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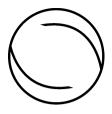
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Abstract

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Henk W. Volberda RSM Erasmus University, The Netherlands Many product innovation studies have described key determinants that should lead to successful incremental product innovation. Despite numerous studies suggesting how incremental product innovation should be successfully undertaken, many firms still struggle with this type of innovation. In this paper, we use an institutional perspective to investigate why established firms in the financial services industry struggle with their complex incremental product innovation efforts. We argue that although the impact of micro institutional forces is often overlooked in innovation studies, these forces matter for innovation success. Our study complements the existing innovation literature and provides an additional explanation why incremental product innovation is highly complex and suffers from several liabilities in established firms. Using qualitative data from the Dutch financial services sector collected over the period 1997–2002, the paper illustrates how micro institutional forces at the business unit level affect complex incremental product innovation and how the interaction of these forces delivers their impact.

Keywords: complex incremental product innovation, neo-institutional theory, micro institutional forces, financial services sector

Introduction

Developing new products and services on a regular basis is one of the key activities for many organizations. New products are a means to gain market share and ensure the viability of companies. They have been referred to as the crucial sources for competitive advantage (Tushman et al. 1997). This is also the case for incremental product innovations. Incremental product innovations are not radically different from the current product portfolio, but are often refinements and extensions of existing products of a company and seem to involve, primarily, exploitation-oriented activities (cf. March 1991). Incremental product innovation is, therefore, a critically important competitive factor in established industries (Banbury and Mitchell 1995) and focuses on leveraging a firm's existing resources and capabilities (Henderson and Clark 1990; Leonard 1998).

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Incremental product innovation is typically implemented within the organization, using existing organizational arrangements. Nonetheless, empirical evidence suggests that many firms seem to struggle with this type of innovation, which often results in diminished company performance and lengthened development times (Banbury and Mitchell 1995; Song and Montoya-Weiss 1998). Past research on product innovation in both manufacturing and service industries has focused on key determinants that lead to successful product innovation. This large body of literature has examined the development process, what models could support the development process and what key factors separate winners from losers (Cooper and Kleinschmidt 1986; Cooper 1984, 1999; Cooper et al. 1994, 2002). Additionally, important organizational issues such as working with and listening to lead users (Von Hippel 1986; Leonard 1998); involvement and cooperation of multiple functions during the development process (Moenaert and Souder 1990; Dougherty 1992); use of flexible organizational structures and cross-functional teams (Souder 1987; Thwaites 1992; Volberda, 1996, 1998) and a close fit between the firms' strategy and resources (Crawford 1994) have all been cited as contributing to the success of incremental product innovation.

Despite the value of these studies, the problems that firms are confronted with when engaging in this type of innovation seem persistent (e.g. Adams et al. 1998; Tidd and Bodley 2002). We do not suggest that firms never successfully develop new products. On the contrary, there are many examples of firms that do succeed in developing new products. Often, such projects are managed as 'mindful deviations', exciting enough to gain support, but they do not deviate from current practices to create illegitimacy (Garud and Karnfe 2001). We suggest that *intraorganizational* institutional forces have a strong impact on organizations (cf. Elsbach 2002), which may cause some parts of the organizational system to struggle more with incremental product innovation than others. Pfeffer and Sutton (2000) argued that divisions develop their own institutional norms and rules. The identification with such institutional norms and rules at the level of divisions or business-units can lead to the use of distinct organizational practices. This may imply significant differences in performance across organizational units.

In this paper, we take an institutional perspective to illustrate how intraorganizational institutional forces affect the development and implementation of incremental product innovation. We focus specifically on institutional forces at business-unit level and demonstrate how such micro-level forces may lead to the development of distinctive practices regarding innovative behaviour within the same firm. We acknowledge that institutional forces at other levels (organization or field) may also affect the development and implementation of new products, yet these are beyond the scope of our study.

Institutional Theory

Institutional theory has developed prominently within the field of organizational analysis and is often viewed as a break from rational-actor models (see Zucker 1991; Scott 1987). Conforming to institutional rules may even conflict with organizational efficiency criteria (Meyer and Rowan 1977). Institutionalized

organizational behaviour is seen as being based on ideas, values, norms and beliefs embedded in the institutional environment. Oliver (1992) speaks of a 'force of habit' that alongside an organization's history and tradition creates a certain degree of value congruence among its members. Institutions guide individual actions in a specific direction, due to the predefined patterns of which the institution is constructed, and therefore constrain and enable individual behaviour. The concept of legitimacy has been a focal point of study in institutional theory and refers to the degree of cultural support that an organization receives when adhering to demands and expectations from the institutional environment. Organizations incorporating legitimated elements maximize social acceptance and increase their capabilities for survival (Meyer and Rowan 1977). In other words, for something to be considered legitimate it has to conform to accepted rules, procedures, expectations and frames of reference at the next highest level. This means that employees' actions should be legitimate at the firm level, whereas firms acquire their legitimacy from the field and societal level (Holm 1995).

In line with Greenwood and Hinings (1996), this paper assumes that important institutional drivers or inhibitors of innovation can be found within organizations. Intraorganizational or micro-level institutional forces may provide strong explanations for the continued struggle of incumbent firms with incremental product innovation. Following Scott (2001), three types of institutional forces are distinguished: regulative, normative, and cultural-cognitive.

Micro Regulative Forces

Organizational structures and procedures are among the most frequently studied institutional elements (Scott 1987). Many formal authority structures have defined clearly specified procedures to be followed, as well as associating penalties in the case of failure (March et al. 2000). In his case study in Canadian mining, Wicks (2001) clearly portrayed organizational structures as 'organizationally-imposed' rules controlling the behaviour of employees. Elsbach (2002) argued that organizational procedures dictate the behaviour of organizational members. Regulative forces have been associated with obtaining compliance with the field in which they are embedded and the pursuit of self-interest. North (1990) stresses the use of rules and enforcement mechanisms enabling this compliance. When these rules are violated, punishment is administered. Formal structures and procedures and organizational systems therefore prohibit and enable individual behaviour. Incremental innovations seem to benefit from structures and procedures that are familiar to organizational members (Ettlie et al. 1984). These innovations are typically consistent with the prevailing organizational archetypes (Greenwood and Hinings 1993), which suggests that developing and implementing them will be considered legitimate and should not be too problematic.

Micro Normative Forces

Normative forces introduce a prescriptive, evaluative and obligatory dimension into social life, reflecting the values (what is preferred) and norms (how things should be done) of the social system (Scott 2001). People in specific organizational

roles are expected to fulfil certain social obligations (March and Olsen 1989). In the Westray mine example, Wicks (2001) showed that the underground miners fulfilled at least two roles: organizational roles and non-work roles. In the organizational roles, certain ideas about how to act as a miner were stressed whereas, in non-work roles, their families expected them to behave differently. Appropriate behaviour reflects the normal way in which people do what they are supposed to do and is based on behaviour that is expected and valued by other actors (March and Olsen 1989: 21). These expectations are often perceived as external pressures to which one must conform. In the financial sector, consistent performance at a high level, and processing competency, are highly valued. Raising uncertainties or increasing risks is not consistent with the ruling values and norms and is therefore most likely to be avoided. However, since incremental innovation is of an evolutionary nature, only a limited number of uncertainties are involved and firms are likely to engage in such innovation.

Micro Cultural-Cognitive Forces

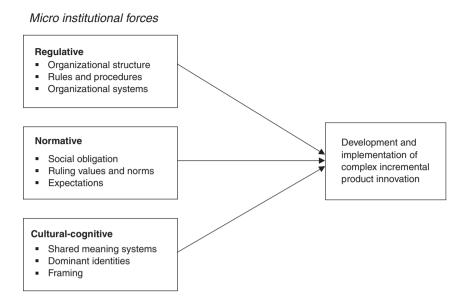
Cultural-cognitive forces include shared systems of meaning that arise in processes of interaction between organizational members (Berger and Luckmann 1967; Scott 2001). Eventually, these systems are taken for granted by individual actors because humans tend to habitualize their actions. By repeating actions, these become patterns that can be reproduced and transmitted to new entrants (Berger and Luckmann 1967; Zucker 1987). Shared systems of meaning can arise within groups, but may differ between groups within the same organization. Dougherty (1992) empirically demonstrated that groups with distinct identities based on professional disciplines respond differently to new product development efforts. This is largely the result of frames that individuals use to make sense of their environment. Information has to be consistent with these frames or it will be repressed or ignored (Garud and Rappa 1994). Kaplan (2003) argued that framing is a political and self-conscious process in which meaning is negotiated between groups of individuals. This means that the frame that appeals to one group within the organization may not appeal to another group that has a different system of meaning.

Although Scott (2001: 51) argues that he refrains from an integrated conception of the three forces, he acknowledges that the forces can reinforce each other. A few empirical studies demonstrated that multiple institutional forces can simultaneously exert pressure on organizations (Ruef and Scott 1998; Hoffman 1999; D'Aunno et al. 2000; Wicks 2001). However, teasing apart the forces, in practice, is extremely difficult. The different forces are so interwoven with each other that it is almost impossible to describe any without reference to the others. Still, we will try to describe them separately. Figure 1 displays our model.

Research Context

The financial services sector in The Netherlands is an interesting research context for increasing our understanding of micro institutional forces in incumbent

Figure 1. Micro Institutional Forces and Complex Incremental Product Innovation



firms. It is a highly institutionalized sector that has been confronted with major changes that have challenged these firms to invest in new products (cf. Volberda et al. 2001). However, banks and insurance companies are not known for their innovativeness and many financial companies in The Netherlands struggle with incremental product innovation (Vermeulen 2005). A study by Volberda et al. (2001) showed that there are only a few outliers in terms of innovation in the financial services sector. We excluded these outliers in our sample. For most banks and insurance companies, new products are only modifications of existing products that build on current competencies (Avlonitis et al. 2001). This type of innovation mainly concerns improvements in existing 'combi-products'. Combiproducts resemble architectural innovations (Henderson and Clark 1990). The separate component parts of these products already exist, yet either the combination is new or one of the components has changed, which creates new linkages with other components. As such, they also resemble Garud and Nayyar's (1994) notion of transformative capacity, in which firms combine resources spread over the organization. In our case, we are interested in improved versions of these products. This means that the linkages between components remain unchanged and the core concepts are reinforced. These improved combi-products are labelled incremental innovations. The complexity of these innovations concerns the reorganization of interdependent administrative procedures and the coordination of the multiple departments involved (MacMillan et al. 1985).

Research Methods

We conducted an inductive study in the period 1997–2002, using multiple qualitative data collection methods. In total, over 175 people were interviewed. All those interviewed, except one, agreed on the use of a tape recorder, which was

used in the writing of transcripts. These transcripts were sent back to the respondents in order to give them the opportunity for factual corrections. The final version of all transcripts and the documents based on meetings with the 12 case organizations covered more than 1,400 pages of empirical material. Table 1 provides an overview of the research phases and activities, displays the number of companies involved, the main goals and the research instruments for the various activities.

In the first phase of the empirical research, in 1997, a panel of company experts was formed. Representatives from 10 of the largest Dutch financial services companies, i.e. firms with more than 2,500 employees, such as ABN–AMRO, AEGON, ING and Rabobank, participated in this group. Members of the group were actively involved in product innovation processes in their organization. Together with the members of the panel, it was decided to study the development of the latest generation of combi-products. The panel considered these products as the most appropriate examples of incremental innovations.

In the second phase, an exploratory round of interviews was conducted in 39 firms, including incumbent and non-incumbent companies. These companies were selected using criterion sampling (Miles and Huberman 1994). The sampling criterion used was to focus on companies that had recently introduced an improved combi-product. Forty-two companies were contacted by phone, of which, eventually, 39 agreed to cooperate. The interviews focused on the respondent's understanding of product innovation processes and the surrounding forces affecting the development of new products. All the interviews followed a common protocol: people were first asked to elaborate on product development processes, and, subsequently, generic questions were asked to find out more about the stages and the potential problems in these processes, and who was involved. The questions that were asked in this round were based on the existing NPD literature. We did not include the results from this first round in the paper, since we have limited information on the projects. Hence, we only used this information as a first exploration. The results from the exploratory interviews in Phase 2 did show that especially incumbent firms (the larger and older firms in the industry) experienced problems in complex incremental product innovation projects. Therefore, in the final stage of data collection (see below), we focused on the incumbents.

In Phase 3, in addition to these exploratory interviews in 39 companies, 10 interviews were conducted with IT experts in the 10 companies from the panel group. This type of convenience sampling (Miles and Huberman 1994) saved time and effort in gaining access to firms. The reason for conducting these interviews was twofold. Firstly, the data from the exploratory interviews was rather one-sided, because only marketers or product developers were interviewed. Secondly, the results from the exploratory interviews indicated that information systems had a strong impact on the possibility of developing new products. This was verified in the panel. These interviews followed a similar protocol to the one mentioned above. Furthermore, the IT experts were asked to provide a detailed description of the companies' information systems.

In Phase 4, the panel group was again consulted. Not only did we want to make sure that we believed our projects were examples of complex incremental

Table 1. An Overview of the Empirical Research Activities (1997–2002)

Research Phase	Research Activity	Companies involved	Goals	Research Instruments
Phase 1	Panel sessions	10	To get acquainted with the sector and financial services	4 Panel sessions with 6–10 people
Phase 2	Exploratory interviews	39	To obtain preliminary insights in product innovation process and forces affecting the process	39 interviews (tape recorder used for transcripts)
Phase 3	Interviews with IT experts	10	To explore IT related forces	10 interviews (tape recorder used for transcripts)
Phase 4	Panel sessions	10	To discuss results of stages 2 and 3 and select cases	2 Panel sessions with 6–10 people
Phase 5	Case studies	12	To obtain in-depth insight of institutional forces affecting product innovation processes	125 interviews (5 CEOs, 12 BU managers, 5 IT managers, 12 Product managers, 24 Project leaders, 24 IT project members, 45 team members), observations, internal documents (tape recorder used for transcripts)

innovations, but we also wanted to know the opinions of the experts in the field. This way, we could strengthen our argument that we were really looking at complex incremental projects.

In the final phase of data collection, selected business units from 12 incumbent companies were studied. We selected respondents from two different, but similar, business units in each of these firms in which exemplary product development projects were studied. These could be either successful or unsuccessful projects (in terms of development). In our analysis, we constantly compared these projects in order to understand why they developed differently. Since we tried to study intraorganizational institutional forces, we needed data on both firm level and project level. Furthermore, we wanted to make sure that the business units we selected were highly similar in terms of their strategic situation. We did not include, for instance, the damage insurance business units, because these are in a different strategic situation (e.g. short time-frames of products). The selected companies were all founded more than 75 years ago, but they differed in size (number of employees) and focus (global versus national). Our sample is equally divided into banks and insurance companies.

Two product development projects in separate business units were selected in each of the firms, in close consultation with a business unit manager (see Table 2).

Two selection criteria were used. First, the products had to be so-called improved combi-products, meaning that besides functional departments (such as actuaries, marketing, IT and legal affairs) more than one product department was involved in the development process due to the multiple aspects of the product.

The second criterion was the development stage of the project. The development process had to be either finished within the last year or had to be in progress in order for the respondents to be able to recall the details about the development process. Three companies were not able to present two product development projects in distinct business units. In these firms, we chose the two most recent incremental development efforts in one business unit and added these to our sample. The 125 interviews were conducted with people in different departments and at various hierarchical levels in the organization. The same protocol mentioned was again used.

Data Analysis

The transcripts describe the experiences and opinions of the respondents regarding complex incremental product innovation projects. As such, they reflect specific characterizations of the respondents' version of reality. These characterizations referred to the respondent's opinion on why certain events and activities occurred. Several steps were taken in the analysis of the transcripts (see also Appendix). First, we engaged in a coding procedure (cf. Miles and Huberman 1994) in which labels were assigned to text units (sentences or paragraphs). These labels represented the key issues mentioned by the respondents. During this initial stage, we mainly used descriptive codes for broad overview of key issues in the innovative efforts of banks and insurance companies. These codes entail little interpretation since they closely resemble the text of the transcripts; in our case, descriptive codes like cooperation (COP), division of labour (DOL), sanctions (SAN), informal meetings (IME), formal meetings (FME) and coordination (COR) are examples of descriptive codes that were attributed to 'organizational structure'.

Second, we identified underlying patterns by grouping the initial codes into a smaller number of themes (cf. Miles and Huberman 1994), often referred to as 'axial coding'. These patterns were first compared across interviews. An example of a pattern that appeared from our data is the so-called expectancy gap. While examining our data, we discovered that the unsuccessful projects suffered from major differences between the managerial and employee levels. CEOs and senior managers thought incremental innovation was crucial for the viability of their companies, whereas the employees considered it a burden. Passages from the transcripts related to each of the patterns were highlighted. Next, we grouped passages relating to the same patterns. We were eventually able to identify several patterns that appeared to be dominant (we counted the appearance of all the patterns in the interviews) in either the regulatory, normative or cultural-cognitive perspective.

Thus, we structured the data analysis process by using coding procedures, allowing us to identify the most relevant issues in our data. We were able to construct two distinct templates that were used in the firms we studied. One of these was labelled the 'business-as-usual' template, and the other 'innovation' template. The patterns from the axial coding stage and the further refinement into separate themes helped us in describing the features of the two templates.

Table 2. Extended Profile of Projects

Project	Features of Product Innovation	Development time in months	Number of departments involved
Unsuccessful projects			
BanCo 1	Improved combi-product; new version of an existing mortgage product with existing linkages.	> 24	∞
FinCo 1	Improved combi-product; investment annuity of which several existed in the company; this product had several new investment features.	> 24	7
SureCo 1	Improved combi-product; single-premium policy with investment opportunities. Similar products already present in the company.	12 ≤ 24	9
RealCo 1	Improved combi-product; investment annuity of which several existed in the company; this product had several new investment features related to pensions.	12 ≤ 24	7
PayCo 1	Improved combi-product; extension of already existing flexible life insurance product.	6 ≤ 12	9
RiskCo 1	Improved combi-product; mortgage product with extra features. Consumers can choose between saving and investing. Similar linkages between products already exist.	6 ≤ 12	٥.
CashCo 1	Improved combi-product; mortgage product with extra features. Consumers can choose between saving and investing. Similar linkages between products already exist.	12 ≤ 24	7
LifeCo 1	Improved combi-product; extension of already existing flexible life insurance product.	6 ≤ 12	9
HypCo 1	Improved combi-product; mortgage product for capital accumulation. New version of existing product with several adjustments.	6 ≤ 12	9
CreditCo 1	Product improvement; minor extension of original mortgage product.	1 ≤ 6	3
AssurCo 1	Improved combi-product; mortgage product with extra features. Consumers can choose between saving and investing. Similar linkages between products already exist.	6 ≤ 12	9
ChipCo 1	Improved combi-product; investment annuity of which several existed in the company; this product had several new investment features.	6 ≤ 12	4

 Table 2. Extended Profile of Projects (Continued)

Project	Features of Product Innovation	Development time in months	Number of departments involved
Successful projects			
BanCo 2	Improved combi-product; extension of original investment product with savings account.	1 ≤ 6	4
FinCo 2	Product improvement; minor extension of original mortgage product.	6 ≤ 12	7
SureCo 2	Improved combi-product; mortgage product with extra features. Consumers can choose between saving and investing. Similar linkages between products already exist.	6 ≤ 12	7
RealCo 2	Improved combi-product; new version of investment and savings product. Product is revised every two years.	6 ≤ 12	9
PayCo 2	Improved combi-product; extension of original savings product combined with pension product.	1 ≤ 6	4
RiskCo 2	Product improvement; minor extension of original investment product.	1 ≤ 6	4
CashCo 2	Improved combi-product; mortgage product for capital accumulation. New version of existing product with several adjustments.	6 ≤ 12	9
LifeCo 2	Product improvement; minor extension of original life insurance product.	1 ≤ 6	3
HypCo 2	Improved combi-product; flexible mortgage product with many options for consumers to choose from. Improved and extended version of an already existing flexible mortgage product.	6 ≤ 12	9
CreditCo 2	Improved combi-product; new version of investment and savings product.	1 ≤ 6	5
AssurCo 2	Product improvement; minor extension of original pension product.	1 ≤ 6	4
ChipCo 2	Improved combi-product; life insurance product with additional features, closely linked with investment product .	1 ≤ 6	4

Table 3.
Exemplary Quotes
Regarding Micro
Institutional Forces

Exemplary Quotes	Unsuccessful projects	Successful projects
Micro regulatory forces	'We have a set of clear procedures and guidelines we need to use to develop new products. I always make sure that my project leaders follow this procedure. If not, they have a serious problem.'	'We need to isolate these projects from the rest of the organization. Otherwise there will be too many formal rules that we need to comply with. We first design something really good, and then fit it in the system, not the other way around.'
Micro normative forces	'I know that there are some board members that want us to develop more new products, but luckily most of the people down here do not bother too much with these ideas. We don't have time to work on innovation.'	'Our main strength is that everybody shares the same expectations. We all know where we are going and why. From the CEO to people in the administrative departments, we know what to expect from each other. As long as nobody deviates from that path, there is no problem.'
Micro cultural- cognitive forces	'There were four key departments concerned with this product: marketing, product management, actuary and IT. I had the feeling that they did not speak each other's language at all. This was one of the reasons for our problems. The activities of these departments have, of course, hardly been integrated into our organization. They operated mostly in isolation. This (cooperating with other departments) was therefore more less new to them.'	'If you look at who is actually in the lead here it's us! We are the creative people in this organization and we make the rules of the innovation game. Not the bureaucrats from IT or the legal departments that try to block every new idea. Although they often succeed, it will not happen here. Our boss does not allow that to happen. We are in charge of these projects.'

Research Findings

This section discusses the empirical findings in line with the three types of forces, as discussed above (regulative, normative and cultural-cognitive). We make a distinction between the successful and unsuccessful projects. The quotes used in the description of our research findings are exclusively related to specific projects. The quotes in Table 3, however, are used to illustrate the findings across multiple projects and resemble exemplary quotes that are associated with at least eight of the 12 unsuccessful or successful projects.

Micro Regulative Forces

Micro regulative forces are relatively easy to identify. These forces are highly influential in organizations due to their 'power to set rules, monitor activity, and enforce compliance' (Wicks 2001). The case studies revealed that most financial companies tried to change their formal structure.

Unsuccessful Projects

The organizations in our study demonstrated that new project-based organizational structures did not function as they were supposed to at shop-floor level.

Individual actions that were aimed at avoiding the old, departmentalized structure were in some cases sanctioned. Exchanging information between departments was experienced as being difficult and, at times, undesirable.

Formal rules and procedures dictate organizational behaviour in many business units in the financial services sector. Although these rules are often meant to improve the efficiency and effectiveness, they may also affect business units negatively. This was clearly the case in the unsuccessful projects in our study. Whereas employees in banks and insurance companies used to be appraised and rewarded for the number of policies processed, in the new structures this had not changed. Especially for smaller projects, this has had its effects. Team members often hardly work on these projects, because they fear that they will be sanctioned if the department's targets are not reached. The functional heads of departments were, therefore, unwilling to free some of their employees to work on new product development projects. As a result, incremental projects sometimes take up to 24 months to be completed (see also Table 2).

'Our organizational structure is set up to support innovation. However, this only applies to big projects. When smaller projects are involved, the misery begins. Team members hardly work on these projects, because they will be sanctioned if they do not reach the targets for the department they normally work for. So, the functional team leaders are not really interested in letting people go to work on new product development and start harassing my project members about targets that should be reached. How are you supposed to run a project when this is constantly slowing the development process down?' (BanCo project leader).

This clinging to formal rules and procedures had a strong inhibitive impact on the product development activities. In seven of the business units, we were able to identify some kind of sanction mechanism used to keep in line with the standard procedures.

The existing information systems are also an important regulative force, which set hard boundaries for new products yet to be developed. Product developers in all 12 failed projects complained that the IT department often argued that, when some new product was being developed, the adaptations needed in the system were not possible. This necessitated adjustments in the product concept. In all 12 cases, this meant that the product concept was less innovative than was originally intended, and, as such, the information systems inhibited the development of new products. A complicating factor is that it is not possible for people outside the IT department to judge whether adjustments to the systems are possible. It was frequently mentioned that IT personnel were not really interested in product development and often claimed that something was not possible. Most new products are still IT-driven, or at least guided by the state of IT. Most of the time, the product concept would be adjusted in line with IT possibilities, because it was considered impossible to change the information systems.

Successful Projects

One of the key features of the successful projects is their separation from the regular organization, not leaving room for 'outside' interference. The bureaucratic influences from the organization were successfully kept away from these projects, meaning that the team members could concentrate on their project

tasks without being bothered with routine day-to-day activities. Several respondents claimed that the only way to avoid the excessive rules and procedures in their organizations was to isolate their projects. In these situations, separate structures were designed to shelter the new product from the standing organization. Furthermore, in the successful projects, the team members were reluctant to use formal rules and procedures.

'When I was transferred to the BU Pensions, I was immediately asked to forget all the procedures used in the rest of the organization. I knew this was a rather strange bunch of cowboys, but in the first development project I was involved in, I immediately understood what they were doing and why they were doing it. These guys almost made me swear not to look into any manual. They claimed that that would restrict our creative capabilities.' (PayCo Marketing Manager).

Key to all the successful projects in our study was the idea of 'letting go'. Several business unit managers claimed that every innovation project required a slightly different approach. They stressed, however, the importance of creativity and freedom to manoeuvre as the key to success.

Micro Normative Forces

Normative aspects of institutions are often found in notions of appropriate behaviour (March and Olson 1989). The emphasis of normative forces is on 'prescriptive, evaluative and obligatory dimensions' of social life (Scott 2001: 54).

Unsuccessful Projects

The business unit managers in our study closely monitored the activities at the initiation stage, not allowing for much creativity. There is a clear attitude of risk avoidance displayed in the business units we studied. Many of our respondents claimed that managers constantly think they should reduce any risk involved with innovative projects. This kind of risk-avoiding behaviour is reflected in much of the innovative activities of the firms in our study, and is closely related to the formal rules and procedures. In the product development manuals, for instance, the type of initial scans needed before a decision is taken to actually develop a new product are clearly described. The actual amount of pages related to these initial stages, before a go/no-go, is often twice the number of pages spent on the execution and implementation. Besides that, the formal rules and procedures (including the manuals) are often used as straightjackets that inhibit innovative behaviour and lead to expectations of appropriate behaviour. This was explained by a HypCo product manager:

'Cooperating with other team members was really difficult. The tasks were strictly divided and no one seemed to be interested in each other's task. I tried to get some of the other members more involved with my tasks, but they just rejected any attempt at closer cooperation. I just didn't understand why this was the case, but some of the colleagues in my department told me that it was just not done to have these informal talks in this organization. The project's weekly meeting was the place to discuss these things.'

The results from our case studies also showed that there is a gap between the expectations from management, regarding the necessity of incremental product

innovation, and the perception of these expectations of the employees. This frequently meant that employees did not understand that innovation was highly valued, or at least claimed to be highly valued, by top management. Business unit managers and shop-floor employees were not only hardly interested in new products, but also did not see these activities to be very relevant for their organization. Furthermore, they were sometimes sanctioned for not reaching operational targets (for instance, in terms of policies processed) and as a result did not value innovation.

This is closely related to the lack of (social) obligation to incremental product innovation. The project leaders particularly experienced this. They claimed that many projects are completed in a very different team composition compared to the 'starting line-up'. Apparently, somewhere during the development process, priorities shift to projects related to the daily activities, and team members are reallocated by their superiors, who feel no obligation to finish projects that team members were originally assigned to. Due to the high frequency with which this happens, the project leaders feel as if their projects are of little relevance. There was hardly any obligation from team members to finish their project activities. Their team leaders often did not expect them to spend too much time on product development.

Successful Projects

In the business units with successful projects, we identified a different set of normative forces — in particular, ruling norms and values related to risk and mutual expectations, clearly directed at enabling incremental innovation. What was most striking in the interviews with respondents from these BUs was the absence of 'risk' in their stories. Only when asked, did they talk about potential risks of innovation. They merely considered risk to be an essential part of every innovation project, incremental or radical, but did not bother too much with avoiding it. One BU manager from CreditCo claimed:

'We borrowed Nike's slogan; Just do it. This is how it works. If you start wondering or recalculating everything too long there will be no new products launched or you launch them too late. This is even worse than an occasional failure. I know we are about the only ones in this company who do it like this, but it really works for us. And as long as they [top management] let us, why should I start worrying about possible problems. We do our homework, but do not drown in it.'

This quote illustrates the main differences in the perception and way of handling risk between successful and unsuccessful projects. Whereas the unsuccessful projects spend the majority of their time on avoiding any potential risk, the successful projects are much faster on deciding whether or not to develop the new product. As a result, the development times were much shorter in these latter projects. Remarkably, this way of thinking is reinforced by the way these BUs deal with formal rules and procedures. In the previous section, it was explained that 'letting go' was considered essential for innovation. The idea of 'just do it' seems to be closely related to the rejection of using development manuals and other organizational procedures.

The expectancy gap between top management and business unit, as it appeared in the unsuccessful projects, did not appear in the successful projects. The

expectations from top management were aligned with the actual behaviour in the successful projects. Again, this speeded up the development process and led to less iteration. Most of the team members were fully devoted to the innovative projects they were working on, and some considered it to be an honour. The alignment of expectations has been a key success factor in these business units.

Micro Cultural-Cognitive Forces

The cultural-cognitive emphasis of institutions resembles 'shared conceptions that constitute the nature of social reality and the frames through which meaning is made' (Scott 2001: 57). In this study, micro cultural-cognitive forces are shared conceptions and frames of reference belonging to distinct professional identities. Furthermore, we discovered that the successful projects were framed (cf. Kaplan 2003) differently when compared with their less successful counterparts.

Unsuccessful Projects

The various professional disciplines involved in innovation processes have developed different systems of meaning over time. The departments, in the case companies, seemed to have their own way of working (accompanied by specific jargon or language and even dress codes), and their own vision of the path their business unit and organization should follow. The specialists from different disciplines did not speak the same language, and created little understanding for each other's activities. Project team members represented their functional department. This led to difficulties in creating a common understanding of the aims, properties and process-requirements of incremental innovations. It often involved aspects such as different languages and visions, resulting in lower levels of cooperation in the project teams. Most of these problems manifested themselves on the interface between marketing and information technology departments and (in case of insurance products) between actuaries and the other team members. This kind of behaviour has developed over the years and is an illustration of the existence of distinct systems of shared meanings. Eventually, the most dominant disciplines decided what happened. In the unsuccessful projects, these were often actors from the actuarial, legal and IT departments. These departments had a limited interest in exploring new opportunities, and instead focused on exploiting the companies' existing practices.

'Basically what happens is that we come up with an interesting new idea. Management initially approves of the idea and commits to the project. However, typically, when the idea is further described in a product concept, all sorts of adjustments need to be made because the idea is too far-fetched and does not fit our current systems or whatever. It happens with almost every improved combi-product. There are too many powerful people in certain parts of this organization that are just not fond of all these new ideas. In the end, they decide what happens.' (BanCo product manager)

Successful Projects

The successful projects in our sample show that different meaning systems do not necessarily have to lead to conflict situations. In four of the successful projects, project leaders focused on team building and creating a shared understanding,

before the team actually started working on the project. A special kick-off session was organized in which the team members quickly discovered that they could cooperate together despite their differences. These projects were given the opportunity (in terms of funding and top management support) to actually invest in team building. Instead of these project teams being dominated by different identities, they converged into groups with a shared identity.

'What we actually do is more or less pretend that these projects are major breakthrough innovations. We set up the entire organization, as if it was a radical project. We separate it from the regular organization, away from all the rules and procedures, because otherwise our daily operations will interfere. We have people who are almost fully dedicated (in time) to the project and they all work in the same room. Only if we set it up like this, the rest of the organization realizes that this is important for the entire organization, which creates a better position for the project when it needs to be implemented.' (SureCo BU manager)

In eight of the successful projects, we were able to identify similar attempts of 'framing' incremental innovation projects as radical innovation projects. For many business units this seemed to be the most effective way of managing incremental projects. Some of the BU managers claimed that increasing the importance of their projects for the whole organization gave them a better bargaining position for resources. This very much relates to the notion of framing contests (Kaplan 2003), in which negotiation is a political game to be played with powerful players. Framing projects, more radically, provides a jump-start in these negotiations.

Discussion

The innovation literature emphasizes that incremental innovations do not differ much from existing product portfolios and, therefore, routine procedures and capabilities are sufficient to initiate this type of innovation. However, many incumbent firms still struggle with incremental product innovation efforts despite the numerous studies suggesting solutions to overcome potential barriers. Occasionally, they are capable of successfully developing incremental innovations, which means that the innovation is developed and launched onto the market rapidly and smoothly. The main reason for this variation in success does not only come from better organizing projects or more sophisticated use of the available tools to develop new products, as has often been suggested by the new product development literature (e.g. Cooper 1999; Kahn 2004). We have argued that *intraorganizational* institutional forces have a strong impact on the innovative efforts of incumbent firms (cf. Elsbach 2002).

In our study of the development and implementation of complex incremental product innovation projects, we have provided evidence that micro institutional forces impact strongly on these projects. Their persistence over time is largely due to the fact that they have become institutionalized and have led to the development of distinct organizational templates (cf. Greenwood and Hinings 1993). As such, we believe that an institutional perspective has the potential to complement the existing innovation literature in uncovering some of the underlying reasons for the (lack of) innovative behaviour of certain parts of an organization.

The regulatory forces, for instance, primarily deal with facilitating or obstructing exchanges among members of an organization (cf. Zucker 1988). This not only refers to the organizational rules and standard operating procedures, but also to the IT systems. For any innovation project in which multiple departments are involved facilitating exchanges between representatives from these departments is crucial. However, internal structures exhibit 'the social permanence of institutions'. When the degree of internal institutionalization in incumbent firms increases over time, similarity with other organizations, including the degree of codification and interdependence, will make it for incumbent firms more difficult to change these structures (Zucker 1988:35). The unsuccessful projects in our study clearly suffered from these regulatory institutional forces. In the successful projects, we also were able to identify some kind of regulatory forces. These were, however, very much directed towards enhancing creativity. The rules that guide the actions of individuals in these projects were mostly informal and were clearly communicated, and deviations were hardly accepted.

The micro normative forces in our study also affected incremental innovation. Managers in the unsuccessful projects displayed a strong risk-avoiding attitude on the one hand, whereas on the other hand they hardly felt any obligation to complete projects on time. The internalization of this kind of behaviour generates expectations that guide the actions of other organizational members (Scott 2001). In our case, this meant that not only managers, but also team members lacked social obligation. Furthermore, there were clear distinctions regarding the perceptions on the need for incremental innovation between various actors in the organizations studied; different perceptions of top managers, business unit managers and lower-level managers, and employees directly involved in executing incremental product innovation projects, in particular, contributed negatively to the success of these projects. The unsuccessful projects in our study seem to be lacking institutional concurrence (Dougherty and Cohen 1995), which indicates that there is no alignment between what top management is thinking and doing and what employees are thinking and doing. In the business units that successfully managed to develop incremental innovations, we found a different institutional logic (cf. Friedland and Alford 1991). Not only were the expectations clear and consistent in various layers of the organization, the perception of risk was quite different. Risk was valued as being 'part of the game' and could not be reduced completely.

Cultural-cognitive forces include different systems of meaning and dominant identities. When powerful actors in the organizations were opposed to innovation (cf. Greenwood and Hinings 1996), hardly any resources were made available. The shared systems of meaning are negotiated over time in interaction processes between organizational actors (Scott 2001). The more time individuals spend interacting with identity-like individuals, the stronger the degree of segmentation in an organization (cf. Trice 1993). Again, we found strong differences between the successful and unsuccessful cases. The successful projects were almost all framed as radical projects in order to obtain and maintain the necessary resources and to be able to escape from the rules and procedures of the standing organization.

Two distinct templates were found in the firms in our study. Although there were differences between the templates used in these firms, the templates shared many attributes. Here we focus only on the commonalities. The unsuccessful

projects were all dominated by a 'business as usual' template. The projects were all managed by a strict adherence to prevailing rules and procedures, risk avoidance was highly valued, and the dominant powerful departments clearly supported this way of dealing with incremental innovation projects, which were taken for granted. The successful projects displayed an 'innovation' template in which the rules and standard procedures were discarded, projects were isolated from the organization, risks were valued as being part of the innovation game, and projects were framed in line with more breakthrough innovations. Our 'innovation' template deviates from many studies that suggest that new ideas must be framed in line with the status quo, disguising their radical nature, in order to obtain legitimacy (e.g. Aldrich and Fiol 1994; Hargadon and Douglas 2001). Although the true nature of these innovative attempts can be labelled 'mindful deviations' (Garud and Karnøe 2001), they were framed in a more deviant way. However, as Garud and Karnøe (2001) argued, this degree of deviance should not be too large for this will generate illegitimacy. It is not likely that all projects within a firm can be managed as breakthrough innovations; most firms will lack the resources to do so. The concept of mindful deviations is, however, an intriguing concept that may allow firms to be more successful with incremental innovations.

It was mentioned earlier that a few empirical studies demonstrated that multiple institutional forces can simultaneously exert pressures on organizations (Ruef and Scott 1998; Hoffman 1999; D'Aunno et al. 2000; Scott et al. 2000; Wicks 2001). Although we tried to describe the forces separately from each other, the forces are clearly interwoven. The interaction between micro institutional forces further enforces their impact on the two templates we identified. Our data also provided empirical evidence for the existence of interactions between various forces that reinforced their impact. The regulatory forces in our study clearly interacted with normative forces. The rules and procedures that drive organizational behaviour seem to interact with the perceived expectations of employees regarding the core activities of their organizations. If employees are sanctioned for not reaching set targets (e.g. number of policies processed), while simultaneously not being rewarded for efforts in new product development projects, they may experience a lack of legitimacy for incremental product innovation. This way of working becomes normatively valued, over time, and then taken for granted. Furthermore, the business units that embraced incremental innovation created an atmosphere of 'letting go' of the formal rules and procedures, which simultaneously led to a 'just do it' mentality. The prevailing idea in these units was that incremental innovation always carries a certain amount of risk, but that that should not stop or delay the development process. The latter normative force (risk avoidance) closely interacted with the meaning systems of different professional disciplines (micro cultural-cognitive), which in turn interacted with the regulatory forces. A final example of interaction was the framing of incremental projects as if they were 'radical' projects. These projects were separated from the regular organization, and managed to escape the formal rules and procedures. The institutional logic in the business units that framed their projects in more 'radical' terms clearly differed from the more traditional business units in our study. Thus, in this research context, we found indications that micro-institutional forces do not compete with each other, but instead are complementary and reinforce each other in favour of either of the two templates.

Limitations, Future Research and Conclusion

As with most studies, our study also has limitations. We only studied one specific sector, the financial services sector, in one country. Additionally, there may be differences between countries regarding the macro institutional forces, and their impact on micro institutional forces, that may affect the outcomes of our study. Finally, we studied a specific type of innovation: incremental product innovation. Radical innovations may follow a completely different trajectory and may be more legitimate, so the impact of micro institutional forces may be limited. More research on these issues is needed.

These limitations suggest at least two directions for future research. First, empirical research is needed in both other industries, and in the financial services sector of other (EU) countries (Flier et al. 2003), to investigate the value of our framework. It has been argued in the innovation literature that innovation differs across industries and countries. The financial services industry is highly regulated, which makes it extremely interesting to study other highly regulated industries such as utilities, public schooling systems, childcare and airlines. In some countries, innovation may in itself prove to be more legitimate as the national government provides an environment that is conducive to innovation (Afuah 1998).

Second, the findings also suggest that special attention is needed for the interaction dynamics between regulatory, normative and cultural-cognitive forces. As was argued earlier, institutional research has not often focused on this interaction. Further research is needed to uncover the dynamics of interaction to fully understand (a) which institutional forces interact, (b) how exactly these forces interact and (c) how the interaction of forces affects the legitimacy of innovation.

In this paper, we set out to investigate the determinants of successful incremental product innovations. The innovation literature has identified several important issues that affect the success or failure of incremental innovation. We argued that these valuable contributions have not addressed some of the underlying reasons for the problematic nature of incremental innovation. By using an institutional perspective, we have been able to add another important determinant for the success of the development and implementation of incremental product innovation. We identified micro institutional forces that affect incremental product innovation and, as such, contribute to the persistence of innovation problems as identified in the literature. Scholars studying incremental product innovation could take these forces into account in their attempts to generate alternative strategies to successfully develop and implement incremental product innovations. We also expand the innovation literature by explicitly focusing on a service environment, whereas most of this literature still builds on manufacturing or high-tech industries. Moving into other empirical fields may also increase our understanding of the problems identified and could lead to the generation of valuable new ideas to solve these problems. Our suggestion to both practitioners and academics is not to focus solely on the traditional determinants that should lead to success but also to take into account a variety of micro institutional forces from different empirical settings that may be responsible for the struggle regarding incremental product innovation. This will increase the chances of resolving the issue of the persistence of these problems.

Appendix

Coding procdedures

Steps	Coding activities				
Step 1	Open coding of interviews to identify variety of intraorganizational institutional forces (examples provided in the main text)				
Step 2	Axial coding for each of the intraorganizational institutional forces and seeing if types fit the entire data set: Compare within cases and across cases to ascertain intraorganizational institutional forces Sort the various issues into one of the three intraorganizational forces What intraorganizational institutional forces is the issue related to?				
			_		
	Regulative	Normative	Cultural-cognitive		
	Letting go or strict adherence to rules and procedures, isolated from or embedded in organization, information systems that control type of innovation.	Employees feel obligated to fulfil their roles, ruling values and norms towards risks and clarity of expectations between top and employees.	Employees share similar belief systems or fundamentally differ in their beliefs; some identities are powerful and have strong impact on innovation, explicit framing of some projects.		
Step 3	Based on steps 1 and 2 distinguishing and describing the two templates 'Business as usual' template: projects managed by strict adherence to prevailing rules and procedures, risk avoidance highly valued. Dominant departments supported this way of dealing with incremental innovation projects, which had become taken for granted. 'Innovation' template: the rules and standard procedures were discarded, projects were isolated from the organization, risks were valued as being part of the innovation game and projects were framed in line with more breakthrough innovations.				

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References

Adams, M. E., G. S. Day, and Deborah Dougherty

1998 'Enhancing new product development performance: An organizational learning perspective'. *Journal of Product Innovation Management* 15: 403–422.

Afuah, Allan

1998 Innovation management. Strategies, implementation, and profits. New York: Oxford University Press.

Aldrich, Howard, and C. Marlene Fiol 1994 'Fools rush in? The institutional context of industry creation'. *Academy of Management Review* 19/4: 645–670.

Avlonitis, G. J., P. G. Papastahopoulou, and S. P. Gounaris

2001 'An empirically-based typology of product innovativeness for new financial services: Success and failure scenarios'. *Journal of Product Innovation Management* 18/5: 324–342.

Banbury, Catherine M., and Will Mitchell
1995 'The effect of introducing important
incremental innovations on market
share and business survival'.

Strategic Management Journal 16:
161–182.

Berger, Peter L., and Thomas Luckmann
1967 The social construction of reality. A
treatise in the sociology of
knowledge. New York: Anchor
Books.

Cooper, Robert G.

1984 'New product strategies: What distinguishes the top performers?'

Journal of Product Innovation

Management 2: 151–164.

Cooper, Robert G.

1999 'From experience. The invisible success factors in product innovation'. *Journal of Product Innovation Management* 16: 115–133.

Cooper, Robert G., and Elko J. Kleinschmidt 1986 'An investigation into the new product process: Steps, deficiencies, and impact'. *Journal of Product Innovation Management* 3/2: 71.

Cooper, Robert G., Christopher Easingwood, Scott Edgett, Elko Kleinschmidt, and Christopher Storey

'What distinguishes the top performing new products in financial services'. *Journal of Product Innovation Management* 11: 281–299.

Cooper, Robert G., Scott Edgett, and Elko Kleinschmidt

2002 'Optimizing the stage-gate process: What best-practice companies do'. Research Technology Management 45/5: 21–27.

Crawford, C.M.

1994 New products development. Burr Ridge, IL: Irwin.

D'Aunno, Thomas, Melissa Succi, and Jeffrey A. Alexander 2000 'The role of institutional and market forces in divergent organizational change'. *Administrative Science Quarterly* 45: 679–703.

Dougherty, Deborah

1992 'Interpretive barriers to successful product innovation in large firms'.

Organization Science 3: 179–202.

Dougherty, Deborah, and M. A. Cohen 1995 'Product innovation in mature firms' in *Redesigning the firm*. E. Bowman and B. Kogut (eds), 87–115. New York: Oxford University Press.

Elsbach, Kimberly D.

2002 'Intraorganizational institutions' in Companion to organizations. J. A. C. Baum (ed.), 37–57. Oxford: Blackwell Publishers Ltd.

Ettlie, John E., William P. Bridges, and R. D. O'Keefe

1984 'Organization strategy and structural differences for radical versus incremental innovation'. *Management Science* 30: 682–695.

Flier Bert, Frans A. J. Van Den Bosch, and Henk W. Volberda

2003 'Co-evolution in strategic renewal behaviour of British, Dutch and French financial incumbents: Interaction of environmental selection, institutional effects and managerial intentionality'. *Journal of Management Studies* 40/8: 2163–2187.

Friedland, R., and R. R. Alford
1991 'Bringing society back in: Symbols, practices, and institutional contradictions' in *The new institutionalism in organizational analysis*. W. W. Powell and P. J. DiMaggio (eds), 232–263. Chicago: University of Chicago Press.

Garud, Raghu, and Peter Karnøe
2000 'Path creation as a process of mindful
deviation' in *Path dependence and*creation. R. Garud and P. Karnoe
(eds). Lawrence Earlbaum
Associates.

Garud, Raghu, and P. R. Nayyar 1994 'Transformative capacity: Continual structuring by intertemporal technology transfer'. Strategic Management Journal 15/5: 365–385.

Garud, Raghu, and Michael A. Rappa 1994 'A socio-cognitive model of technology evolution: The case of cochlear implants'. *Organization Science* 5/3: 344–362. Greenwood, Royston, and C. R. Hinings
1993 'Understanding strategic change: The
contribution of archetypes'. Academy
of Management Journal 36:
1052–1081.

Greenwood, Royston, and C. R. Hinings
1996 'Understanding radical organisational
change: Bringing together the old and
new institutionalism'. Academy of
Management Review 21: 1022–1054.

Hargadon, Andrew B., and Yellowlees Douglas

2001 'When innovations meet institutions: Edison and the design of the electric light'. Administrative Science Quarterly 46/3:476–501.

Henderson Rebecca M., and Kim B. Clark 1990 'Architectural innovation: The reconfiguration of existing product technologies and the failure of established firms'. *Administrative Science Quarterly* 35: 9–30.

Hoffman, Andrew J.

1999 'Institutional evolution and change: Environmentalism and the US chemical industry'. *Academy of Management Journal* 42: 351–371.

Holm, Peter

1995 'The dynamics of institutionalization: Transformation processes in Norwegian fisheries'. *Administrative Science Quarterly* 40: 398–422.

Kahn, Kenneth B.

2004 The PDMA handbook of new product development, 2nd edn. New York: Wiley.

Kaplan, Sarah

2003 'Framing contests: Micro mechanisms of strategy-making in the face of technical change'. Working Paper.

Leonard, Dorothy

1998 Wellsprings of knowledge. Building and sustaining the sources of innovation. Boston: Harvard Business School Press.

MacMillan, Ian, M. L. McCaffery, and Gilles van Wiik

1985 'Competitors' responses to easily imitated new products: Exploring commercial banking product introductions'. Strategic Management Journal 6: 75–86.

March, James G.

1991 'Exploration and exploitation in organizational learning'.

Organization Science 2: 71–87.

March, James G., and Johan P. Olsen
1989 Rediscovering institutions. The
organizational basis of politics.
New York: The Free Press.

March, James G., Martin Schulz, and Xueguang Zhou

The dynamics of rules. Change in written organizational codes.
 Stanford: Stanford University Press.

Meyer, John W., and Brian Rowan
1977 'Institutionalized organizations:
Formal structure as myth and
ceremony'. *American Journal of*Sociology 83: 340–363.

Miles, M.B., and A. M. Huberman 1994 *Qualitative data analysis*. London: Sage Publications.

Moenaert Rudy K., and William E. Souder
1990 'An analysis of the use of
extrafunctional information by
research-and-development and
marketing personnel- review and
model'. Journal of Product
Innovation Management 7/3:
213–229

North, Douglas C.

1990 Institutions, institutional change and economic performance. Cambridge: Cambridge University Press.

Oliver, Christine

1992 'The antecedents of deinstitutionalization'. *Organization Studies* 13/4: 563–588.

Pfeffer, J., and R. I. Sutton
2000 The knowing-doing gap: How smart
companies turn knowledge into
action. Boston: Harvard Business
School Press

Ruef, Martin, and W. Richard Scott 1998 'A multidimensional model of organizational legitimacy: Hospital survival in changing institutional environments'. Administrative Science Quarterly 43/4: 877–904.

Scott, W. Richard

1987 'The adolescence of institutional theory'. *Administrative Science Quarterly* 32: 493–511.

Scott, W. Richard

2001 *Institutions and organizations*, 2nd edn. Thousand Oaks, CA: Sage.

Scott, W.Richard, Martin Ruef, Peter J. Mendel, and Carol A. Caronna 2000 Institutional change and healthcare organizations. From professional dominance to managed care. Chicago: University of Chicago Press

Song, Michael, and Mitzi M. Montoya-Weiss 1998 'Critical development activities for really new versus incremental products'. *Journal of Product Innovation Management* 15: 124–135.

Souder, William E.

1987 *Managing new product innovations*. New York: Lexington Books.

Thwaites, Des

1992 'Organisational influences on the new product development process in financial services'. *Journal of Product Innovation Management* 9: 303–313.

Tidd, Joe, and K. Bodley

2002 'The influence of project novelty on the new product development process'. R&D Management 32: 127–138.

Trice, Harisson M.

1993 Occupational subcultures in the workplace. Ithaca, NY: ILR Press.

Tushman, Michael L., Philip C. Anderson, and Charles O'Reilly

1997 'Technology cycles, innovation streams, and ambidextrous organizations: Organization renewal through innovation streams and strategic change' in *Managing strategic innovation and change*. M. L. Tushman and P. C. Anderson (eds), 3–23. Oxford: Oxford University Press

Vermeulen, Patrick A. M.

2005 'Uncovering barriers to complex incremental product innovation in small and medium-sized financial firms'. Journal of Small Business Management 43/4: 432–452.

Volberda, Henk W.

1996 'Toward the flexible form: How to remain vital in hypercompetitive environments'. *Organization Science* 7/4: 359–374.

Volberda, Henk W.

1998 Building the flexible firm: how to remain competitive. Oxford: Oxford University Press.

Volberda, Henk W., Frans A. J. Van den Bosch, Bert Flier, and Eric R. Gedajlovic 2001 'Following the herd or not? Patterns of renewal in the Netherlands and the UK'. Long Range Planning 34: 209–229.

Von Hippel, E.

1986 'Lead users: A source of novel product concepts'. *Management Science* 32/7: 791.

Wicks, David

2001 'Institutionalized mindsets of invulnerability: Differentiated institutional fields and the antecedents of organizational crisis'. *Organization Studies* 22: 659–692.

Zucker, Lynne G.

1987 'Institutional theories of Organization'. *Annual Review of Sociology* 13: 443–464.

Zucker, Lynne G.

1988 'Where do institutional patterns come from? Organizations as actors in social systems' in *Institutional patterns and organizations. Culture and environment.* L. G. Zucker (ed.), 23–52. Cambridge: Ballinger.

Zucker, Lynne G.

1991 'The role of institutionalization in cultural persistence' in *The new institutionalism in organizational analysis*. W. W. Powell and P. J. DiMaggio (eds), 83–107. Chicago: University of Chicago Press.

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