005) notion of organizational field transparency to distinguish between perceptions of both opportunities and threats. In turn, we explore these perceptions of threats and opportunities on the two components of organizational inertia identified by Gilbert (2005) – resource rigidities and routine rigidities. Figure 1 summarises the focus of our research.

Insert Figure 1 about here

To explore these relationships we use field data from 51 episodic case studies that capture organizational response to threats and opportunities presented by discontinuous change. We identify and elaborate a link between the way an organization's managers perceive and experience their institutional environment and the degree and nature of organizational inertia within the organization. As such, we enhance our understanding of the conditions under which organizational inertia in the form of resource and routine rigidities might be expected.

The remainder of this article is presented in four parts. We start by expanding on the theoretical background on organizational inertia and field transparency used to develop our model. Second, we introduce our empirical methods and data. We go on to develop our emergent model linking the transparency of the organizational fields to the managerial sensitivity towards discontinuous opportunities and threats and in turn to routine and resource rigidities. This leads to five propositions. We conclude with a discussion of how this model extends current theory of organizational inertia, limitations of this work and directions for future research.

## **Theoretical background**

### **Organizational inertia**

At an organizational level, organizations tend to be constrained by organizational inertia that limit their capacity to internally adjust in response to significant external change. Early work investigating the phenomena of organisational inertia generally considered it to be a unitary construct (Miller and Friesen, 1980; Tushman and Romanelli, 1985). Yet some investigations into organizational inertia reveal that the perception of a discontinuous threat can motivate change (e.g., Huff et al., 1992; Lant et al., 1992; Barr and Huff, 1997), others claim that the perception of a discontinuous threat will lock managers into focusing on previously learned routines (e.g., Dutton and Jackson, 1987; Staw et al., 1981; Hartman and Nelson, 1996). Gilbert (2005) attempted to reconcile these apparent contradictory findings by distinguishing two forms of inertia: the resource and routines-based views of the organization, Drawing on the notions of position reinvestment incentives (Arrow, 1962) and threat-motivated response (Staw et al., 1981) from economics and social-psychology, Gilbert identified that researchers have been inconsistent with how they measure the phenomena of organisational inertia: “variables that measure a willingness to invest financial or attention-based resources have been confused with variables that measure change in dominant logic or change in operating routines.” (Gilbert, 2005, p758). In his study of eight mature newspaper organizations that were facing a threat from digital online media, Gilbert (2005) shows that the threat of discontinuous innovation was seen as a catalyst to overcome resource constraints and invest in online publishing. However, the same threat was a driver of organizational inertia, exemplified by more centralised control and decision making, reduced experimentation, the reinforcement of existing routines and a focus on existing

resources. This analytical delineation allowed Gilbert to demonstrate that managers face two types of inertia: resource rigidities, the “failure to change resource investment patterns” (Gilbert, 2005, p741) and routine rigidities, the ‘failure to change the organizational processes that use those resource investments’ (ibid, p741). Gilbert also concluded that overcoming one type of rigidity often leads to more inertia in the other.

Although separating the two types of inertia is an important step, there is still a need to better understand the differences and interactions between resource and routine rigidities and how these affect an organization’s ability to respond to discontinuous innovation. In this research, we aim to more fully elaborate how organizations sense and respond, or not, to both discontinuous opportunities and threats. We identify and elaborate a link between how managers perceive and experience their institutional environment and organizational field transparency (Dorado, 2005) and the degree and nature of resource and routine rigidities they experience within their organization (Gilbert, 2005). These links have not yet been made within the literature. By establishing these links, we can better understand under which conditions organizational inertia will prevail. The focus of this research is summarised in Figure 1.

### **Organizational field transparency and institutional change**

Institutional theory is used to explain the nexus between social pressures and management action. Although the institutional perspective is most commonly used to explain the isomorphism or similarity and stability of organizational arrangements (DiMaggio and Powell, 1983; Zucker, 1977), it also provides a recognised platform from which to account for organizational change (Ehrenfeld; 2002; Dougherty, 1994; Greenwood and Hinings, 1996; Lawrence, Winn and Jennings, 2001; Meyer, 1982; Oliver, 1991). Institutional theory is therefore a useful perspective to explain why if

discontinuous opportunities and threats exist prior to their discovery (Shane and Eckhardt, 2003), not all managers are equally capable of discovering them. It also explains why they are not able to act to exploit the potential of opportunities or to mitigate the impact of threats.

A primary unit of analysis in institutional research is the organizational field, a unit which comprises of the enterprises and actors that, in general, constitute the recognised area of institutional life (DiMaggio and Powell, 1983). Organizational fields can therefore be described in terms of webs of "...values, norms, rules, beliefs, and taken for granted assumptions, that are at least partially of [the actors] own making" (Barley and Tolbert, 1997, p93). An emerging institutionalised organizational field will simultaneously enable and constrain the activities of the managers involved, limiting the opportunities and threats that they perceive and to which they respond. Hence, organizational fields and the processes of institutionalisation are important to the topic of technology management and innovation as they increase the probability of certain types of behaviour, to a greater or lesser degree, by setting bounds on rationality and restricting the opportunities and alternatives that actors see (van Dijk et al., 2011).

Organizational fields can be conceptualised as having a varying degree of constituent multiplicity (Oliver, 1991). The degree of multiplicity experienced by managers refers to the extent to which managers are tightly coupled to their organizational field and insulated from the routines, customs, ideas and resources of other fields (Greenwood and Hinings 1996: 1023; Whittington 1992; Seo and Creed, 2002). Managers who experience a high degree of multiplicity will be exposed to a large number of institutional referents, some of which will overlap and compliment and others that will conflict. 'Conflicting pressures preclude organizational conformity to

the institutional environment in its entirety...' (Oliver, 1991, p 163), in fact, 'social forces do not so much smother managerial agency as enable it.' (Whittington, 1992:707). Hence, institutionalists also demonstrate that in fields where managers are open to the tension between conflicting institutional structures, change can be mustered and new arrangements developed by actively exploiting divergence (Giddens 1991; Seo and Creed, 2002; Whittington, 1992).

Dorado (2005) utilises the constructs of institutionalisation and multiplicity to theorise that a manager's ability to perceive opportunities and their capacity to mobilise resources to exploit them is dependent upon organizational field transparency. She demonstrates that the transparency of opportunities within a field varies with managers' exposure to multiplicity and with the field's degree of institutionalisation. She asserts that organizational fields can be experienced in one of three dominant forms. Organizational fields can be 'opaque' in which the field is closed, highly isolated and/or highly institutionalised. Opportunities will appear almost absent and there will therefore be an inability to mobilise resources and existing routines will be maintained. Organizational fields can also be 'transparent', in which the field is experienced as open, with several institutional referents in a substantially institutionalised context. In this state, opportunities will appear plentiful and actors will be able both to define new institutional arrangements and to gain support and resources to respond to them. Finally, managers can experience their organizational field as 'hazy'. In such fields, managers are exposed to extreme multiplicity. They perceive their field as highly unpredictable and highly complex. Opportunities are likely to be out of the grasp of managers who will be hard pressed to make sense of and/or bring order to their chaotic environment and so will tend to maintain existing routines. Institutional theory can, therefore, be used

to demonstrate that potentially discontinuous innovations can be regarded as opportunities within organizational fields. The transparency and ability to embrace the opportunities are dependent upon managerial perception of the degree of institutionalisation and multiplicity within their organizational fields.

## **Methods**

Our research can be best described as theory elaboration (Lee 1999; Lee Mitchell and Sablinski, 1999), as we explore and refine theoretical links that remain incompletely addressed or overlooked in the literature. The research employed a multiple case study design (Yin, 2003; Eisenhardt, 1986; Silverman, 2000), which involved an in-depth description and contextual examination of a single instance or event – a case (Yin, 2003) – within 23 separate organizations. Our unit of analysis is a discontinuous innovation episode, in the sense that we are investigating the situation when an organization was faced with a potential discontinuous opportunity or threat. Since some organizations faced multiple such events, our total number of cases is 51. The set of cases was then treated as a series of experiments, whereby replication logic was used to confirm or disconfirm a set of observations (Yin, 2003). The large number of cases was required to provide confidence in the patterns we observed across five different institutional environments.

## **Research Setting**

Two sources of organizations were used, where each organization knowingly or unknowingly faced at least one discontinuous opportunity and/or threat. Theoretical sampling, (Glaser and Straus, 1967) along a series of polar types (Eisenhardt, 1989; Silverman, 1999), underpinned our selection of the first four organizations for this

study. We targeted one large and one small manufacturer and one large and one small service-provider. These four organizations matched our research aims in four key ways. First, each organization had an explicitly stated strategy to proactively pursue innovation and each organization was in possession of a broad portfolio of core and non-core products. This meant that we could observe resource investment patterns concerning new or improved products and processes. Second, each was well established, which meant that any organizational inertia should be observable. Third, each was facing a discontinuous opportunity or threat that required non-linear internal adaptations. For example, the small manufacturer's response to the insurgence of Chinese low-cost producers, or the large service provider's responses to the emergence of internet-based financial services would reveal the organization's sensitivity to these discontinuities as threats or opportunities. Finally, each organization displayed a prior track record for innovative capacity but was now an average performer, which meant that incidences of organizational inertia would be more likely (Christensen, 1997). By first collecting historical data to contextualise the initial conditions of each organization (Dyer and Wilkins, 1991; Eisenhardt, 1989) and codifying the subsequent three years of data collection into discrete event-driven phases (Lawrence et al., 2001), the four organizations provided 32 individual episodic case studies.

Our second source of organizations was identified because they were in organizational sectors that were highly likely to face discontinuous opportunities or threats over the five year period of this research. Of the eighty organizations approached, nineteen organizations agreed to take part in our research, which provided a further 19 episodic case studies to help extend the replication logic used to further confirm or disconfirm our observations. These organizations covered a range of industry

sectors and the sample contained small, medium and large sized organizations. Table 1 shows each episodic case, the industrial sector and the amount and type of fieldwork conducted in each organization. There were multiple cases within the first four organizations (cases 1 to 15 and cases 21 to 29 are within the two large organizations and cases 16 to 20 and cases 30 to 33 are within the two small organizations), but only single cases within the second set of organizations (cases 33 to 51).

Insert Table 1 about here

To protect confidentiality, we have disguised both the names of the organizations involved in this study and any explicit references to the sources of their discontinuous threats and opportunities.

## **Data sources**

Data were collected from a range of primary and secondary sources within each organization, as summarised in Table 1. In total, we built 51 episodic case studies by gathering data from approximately 1,284 hours of field work, over a 4 year period (including, 39 site visits, 69 interviews with 52 managers, 63 workshops (totaling approximately 865 hours with a total of 162 executive and senior managers from across most business functions), plus analysis of industry monitoring, 298 archival documents and a large number of ongoing email conversations between the researchers and the managers within the organizations.

Primary data were gathered from executive managers, with responsibility for vision and strategy and who were answerable to shareholders and influential stakeholders. Senior operational managers, who drove the organization's action-

producing processes were also interviewed and invited to workshops. We used semi-structured interviews and both formal and informal observations to collect the research data. Formal observations included workshops, which were designed to assess the managers' perceptions of their organizational fields, their sensitivity to discontinuous opportunities and threats and the types of organizational inertia that they faced. This was done by reviewing and discussing their current and pipeline innovation portfolio and considering whether or not changes were being planned and implemented in response to threats and opportunities. The workshops were often held at the organization and the researchers were given tours of the site to further explain the organizational context and product or service development processes. These tours also enabled informal conversations, where the researchers made notes afterwards of salient points raised which related to the research objectives. Secondary data were collected in the form of archival documents, which included internal reports such as business plans and market analyses, meeting minutes, internal memorandums, news reports and industry statistics.

## **Research process**

Each of our case studies offers an in-depth description and contextual examination of an instance or event surrounding each organization's new product or service development effort, or its process or business model innovation activities in response to a discontinuous threat or opportunity. In this paper, we report on the characteristics observed to be important to our three primary areas of attention (i) organizational field transparency (level of institutionalisation and multiplicity), (ii) threat and opportunity perception and (iii) resource and routine rigidities. Our synthesis of these observations has generated insights regarding the relationship that organizational field transparency

has with the capacity of managers to recognise discontinuous opportunities and threats and the organizational inertia that they are likely to face. Table 2 provides a summary of the measurement and assessment protocol.

Insert Table 2 about here

### **Data analysis process**

To better understand the interview and observational data collected, we coded and structured the data, enfolded relevant literature, conducted within and cross-case comparisons, elicited confirming and disconfirming information and generated a replication logic, as recommended by Eisenhardt (1986), Glaser and Strauss (1967), Miles and Huberman (1994) and Yin (2003). The documents were also coded and analysed to provide a cross-check with the interview data and to control for retrospective bias.

Two key forms of validity were employed: (1) communicative validity and (2) pragmatic validity (Sandberg, 2005). Consequently, the data sets were analysed by two researchers. The second researcher's coding results either directly replicated and confirmed the segmentations and clusters revealed by the primary researcher or they offered an initially disconfirming perspective that was used to refine or re-clarify the findings presented in this paper.

### **Findings**

This section presents our data analysis in two main parts. First, we summarise the patterns in our data at an aggregate level. Second, we address our analysis from the

perspective of each dominant form of organizational field transparency and, after offering an insight into the supporting data, we encapsulate our findings in formal propositions.

### **An aggregate analysis**

Following Dorado's (2005) classification of organizational fields as opaque, transparent or hazy, we assessed the managers' perceptions of the degree of institutionalisation and multiplicity in their institutional environments. The managerial experience of organizational field transparency varied significantly between the episodic cases. The aggregated data and cross-case comparisons revealed that organizational field transparency was directly related to a manager's sensitivity to both discontinuous threats and opportunities, and to the intensity of resource and routine rigidities that they faced within their organizations, as summarised in Table 3.

Insert Table 3 about here

The data analysis showed that of the 51 cases, seven experienced an opaque field, eleven cases had transparent fields, and there were nine cases where managers had a hazy experience of their organizational field. By studying the different patterns of discontinuous threat and opportunity perception and routine and resource rigidities, careful examination of the case data revealed two intermediate states. 13 of our cases were observed to experience their organizational as semi-opaque. Institutionalisation was moderate-to-high, as these organizations experienced a relatively stable organizational field, but displayed limited flexibility to change, as future actions were predominantly influenced by past experience. Multiplicity was observed to be

moderate-to-low, as although managers had a little exposure to conflicting institutional referents, these were not sufficient to overcome inertia. Conversely, 11 of our cases were observed to experience their organizational field as semi-hazy. In these cases, institutionalisation was moderate-to-low, where institutional conditions were quite flexible, but there was also evidence of convergence towards accepted practices, norms and values. Multiplicity was observed to be moderate-to-high, where managers reported exposure to numerous institutional referents, but predominantly described confusion rather than exploitable tensions. These intermediate states are further elaborated in the sections below.

From this data and analysis, Figure 2 was created to visually illustrate the relationships found between the three constructs used in this research and to show the two new fields (semi opaque and semi-hazy) which emerged from the detailed data analysis. The following section explains these insights in more depth. Each of the five organizational fields is discussed, using two exemplar cases from the research for each field, to provide evidence for the sensitivity to threats and opportunities and the level of organizational inertia.

### **The influence of an opaque organizational field**

Within the sample of 51 episodic cases, 7 cases were identified as having an opaque organizational field, with low multiplicity and high institutionalisation. The patterns in the case data, Table 3, suggest:

**Proposition 1:**

Organisation in which managers experience their organizational field as opaque will:

- (a) lack sensitivity to both discontinuous threats and discontinuous opportunities, and

(b) experience both resource rigidities and routine rigidities.

One exemplar case is Forward Finance Efficiency (Case Ref 24 in Table 1), a division of a world-leading finance organization that had for a number of years predominantly served the same types of customer using the same service offerings and underpinning processes and technologies in a slow-changing market. Managers maintained that their key focus should be driving efficiency within the business. As one interviewee stated:

*“Who do we interact with outside our customer base and trusted IT people? [Laughs]. Look, this sector’s focus has not changed for years. If we started talking to new people, word would get out, and our credibility might be questioned....unless there were efficiency gains to be made.”* [Customer Service Director].

**Threat and opportunity sensitivity.** Managers’ sensitivity to threats was low. The managers remained resolute that their industry and organization was under no serious threat. This was despite the emergence of internet-based organizations that were disrupting their low-end customers by providing cheaper and simpler offerings and despite falling rates of returns from investments into continuous improvements. The Marketing Director commented:

*“I accept that there might now be some people who are reckless enough to put up with a poor product and no service...but these people are not people we want. As for generating some returns from our investments, we just have to educate the customer.”*

The managers’ perceptions of opportunities were also low, their attention focused on improving their existing service rather than on identifying new opportunities:

*“The key opportunity for growth in our sector is to offer the best possible customer experience, whilst delivering the most efficient service. Everyone here knows that.”* [Call Center Director].

**Resource and routine rigidity.** Resource rigidity was high and the organizations were not willing to change their resource investment patterns. They remained focused on investing in their existing offerings:

*“We have a system that collects information from our most profitable customers. When it flags up an idea for improving our service, then we work hard to put it into action ASAP [as soon as possible]. Then everyone benefits.”* [Marketing Director].

Routine rigidity was also high and existing organizational processes were not changed. Routine rigidity is exemplified by a quote from their Call Center Director:

*“One of our new graduates suggested that we over-serve our customers. She said that we’ve made them more demanding. I told her ‘Look, we’re the best at what we do, we’ve done it this way for years. That’s how we retain our customers.’ I couldn’t believe we’d hired this girl. She’ll learn!”*

## **The influence of a semi-opaque organizational field**

Within the sample of 51 episodic cases, 13 cases were identified as having a semi-opaque organizational field. The patterns in the case data, Table 3, suggest:

### **Proposition 2:**

Organisation in which managers experience their organizational field as semi-opaque will:

- (a) be sensitive to discontinuous threats but lack sensitivity to discontinuous opportunities, and
- (b) will overcome resource rigidities but will experience routine rigidities.

An exemplar cases is SemiCon (Case Ref 39 in Table 1), a specialist manufacturer of semiconductor and computer testing equipment. The organization had entered the market with a breakthrough new technology and process several years before the commencement of our research. SemiCon had developed a reputation for rapid and continuous product improvement. Despite its explorative and opportunistic origins, it had become predominantly focused on exploiting its existing products. However, its managers could not be classified as perceiving a wholly opaque field as they did have some exposure to conflicting institutional referents, but these were not sufficient to spark creative tension.

“Our industry does not stand still for long. What delighted the customer yesterday is expected today, and tomorrow they want it at half the cost. So we know that we have to stay on top of the latest developments *and we’ve got an established network* to help us with that. It stops us becoming too fixed on what we do.” [Chief Technology Officer].

**Threat and opportunity sensitivity.** Unlike in fully opaque fields, Managers’ sensitivity to threats was high. SemiCon had maintained a near monopoly for their Product S2. However, they were aware of the technological advances being made in Taiwan and the potential threat that this posed to their business.

However, just as for the managers in fully opaque fields, managers’ sensitivity to opportunities was low. For SemiCon, they had rejected a proposal to open a Taiwanese production site for Product S2 two and a half years earlier. Faced with inevitable competition, they then had no choice eventually but to begin operations there. The

Marketing Director said:

*“Let’s be honest, we could have taken Product S2 to Taiwan at least two years ago, invested to protect the intellectual property and benefited from significantly lower production costs for all that time. In short, we were just too scared. We’re not good at seeing the up-side of big change.”*

**Resource and routine rigidity.** Unlike in the fully opaque field, resource rigidity was low and the organization were more flexible to change their resource investment patterns. SemiCon eventually invested resources in Taiwan, although other parts of the organization were still relatively rigid:

*“We’ve invested loads of money into Project S1. And of course, we wouldn’t have been able to do that at this site. There’s too much resistance to the new technology. I’m just worried about when it becomes fully feasible and has to come over here.”* [Program Manager].

Routine rigidity was high, as in the fully opaque field. They were inflexible towards changing existing organizational processes. A Senior Technologist at SemiCon said:

*“Yeah...we keep up with stuff that lets us squeeze improvements out of our products, but if you asked anyone to significantly change the way they work, you might have to wait for hell to freeze over...”*

### **The influence of a transparent organizational field**

Within the sample of 51 episodic cases, 11 cases were identified as having a transparent organizational field, with moderate multiplicity and institutionalisation. The patterns in the case data, Table 3, suggest:

<b>Proposition 3:</b>
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Organisation in which managers experience their organizational field as transparent will:

- (a) be sensitive to both discontinuous threats and discontinuous opportunities, and
- (b) overcome both resource rigidities or routine rigidities.

An illustrative case is Test&Measure (Case Ref 45 in Table 1), a leading manufacturer of testing and measuring equipment, which was established by a group of engineers. The Deputy Managing Director summarised the organization's approach as:

“Basically, we focus on what adds value to our customers – current and potential – and we outsource everything else. *Once we've developed a product that becomes good enough, we look for a way to get it out, or to make it cheaper. All this means this firm is constantly changing. We network like crazy and spend a lot of time talking to familiar and unfamiliar markets. Everyone loves it here. We're all constantly learning.*”

**Threat and opportunity sensitivity.** Managers' sensitivity to threats was high. They saw threats and realised they needed to respond to them:

“We realised a while ago that the sophisticated piece of kit [Product K1] that we sell to the environmental agencies could be dumbed-down and used by mechanics. So, we build a new, simpler device and realised that with a few improvements it could eventually replace [Product K1], so we set to work. *If we don't do it, someone else will jump on this.*” [Deputy Managing Director].

The managers' perception of opportunities was also high, being very open to new opportunities and ideas from within and outside their organization. One example of this was cited by the Deputy Managing Director:

“After I saw this PhD student deliver his presentation, I thought what a great opportunity! So I brought him in to meet the team. He now works for us and we share

the intellectual property with his university bosses. It makes sense to join forces, especially as this was an unchartered market for us. Actually, lots of our chaps joined *us this way.*”

**Resource and routine rigidity.** Resource rigidity was low with a willingness to change their resource investment patterns. Deputy Managing Director said:

“We have a cool way of allocating resources. It allows us to radically improve *what we’re already doing and encourages us to explore new ideas at the same time.....the people who invest in us like the system so much that they see their investment as a long term thing. They know there’s an element of risk. That’s why the ‘good enough’ principle is useful.*”

Routine rigidity was also low. The managers were flexible to change existing organizational processes and routines. A Senior Engineer at Test&Measure said:

“Everyone here accepts that each product we come up with and every bit of technology and knowledge we use has a limited lifespan. When you accept that, change *becomes the norm...If you can automate it, or engineer it out, then you can free up people’s time to do something new and even more interesting.*”

### **The influence of a semi-hazy organizational field**

Within the sample of 51 episodic cases, 11 cases were identified as having a semi-hazy organizational field. The patterns in the case data, Table 3, suggest:

**Proposition 4:**

Organisation in which managers experience their organizational field as semi-hazy will:

- (a) lack sensitivity to discontinuous threats but be sensitive to discontinuous opportunities, and
- (b) will experience resource rigidities but will overcome routine rigidities.

An illustrate case is AeroSoft Sense-maker (Case Ref 8 in Table 1) , a software division of an avionics firm, who was beginning to make sense of complex information by normalising relatively high levels of multiplicity and integrating new innovation processes into the organization.

*“Since we set up this new innovation process, we’ve stopped talking about new developments to just anyone. Now we make sure we talk to the right people. We’ve put some really useful new processes in place to help give shape to new ideas and to make selection easier. I just wish that ‘upstairs’ would be more prepared to accept what we say and give us more resources.”* [Head of Innovation Team].

**Threat and opportunity sensitivity.** Managers’ sensitivity to threats was low. A multitude of conflicting referents combined with relatively low levels of institutionalisation left them blinded to threats closer to home. AeroSoft Sense-maker was suffering from diminishing rates of return on two existing products, despite investing in continuous improvement and innovation for them. The innovation team made a case to the executive team to invest in a new offering at the low end of their market instead, but the executive team remained unconvinced of their argument to do so. Later that year, a new organization entered with a product that did target that low end of the market.

Yet managers’ sensitivity to opportunities was high, typified by managers with an acute awareness of discontinuous opportunities, especially those in less familiar markets. This was exemplified by a quote from their Senior Technologist:

*“Then we discovered that our skills would offer them [a new potential customer] the very solution they needed and at a much lower cost than they’d ever paid. So, over*

lunch the other day, I held a project scoping meeting. Everyone there could see it would work. It was a no-brainer.....*We keep finding these sorts of opportunities these days.*”

**Resource and routine rigidity.** Within both cases, resource rigidity was high and the organizations were unable to change their resource investment patterns towards more discontinuous innovations. They were more focused on investing in improving their existing products. The technologists could see plenty of new opportunities for the organization to develop new discontinuous innovations, but they struggled to secure resources for them. A finance executive summed up the executive position on this:

*“You need vision to spot the next breakthroughs and believe me, we have our eyes wide open. But you can’t build a business on dreams and speculation. It’s better to invest where you can clearly measure a return on investment with a recognisable customer base than to probe in the dark.”*

Yet routine rigidity was low, and managers challenged and changed existing routines, sometimes illicitly. For example the head of the Divisional Innovation Team said:

*“I’m encouraging my guys to break the rules if they need to. Although I’m still finding it difficult to get approval for funds, especially for ideas that could cannibalise our existing business.”*

### **The influence of a hazy organizational field**

Within the sample of 51 episodic cases, 9 cases were identified as having a hazy organizational field, with high multiplicity and low institutionalisation. The patterns in the case data, Table 3, suggest:

**Proposition 2:**

Organisation in which managers experience their organizational field as hazy will:

- (a) be insensitive to both discontinuous threats and discontinuous opportunities, and
- (b) will experience both resource rigidities and routine rigidities.

An exemplar is Exposed Plastics (Case Ref 18 in Table 1). Exposed Plastics, was suffering from information overload. Executive managers were exposing themselves to new and unfamiliar networks to try to identify new revenue streams. However, the combination of an abundance of new information with dominant modes of working created high levels of uncertainty at the top of the organization, which subsequently affected the slower levels:

*“We’ve been focused on looking around the world for new opportunities. But there’s so much information and so many areas where we could contribute that it’s hard to know where to start. We spend more time than ever.....trying to make sense of unfamiliar markets. Sure, it’s exciting, but how do you know where to make the gamble? Risk is a major issue right now!”* [General Manager].

**Threat and opportunity sensitivity.** Managers’ sensitivity to threats was low. For example, they were planning to introduce radically new functionality to their top-end product, despite indications that this product was already oversupplying customers’ performance demands. Paralysed by too much information from their networks, they could not identify the most pertinent threats to their business. Instead of reacting to the threats, they were investing in projects that fitted more closely with their existing routines and processes.

Managers’ perceptions of opportunities were also low. The executive management team’s hazy view of their organizational field meant that discontinuous opportunities were rejected because they did not have large volume projections, and the organization

was used to operating in much larger markets. A series of potentially discontinuous innovation projects were suspended because the executive team feared that they would take resources away from other ‘less risky’ projects.

**Resource and routine rigidity.** Resource rigidity was high and the organizations were not willing to change their resource investment patterns. The uncertainty meant they continued to invest in existing products:

*“Right now we’ve got a great idea to radically enhance our core product. As we don’t yet know what other opportunities that new markets will offer, I’ve decided to run with it.”*

Routine rigidity was also high. The organizations could not change existing organizational processes and routines. The Head of Sales said:

*“We kick started [Project A2] off the back of some conversations within the wine industry. But the early market is too small compared to what we’re used to. I think we could make more money elsewhere. We need more time, better processes and better tools to make sense of our options.”*

## **Discussion and Conclusion**

This paper set out to explore how some organizations can engage in discontinuous innovation despite constraints imposed by organizational inertia and institutional rigidity. Specifically, we elaborate a link between the way in which an organization’s managers perceive their institutional environment, their perceptions of opportunities and threats to discontinuous change, and the organization’s ability to overcome resource and routine rigidities.

### **Resource and routine rigidities**

In his 2005 article, Gilbert distinguished two forms of organizational inertia in the context of discontinuous innovation: resource rigidities, or the failure to change resource investment patterns and routine rigidities, or the failure to change the organizational processes that use those resource investments. He suggested that a high level of perceived threat acts to lower resource rigidities, but reinforces routine rigidities. He also proposed that ‘opportunity framing’ can help to overcome routine rigidities. In doing so, he reconciled seemingly contradictory evidence from earlier studies that. Some previous studies had suggested that the perception of a discontinuous threat can motivate change (e.g., Huff et al., 1992; Lant et al., 1992; Barr and Huff, 1997), while others claimed that when faced with the perception of a discontinuous threat, incumbent organizations often fail to react (e.g., Leonard–Barton 1992, Dutton and Jackson, 1987; Staw et al., 1981; Christensen and Bower, 1996; Tushman and O’Reilly, 1996).

Our findings both corroborate and extend Gilbert’s (2005) ideas. First, our study provides important empirical evidence that supports the notions of resource and routine rigidities, and their relationship to both threat and opportunity perceptions. Our observation of 13 cases that experience semi-transparent organizational fields is that they also exhibit high threat sensitivity and low opportunity sensitivity, similar to the majority of newspaper organizations in Gilbert’s study. Experiencing high threat sensitivity, 12 of the 13 cases overcame resource rigidities and invested in innovation, but all 13 cases continued to exhibit inertia through high routine rigidity. Likewise, our seven cases that experience opaque organizational fields correspond to Gilbert’s observations of his newspaper firms at earlier time periods. In the absence of either clear threat or clear opportunity perceptions, organizations are content with the status-

quo and exhibit both resource and routine rigidities.

Our findings also provide empirical support for Gilbert's proposition that "opportunity framing" can act to overcome routine rigidity. Our 11 cases that experience transparent organizational fields have a strong perception of threat, but also clearly perceive opportunity. All 11 of these cases overcame inertia and both invested in new opportunities, and adjusted routines to accommodate these opportunities. Thus we corroborate Gilbert's core empirical findings, and importantly show that his ideas appear to be generalisable beyond the context of the newspaper industry.

However, our empirical evidence did not support Gilbert's proposition that structurally separating the innovation activity as a new venture unit was necessarily required to overcome routine rigidities. Our observations included some organizations that did create structural separation, but also many that did not. Understanding the organizational characteristics that tend to require structural differentiation to overcome routine rigidity, and those that do not, provides an interesting opportunity for future research.

### **Elaborating conditions of resource and routine rigidities**

Our emergent findings and propositions also extend the ideas of Gilbert (2005) in two ways. First, our 11 case examples that experience semi-hazy organizational fields, and 6 cases that experience hazy organizational fields, extend beyond the theoretical and empirical context of Gilbert. As such, we suggest a boundary condition for Gilbert's ideas.

In semi-hazy organizational fields, we propose that managers become highly aware of discontinuous opportunities, but are blinded from discontinuous threats. Whilst they are able to tackle routine rigidities, especially for clandestine new market

explorations, resource rigidities maintain the inertia of the organization. We also propose that managers who experience organizational fields described as opaque and hazy are unlikely to have much sensitivity to discontinuous opportunities and threats.

Second, by linking managerial perceptions of threats and opportunities to discontinuous innovation to perceptions of organizational field transparency, we serve to increase understanding of the conditions that lead to inertia to discontinuous change – both resource and routine rigidities. Our propositions suggest that an organization's institutional environment is instrumental in determining managerial perceptions of threats and opportunities, and consequently different forms of organizational inertia. As such, we also provide a theoretical link between research that focuses on institutional change and organizational inertia research.

### **Organizational field transparency**

In her 2005 article, Dorado introduces the concept of organizational field transparency to opportunities for institutional change. Our study provides, to the best of our knowledge, the first empirical support for some of the core theoretical ideas espoused by Dorado. In particular, we observe that as levels of institutionalisation and multiplicity in the organizational field varies, so does the transparency of the organizational field to perceptions of opportunities for engaging in discontinuous innovation. Moreover, consistent with Dorado's propositions, we observed low opportunity sensitivity for all 7 cases experiencing opaque organizational field transparency, high opportunity sensitivity for all 11 cases experiencing transparent organizational field transparency and low opportunity sensitivity for 8 of our 9 cases experiencing hazy organizational field transparency.

We acknowledge that the focal opportunity perception in our work – the

opportunity for an organization to pursue discontinuous innovation – is not the same as that of Dorado who is concerned with the opportunity for agency to bring about institutional change. However, the organization's decision to pursue discontinuous innovation is clearly made within its institutional context. Discontinuous innovations by their very nature are incompatible with existing institutional logics, violating institutional expectations with regard to product, technology and/or market developments (Christensen, 2003; Dougherty and Heller 1994; Aldrich and Fiol, 1994). Indeed, a recent study by van Dijk et al. (2011) has investigated the legitimising behaviours of organizations engaged in radical innovation. Hence, perceptions of opportunity to pursue discontinuous innovation can be regarded as a sub-component of the opportunity to engage in this kind of institutional change.

### **Elaborating the concept of organizational field transparency**

Our emergent findings and propositions also extend the ideas of Dorado (2005) in two ways. First, while Dorado focused only on perceived opportunities for institutional change, our case examinations revealed that it is critical to consider perceived threats to discontinuous change in addition to perceived opportunities. We discerned threat and opportunity perceptions as quite distinct constructs and observed that the degree of threat to discontinuous change perceived by managers was markedly different to that of opportunity perceptions in 23 of our 51 cases.

It remains somewhat of an open question whether the critical role of perceptions of threats is specific to the context of discontinuous change, or whether threat perceptions might be relevant more generally to better understand the phenomena of institutional change. Threats from discontinuous change are quite different in character to other forms of institutional change. None-the-less, impending institutional change can

be quite threatening for organizations. It is an interesting avenue for future research to explore whether perceptions of threat of institutional change may act as a catalyst for agency differently from perceptions of opportunities.

Second, whereas Dorado (2005) proposed three regimes of organizational field transparency, our emergent findings suggest two additional regimes. Dorado suggests that the degree of multiplicity and the level of institutionalisation of the organizational field determines an actor's organizational field transparency to opportunity for institutional change. She argues that a highly institutional field is opaque to opportunity for institutional change, a moderately institutional field becomes transparent to such opportunity, but that an organizational field with low levels of institutionalisation becomes hazy to such opportunity.

Our case analyses revealed that these three regimes of organizational field transparency were insufficient to fully explain our observed patterns of opportunity and threat perceptions. Careful examination of the case data revealed two intermediate states. 13 of our cases were observed to experience their organizational as semi-opaque. Conversely, 11 of our cases were observed to experience their organizational field as semi-hazy.

These finer-grained regimes might also be useful for understanding the broader phenomena of institutional change beyond discontinuous change. In our observations, these intermediate fields were instrumental for identifying conditions where there was a divergence between perceptions of threats and opportunities for discontinuous change, and a corresponding divergence between routine and resource rigidities. For organisations facing semi-opaque fields, institutionalisation was moderate-to-high, as these organizations experienced a relatively stable organizational field, but displayed

limited flexibility to change, as future actions were predominantly influenced by past experience. Multiplicity was observed to be moderate-to-low, as although managers had a little exposure to conflicting institutional referents, these were not sufficient to enable discontinuous innovations. In these cases facing a rather closed and stable organisational field, managers perceived a strong threat from discontinuous change, but did not identify clear opportunities to pursue discontinuous change.

Conversely, for organisations facing semi-hazy fields, institutionalisation was moderate-to-low, where institutional conditions were quite flexible, but there was also evidence of convergence towards accepted practices, norms and values. Multiplicity was observed to be moderate-to-high, where managers reported exposure to numerous institutional referents, but predominantly described confusion rather than exploitable tensions. For these organisations facing a fairly fluid organizational field, managers could envisage opportunities to pursue discontinuous change, but did not identify clear opportunities. However, as noted above, threats from discontinuous change are quite different in character to other forms of institutional change. Consequently, future research is needed to establish whether these intermediate regimes of organizational field transparency are relevant for other forms of institutional change.

### **Concluding comments**

In conclusion, our investigation of 51 episodic case studies revealed distinct patterns linking organizational field transparency, managerial perceptions of threats and opportunities for discontinuous change and consequently routine and resource rigidities. As such, we extend previous research into institutional theory and discontinuous innovation. In so doing, we show that organizations which experience their organizational fields as transparent tend to display managerial sensitivity to both

opportunities and threats of discontinuous change that in turn combine to create the right conditions to overcome both routine and resource rigidities.

It remains an open question whether organisations are able to manipulate their organisational fields to create “transparent conditions”. In our case investigations, we saw a few examples that suggested such behaviour may be possible. For example, one firm engaged in a systematic process of idea gathering and evaluation that acted to challenge the status quo and reduce managerial perceptions of institutionalisation. Another firm engaged in an active process to extend their inter-organisational networks and thereby increasing multiplicity. In still another firms, our observations revealed that some managers simply became more capable of dealing with, and assimilating, conflicting and diverse information. As a consequence, organizational fields that were perceived by managers as semi-hazy at one point in time, were later be perceived as transparent. An organization’s ability to manipulate their manager’s perceptions of organisational field transparency, and how organisational field transparency might change over time, remain interesting questions for future enquiry.

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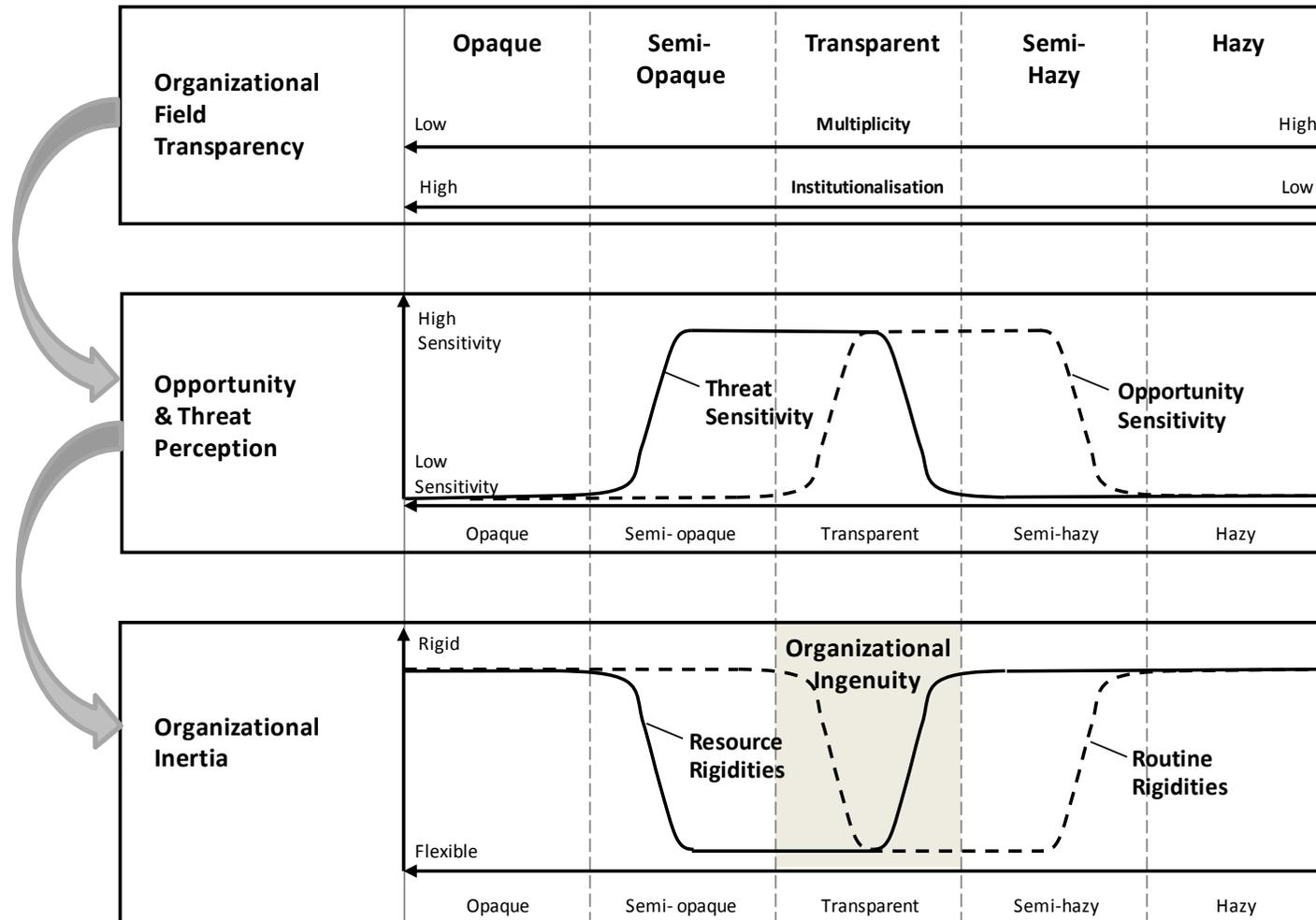
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**Figure 1: Model Overview**



**Figure 2: An Interpretative Model of Organizational Inertia in Response to Organizational Field Transparency**



**Table 1: Sources of Data**

Ref	Case Code Name	Sector	No. of Interviews	No. of persons interviewed	Workshops No.	Workshops approx. hours	No. of persons at workshops	No. of site visits	Approx. hours of field work
1	Traditional AeroTech	Aeronautics & Military Comms							
2	Exposed AeroTech	Aeronautics & Military Comms							
3	Sense-Making AeroTech	Aeronautics & Military Comms							
4	Aware AeroTech	Aeronautics & Military Comms							
5	Bound AeroTech	Aeronautics & Military Comms							
6	Traditional AeroLever	High-Tech Transfer							
7	Exposed AeroLever	High-Tech Transfer							
8	AeroSoft Sense-Maker	High-Tech Transfer	10	6	9	198	83	5	293
9	Aware AeroLever	High-Tech Transfer							
10	Bound AeroLever	High-Tech Transfer							
11	XBound AeroSoft	Software (primarily aeronautics)							
12	Bound AeroSoft	Software (primarily aeronautics)							
13	Exposed AeroSoft	Software (primarily aeronautics)							
14	Sense-Making AeroLever	Software (primarily aeronautics)							
15	Aware AeroSoft	Software (primarily aeronautics)							
16	Rigid Plastics	Plastics Moulding							
17	Plastic Threats	Plastics Moulding							
18	Exposed Plastics	Plastics Moulding	10	5	8	176	6	10	261
19	Plastic Sense	Plastics Moulding							
20	Clear Plastics	Plastics Moulding							
21	Finance Tomorrow Center	General Finance							
22	Finance Future Center	General Finance							
23	Finance Dependent Center	General Finance							
24	Forward Finance Efficiency	Primarily Insurance							
25	Forward Finance Scared	Primarily Insurance	4	7	6	132	11	3	177
26	Forward Finance Blinded	Primarily Insurance							
27	Deliver Intellect	Finance and IP Consulting							
28	Dependent Intellect	Finance and IP Consulting							
29	Independent Intellect	Finance and IP Consulting							
30	DesignOverload	Design Consulting							
31	DesignOpp	Design Consulting	6	6	8	176	4	8	238
32	OpenDesign	Design Consulting							
33	MobiComFutures	Telecoms	2	2	0	0	0	2	8
34	MediaCo	Marketing and Media	2	1	1	4	3	1	8
35	DesignCo	Design Consulting	1	1	0	0	0	2	4
36	ChangeMgt	Management Consulting	2	2	2	6	2	1	13
37	SpaceTech	Tech Transfer (from Aero-Space)	2	1	0	0	0	1	9
38	ComPrint	Computer Printer Manufacturer	2	1	4	5	2	0	8
39	SemiCon	Semi-Conductors	1	1	1	4	1	0	6
40	GlobalIT	Global IT solutions	8	4	8	64	6	4	116
41	InnoAdvice	Specialist Innovation Consultancy	4	2	8	64	2	1	77
42	KidzStuff	Toys, lights, clocks and dinner ware for children	1	1	1	5	6	0	7
43	ComEduData	IT Support / ICT for Schools / Data Services	1	1	1	5	6	0	7
44	Account	Chartered Accountants and Auditors	1	1	1	5	6	0	7
45	Test&Measure	Portable test and measurement equipment	1	1	1	5	6	0	7
46	NewMuse	Music instrument and products	2	1	1	2	3	0	6
47	NanoNew	Nano-technology	1	1	1	5	6	0	7
48	I.Consult	Innovation Consulting	1	1	1	5	6	0	7
49	BiotechNew	Bio-technology	1	3	0	0	0	0	5
50	Nuts&Bolts	Components for the auto sector	4	1	0	0	0	0	6
51	Manutech	Manufacturing Advice and Subcontracting	2	2	1	4	3	1	11
TOTALS			69	52	63	865	162	39	1,284

Plus industry monitoring, 298 archival documents and email conversations

**Table 2: Case Assessment Protocol**

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**Operationalising an assessment organizational field transparency:**

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To assess the dominant managerial experience of organizational field transparency in each case, we measured managerial perception of institutionalisation and multiplicity.

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**Measuring institutionalisation**

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We borrowed from Zucker (1977), Hannan and Freeman (1989), DiMaggio and Powell (1983) and Oliver (1991) when operationalising our assessments of each case study's degree of institutionalisation.

To assess the degree of institutionalisation as HIGH, the following four specific conditions would need to be observed. Firstly, managers would report, or we would observe, that no questions arise in the minds of the actors involved about whether embedded approaches are the natural way to effect some kind of collective action (Hannan and Freeman 1989; Oliver, 1991). Secondly, there would be a high degree of conformity regarding cultural understandings (DiMaggio and Powell, 1983). Thirdly, we would witness the maintenance of status quo without direct social control (Zucker, 1977). And finally, the case would demonstrate strong resistance to change (Zucker, 1977).

If the actors involved experience none of these features, then they encounter the opposite condition: a LOW degree of institutionalisation.

A MODERATE degree of institutionalisation would exist when there is convergence around accepted practices, norms and values, but enough flexibility to engage in change should managers see fit.

As the analysis proceeded, two new categories were identified:

A MODERATE to HIGH degree of institutionalisation was attributed to a relatively stable organizational field but with limited flexibility to change, as future action is predominantly influenced by past experience.

A MODERATE to LOW degree of institutionalisation occurs where there are quite fluid and flexible conditions, but also some convergence towards accepted practices, norms and values.

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**Measuring multiplicity**

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When operationalising our assessments of multiplicity we monitored two specific conditions: (1) the extent to which managers were tightly coupled to their organizational field and insulated from ideas practiced in other sectors and (2) the extent to which managers were uncoupled from their recognised area of institutional life and exposed to and receptive of the routines, customs and resources of other fields (Greenwood and Hinings 1996: 1023; Whittington 1992; Seo and Creed, 2002).

Multiplicity was recorded as LOW when managers reported that they were highly isolated.

A MODERATE level of multiplicity was recorded where managers reported several institutional referents and described exploitable tension between conflicting institutional structures.

Assessments of HIGH levels of multiplicity were assigned to reports of high levels of interaction with institutional referents that generated exposure to complexity-driven uncertainty.

As the analysis proceeded, two new categories were identified:

A MODERATE to LOW level of multiplicity was recorded where managers reported experiencing a little exposure to conflicting institutional referents but not enough to spark creative tension.

Multiplicity was recorded as MODERATE to HIGH where managers reported exposure to numerous institutional referents, but described confusion, rather than exploitable tensions, surrounding conflicting institutional structures.

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### **Discontinuous opportunities and threats**

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Without sight of an end result, a statement of outcome resulting from a potential or missed threat or opportunity would be speculative at best. Therefore we report on the analysis of cases of discontinuous threats and/or opportunities from which statements of outcome could be made at the time of writing of this paper.

Four main types of discontinuous opportunities and threats were therefore analysed: (1) products owned by the case study sites that were impacted by missed opportunities/threats, (2) initiatives with discontinuous potential that were identified then terminated or frozen, (3) live projects that were addressing potentially discontinuous threats or opportunities and (4) opportunities with discontinuous potential that were missed or overlooked by the cases.

### **Sensitivity to discontinuous opportunities and threats**

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Sensitivity to discontinuous threats was recorded as such when participants referred to the negative effect of market changes, new market entrants or new technologies within their organizational fields. Thus, examples of threat perception formed three clusters: they were observed as expressions or activities that generated a focus on the potential loss of revenues, market share or loss of influence over the status quo.

Similarly, sensitivity to discontinuous opportunities was recorded as such when participants referred to the positive effect of market changes, new technologies or the potential to introduce new market entrants within their organizational field. Thus, examples of opportunity perception formed two clusters: they were observed as expressions or activities that generated a focus on the potential of new revenue streams or new mechanisms to influence markets.

### **Resource and routine rigidities**

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Like Gilbert (2005), we contend that resource rigidities are the failure to change resource investment patterns. Thus, when observing our cases, evidence of financial or attention-based resource commitment to address discontinuous opportunities or threats was interpreted to represent low levels of resource rigidity. Moreover, evidence of a failure to commit financial or attention-based resources was interpreted to represent high levels of resource rigidity.

Likewise, we contend that routine rigidities are the failure to change the organizational processes that use resource investments. Thus, when observing our cases, evidence of a change in dominant logic or a change in an embedded operating routine to address discontinuous opportunities or threats was interpreted to represent low levels of routine rigidity. Moreover, evidence of a failure to change dominant logic or embedded operating routines in the face of discontinuous opportunities and threats were interpreted to represent high levels of routine rigidity.

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**Table 3: Classification of Cases**

		Organizational Field Transparency				
		Opaque	Semi-transparent	Transparent	Semi-hazy	Hazy
<b>Number of Cases</b>		7	13	11	11	9
<b>Threat Sensitivity</b>	<b>High</b>	1	13	11	0	0
	<b>Low</b>	6	0	0	11	8
<b>Opportunity Sensitivity</b>	<b>High</b>	0	0	11	11	1
	<b>Low</b>	7	13	0	0	8
<b>Resource Rigidities</b>	<b>Low</b>	0	12	11	0	0
	<b>High</b>	7	1	0	11	9
<b>Routine Rigidities</b>	<b>Low</b>	0	0	11	11	3
	<b>High</b>	7	13	0	0	6