

Incentives and performance measures for open innovation practices

Structured Abstract:

Purpose – *To guarantee alignment between ongoing activities and organizational goals, innovation management theory emphasizes management control and explicit innovation strategies as prerequisites for innovation performance. However, the theory on open services innovation emphasizes individual autonomy and incentives to foster open innovations. In this paper, we explore this inconsistency.*

Design/methodology/approach – *We follow an explorative research design involving 25 semi-structured interviews in 5 large scale-intensive service firms. Scale-intensive service firms are strategically sampled for this study since these firms experience tension between open service innovation characteristics and efforts to standardize.*

Findings – *We show how individual autonomy facilitates the internal and external networking required in open innovations. However, individualized incentives do not suffice to motivate, mobilize and direct the collaboration and collective effort needed to ensure successful implementation of open innovation processes. Innovation performance is a collective effort, and our findings suggest that firms' business strategy works as a collective incentive system.*

Practical limitations/implications – *Our findings imply that firms should not rely on individualized incentives alone to implement open innovation processes successfully. The implementation of more collectively oriented incentives is also necessary to motivate the collective effort required to succeed with open innovation.*

Originality/value – *We extend Foss et al. (2011) and show how innovation practices are collective efforts that also involve the mobilization of external resources. The incentives observed have an effect on individual behaviour while performance measures to a larger degree cater to the collective level. We present three propositions for further empirical investigation.*

Keywords:

Incentives, innovation performance, innovation practice, management control, performance measures.

Article Classification:

Research paper

1. Introduction

This paper explores the tension between individual autonomy and managerial control. This tension is becoming increasingly relevant for firms involved in open innovation activities. Innovation is increasingly highlighted as the main factor in surviving competition, and open innovation is suggested as the solution to achieve high innovation performance (Chesbrough, 2003). According to Prahalad and Ramaswamy (2004), consumers today have more choices of products and services than ever before, but they seem dissatisfied. Firms invest in greater product variety but are less able to differentiate themselves. As competition intensifies and profit margins shrink, managers are under overwhelming pressure to enable innovation by utilizing innovation resources external to the firm as well as carefully aligning the firm with its environment.

The extant innovation management theory (e.g. de Jong, Bruins, Dolfsma, and Meijgaard, 2003) is, however, not consistent in its description of how innovation practices are created to ensure sustained innovation performance. Kahn, Barczak, and Moss (2006) are normative and suggest that a clearly defined innovation strategy is a prerequisite condition for high performance of innovations. Foss, Laursen, and Pedersen (2011), on the other hand, suggest that individual incentives are a prerequisite for ensuring sustained innovation performance by fostering innovative organizational practices. Their emphasis on individual

incentives is linked to individual autonomy, since the increasingly open innovation activities intensify the collaborative effort between autonomous employees and the external resources involved.

Conversely, fostering individual autonomy and increased managerial control to ensure alignment between ongoing activities and organizational goals are contradictory. There is a tension between the increased individual autonomy to communicate freely with external and internal stakeholders and the increased managerial attention and control to guarantee alignment between ongoing activities and organizational goals. In many ways, innovation and management control functions represent two contradictory logics. Innovation represents a phenomenon that is open, emergent, chaotic and unpredictable (Perrin, 2002), whilst management control activities are more closed, planned, formal and predictable (Merchant and Van der Stede, 2007).

Echoing these differences, there has been a discussion in the innovation literature related to whether management control has the ability to help or hinder innovation, often referred to as the “help or hinder debate” (Akroyd, Narayan, and Sridharan, 2009). This discussion has resulted in two separate research streams: one arguing that management control helps innovation (Cooper, 2001) and one arguing that management control hinders innovation (Amabile, 1998). This paper aims to build a bridge between these discrete research streams and extend the insight from Foss *et al.* (2011) by addressing the following research question: *How are innovation practices incentivized and controlled to ensure the successful implementation of open innovation processes?*

In this paper, our aim is to contribute to filling this gap by exploring the practice of innovation in one specific subset of services: scale-intensive services. Scale-intensive services are standardized services produced on a large scale mainly by large firms. Examples are bank services, insurance services, telecommunication services and logistics services (Pavitt, 1984).

2. Theory

According to the innovation management literature (Froehle and Roth, 2007; Kahn, et al., 2006) and the Product Development and Management Association (PDMA) certification work (PDMA, 2006, 2012), an important dimension of service innovation management is strategy. Innovation strategy refers to the articulation of the role of innovation in achieving the organizational goals (Cooper, Edgett, and Kleinschmidt, 2001) by aligning the overall business strategy with the innovation decisions (Menor and Roth, 2007). Other research streams emphasize that innovation is becoming increasingly open (Chesbrough, 2011; Chesbrough, Bouquet, and Barsoux, 2011; Vargo and Lusch, 2004). Chesbrough (2003) introduces the concept of “open innovation”, stating that firms should use external as well as internal ideas, and internal and external paths to market, as they aim to advance their technology and value proposition. A main characteristic of open innovations is that it involves multiple actors who act in a world of changing objectives (Fung, Fung, and Wind, 2007; Westerlund and Leminen, 2011). Hence, open innovations eliminate the organizational boundary of the in-company and out-company origins of innovation. This view is also supported by Vargo and Lusch (2004). They suggest that value creation is intimately linked to client interaction and less connected to the protection of property rights. Thus, central to their service-dominant logic is the proposition that the customer becomes a co-creator of value (Payne, Storbacka, and Frow, 2008).

That service innovation is positively related to co-production is empirically confirmed by Chen, Tsou, and Ching (2011). A service innovation is a new service experience or service solution that consists of one or several of the following dimensions: a new service concept, new customer interaction, new value system/business partners, new revenue mode or new

organizational or technological service delivery system (Hertog, van der Aa, and de Jong, 2010). However, it is not explained which strategy requirements an open service innovation approach entails. Chesbrough (2003) describes an open innovation funnel with a “fuzzy front end” that implicitly requires strategy to prioritize innovation activities, resource mobilization and incremental or radical innovations across current and new markets.

Moreover, the increased openness and client-centricity create institutional constraints on the organization. Foss, et al. (2011, 996) emphasize this point when they propose that the drive for client-centricity empowers individuals to interact more autonomously with the organization’s external environment as boundary-spanning individuals (Rosenkopf and Nerkar, 2001). These individuals need incentives and decision rights to engage in such boundary-spanning activities, as well as the possibility to communicate easily with the focal firm. Foss *et al.* (2011, p. 980) explicitly state that there is “some evidence to suggest that companies increasingly are changing their internal organization toward greater delegation of authority and better communication within the firm (particularly along the lateral dimension) and performance incentives (e.g. Zenger and Hesterly, 1997).”

In particular, Foss *et al.* (2011) recommend increased emphasis on organizations’ individual incentive systems as prerequisites for good innovation practices whereby firms attempt to leverage user and customer knowledge in the context of innovation: “through the use of new organizational practices, notably, intensive vertical and lateral communication, rewarding employees for sharing and acquiring knowledge, and high levels of delegation of decision rights” (Foss, et al., 2011, 980). The authors define incentive systems as “work practices that enhance internal information flows and give motivation (incentives) and latitude (delegation). Moreover, the focus on delegation, internal communication, and incentives allows for a focus on the factors that directly affect the behaviour of given employees. Improving the skills of the pool of employees is much more long term in nature and is not so directly related to social behaviour within the organization” (Foss *et al.*, 2011). In their review of the extant literature on innovation, they identify a variety of descriptions of individual incentives used in organizations: incentive plans/profit sharing, formal appraisals, merit-based promotion (Huselid, 1995); line incentives (Ichniowski, Shaw, and Prennushi, 1997); incentive pay (Ichniowski and Shaw, 1999); decision architecture (Mendelson, 2000); skill-based pay, group-based pay, performance-based promotion and employee stock ownership (Guthrie, 2001). Thus, Foss *et al.* (2011) illustrate how individual behaviour can be incentivized. However, the authors do not discuss incentives aiming at the collective level. The motivation for individuals’ behaviour can differ if collaboration is required to harvest profit.

To summarize, innovation management theory emphasizes management control and explicit innovation strategies as prerequisites for innovation performance, while the theory on open innovation emphasizes individual autonomy and incentives to foster interaction with the external environment. In the following, we empirically explore this tension by focusing on practices of service innovation in scale-intensive service firms. The practice angle is particularly chosen to enlighten the study with respect to variation between collective and individual incentives. To emphasize practices, we turn to practice theories, in which practices are conceived as “embodied, materially mediated arrays of human activity centrally organized around shared practical understanding” (Schatzki, Knorr Cetina, and von Savigny, 2001, p. 2). Practices comprise multiple people and their activities, being a social phenomenon (Schatzki, 2012). The understanding of practices is inspired by organizational and management studies (Brown and Duguid, 1991; Jarzabkowski, 2005; Johnson, Melin, and Whittington, 2003; Orlikowski, 2002) and sociological theorizing about the character of society and human action (Schatzki *et al.*, 2001). Exploring innovation practices involves uncovering the patterns several individuals form when their activities are related to innovation.

3. Methodology

The study is based on empirical case materials derived from interviews in five large international scale-intensive service firms (Pavitt, 1984). In preparation for the interviews, a questioner guide was developed and based on the PDMA glossary (PDMA, 2006). The five participating firms were theoretically sampled (Eisenhardt and Graebner, 2007; Flyvbjerg, 2011) to shed light on issues related to the balance between managerial control and individual autonomy.

Scale-intensive services are standardized services that are produced on a large scale mainly by large firms. Examples include bank, insurance, telecommunication and logistics services (de Jong, et al., 2003; Pavitt, 1984). These services have some characteristics that distinguish them from other services: e.g., they are often dependent on physical networks or information and communication technology (ICT) networks (Soete and Miozzo, 1989). Scale-intensive service firms are particularly relevant to this study as these firms standardize and harvest from scale advantages and thus to a large extent experience the effect of the tension between open and client-centric innovations and the organizations' needs to align activities.

The five scale-intensive service firms selected operated in both business-to-consumers and business-to-business markets. Alpha and Epsilon are in the insurance industry, Beta is in the telecommunications industry, Gamma is in the financial services industry and Delta is a state-owned limited company within the logistics and mail services industry.

Data were collected during 25 semi-structured interviews lasting between 1 and 2 hours. The interviews were recorded and transcribed. The units of analysis are service innovation projects. To reflect both the strategy and the innovation practices of the firms, informants with different roles, and from different firm levels, were chosen: managers and business development and IT specialists.

Insert Table I about here

There were also more frequent interactions between the research group and the five key informants, one from each of the participating firms. The key informants functioned as liaisons between the researchers and the respective firms and they were involved in the identification of informants. The data were inserted into NVivo and coded.

In order to make sense of the data, the analysis progressed in several stages. First, the material was thoroughly discussed, summarized in PowerPoint and presented to selected employees and managers in the firms to validate the data's veracity and enhance the trustworthiness of the analysis (Lincoln and Guba, 1985). Second, the material was scrutinized in the light of the research questions. We uncovered how the innovation practices were incentivized on the one hand and how they were controlled on the other hand. In this way, we were able to detect how individual autonomy was enabled, whether incentives to foster open innovations were present and how management control and explicit innovation strategies were involved. Third, we contrasted the findings with the existing theory.

4. Findings

We first report the open innovation practices found in our case firms. Thereafter, we report our findings related to i) the individual autonomy and incentives to foster open innovations and ii) management control and explicit innovation strategies as prerequisites for innovation performance. We use illustrative quotes to demonstrate the findings.

4.1 Open innovation practices

We found that the employees responsible for innovation mobilized both internal and external resources to accelerate the innovation process and to ensure successful realization of their innovation efforts. This practice may be illustrated by the following statements from two employees:

Networking and creating ownership are extremely important. Even with the top manager in Sweden, with 400,000 customers, even she said yes. There is so much power. A good internal project manager is one who knows people, and networking is extremely important: excessively important. (Employee, Gamma)

[We talk to customers], first and foremost, because decision-making processes in these kinds of large companies require that we have a relationship [with them]... I think that it helps to talk with them, to have a relationship [with them] ... so that they will work with us and buy our services. Hence, it is important for us to listen to their needs. (Manager, Beta)

Our findings also suggest that being an innovation manager often involves a boundary-spanning role in which internal and external resources collaborate:

I have “followed the book”, but it has been extremely demanding. It is as if my job is a “talking” job, and I go around and talk and talk, and I get so tired of my own voice. I meet people and often I’ll ask, “Why don't you talk with him? Why don't you know each other?” and they’ll answer “I have never talked to him” and I reply “But, I know that he is sitting and working on exactly the same things as you do!” I take it for granted that people collaborate; if they don't, then we won't make it. That is why all of these ideas have been lying there, unsolved, because they have not collaborated ... So, mainly it is about walking around, talking to people and making them talk together. I have faced a lot of challenges and have made communities work together that have never worked together before. For instance, [there are] two different external agencies that do the same job ... I have intervened and said “This is not working; you have to do the same thing.” I have even tried to make these two agencies collaborate on my project ... that has been challenging. But, this is an example of the kind of iron door that I kick open. (Employee, Alpha)

The findings also indicate that concept and idea generation also occur in relation to the external environment:

We are good at capturing the needs that come in early and seeing the core of the services. There are many things we're thinking about, such as the backlog that we would like to take out, and ideas and suggestions as to what we can add and what we can do better. Many are creative for what works for the new service innovation and we catch it and get it from sellers. Some of our challenge is that there are so many concurring needs, so we have to be strict on prioritizing. The difficulty in prioritizing is that we are a relatively small group so we cannot tailor-make solutions according to all the wishes and identified needs. (Manager, Delta)

4.2 Incentives for innovation activities

Our findings suggest that individual autonomy and perceived ownership of the innovation processes were important for committing to the innovation activities:

In my old job we had a way of working that was dramatically different from what we saw in many large companies, and that is the typical suggestion box. Whether it is digital in using some fancy tools or whether it is a physical box, it does not matter. You ask for innovation ideas, and you might get about 2000 ideas, but no one is doing anything about them. Of course you lose the internal commitment then. Then, you have used up the chance. So it's about putting the idea generation and development in the system. [...] If you ask about good ideas, then it's not taking ownership to not do something with those. (Innovation professional, Gamma)

We found a few examples in the case firms of the implementation of explicit individual incentives aimed at individual performance and behaviour. An employee of Epsilon, for example, stated:

The incentives are individual ... such as a performance bonus. (Innovation officer, Epsilon)

However, we found very few explicit incentives related to the collective effort needed to succeed with open innovation. The practice may be illustrated by the following statement from an employee in Beta:

Beta wants to move in a more open direction to the ecosystem we are part of. What clearly emerged was that there was no structured process in front, in the idea collection. So we have no process to manage ideas, or challenge them either, such as how to drive innovation together with other players in the early stages. (IT professional, Beta)

Moreover, the current innovation practices do not fully realize the potential from open innovations and this is according to the informants related to incentives to share knowledge between organizational units and external parties, as illustrated by an employee of Beta:

One of my focus areas has been to answer the following: how to create a structured fuzzy front-end process and how to find incentives to share innovation-related knowledge, and - thus fuelling fuzzy front-end engine incentives. Today there are no incentives to share that knowledge. Thus it also stopped in a way. Internally, we are organized in silos with very tight bulkheads and only vertical incentives, so they have nothing useful to enable cooperation. (IT professional, Beta)

4.3 Management control and explicit strategies for innovation

Our study reveals a lack of explicit innovation strategies in the case firms. In all the case firms, we found that the general business strategy was guiding the decision process related to innovation projects. The practices may be illustrated by the following statements:

In our strategy documents, there is nothing about being in front. And we don't have a defined innovation strategy. The work on defining the overall innovation strategy or activities was put aside during the financial crisis and has not been picked up since then. (Business manager, Alpha)

My experience over the last few years is that seeing ideas and opportunities is not the problem. We have a large number of new ideas; the challenge lies in taking ideas to commercialization. It is mostly about implementing, prioritizing and developing good ideas. (Business developer, Epsilon)

We are characterized by a culture that seeks low risk. Innovation and creativity are less safe. The priority initiatives are often linked to what we see the competitors are doing to succeed. Our culture is a challenge for an innovative organization. This is probably the insurance industry; there is little innovation in general because core business is the reduction of risk. (Business developer, Epsilon)

Our findings also indicate that business relations were not perceived as strategic innovation resources:

The standardized customer–supplier model sits very deep in the company, and naturally enough it is the one that is rooted in the project model. And it's very difficult to make changes there. (IT professional, Beta)

We also found that the innovation measures implemented in the case firms to a large extent were generated internally and during the innovation activities, and they were predominantly on a project level and not at a strategic level. The following statements from our informants illustrate the practice in the case firms:

We've created a strategy for what we can imagine using. The target image and a strategy – is to build up some channels that are small today and take down the other. [...] In business development, we obtain (innovation) management initiatives. It says something about what we should consider, and the measures that they believe are important to the company. Then we try to create a mandate – what is the purpose of the measure – the resources, time, scope and type of impact we believe the initiative can bring. Once that is done, we go into a creative idea phase to see what's out of options – create hypotheses to see what is possible, technical, marketing and resources [...] So we establish a formal project and get resources to manage the project. Then there is the development of a project that over time is taken over by the line organization and then introduced to the market. (Business developer, Epsilon)

In our culture, we must have quick time to market. But we do not have measurements or clear structures to ensure that this will actually succeed. We draw a funnel, innovation process with various ports – 100 ideas, 20 cases – 10 projects – resulting in 4 new services. We tried this but we are not systematic. We are actually not successful in measuring this, although we tried a few times. (Manager, Alpha)

I am only measured in terms of the deliveries I do: how satisfied the business areas are with my delivery. However, I would like to be measured about the process innovation. We have no central innovation unit; it is delegated to each business unit. (Innovation manager, Alpha)

There are limited performance measures explicitly attached to innovation performance. (Manager, Delta)

All the informants, however, perceived their practice in this area as problematic and wanted to implement aggregated measures with higher strategic relevance. The general perception was that the overall business strategy set the scope for innovation activities and general performance measures attended to the overall business performance and hence adhered to the collective effort required for innovation activities.

To summarize, our findings related to the control of and strategies for innovation activities suggest that there are shortcomings in connecting innovation and overall business strategy, that there is a lack of explicit innovation strategies and innovation incentives and that there are few measures aiming at innovation performance.

5 Discussion

In this study, we have explored how innovation practices are incentivized and controlled to ensure the successful implementation of open innovation processes. We found that individual autonomy enables the internal and external networking required in open innovations. However, innovation performance requires a collective effort and the existing incentives in our cases apply only to individual behaviour. The overall business strategy, on the other hand, provides the scope for collective innovation activities, but there are limited explicit innovation strategies and few measures aiming explicitly at innovation performance. The implication of the study is that individualized incentives do not suffice to motivate and direct the required collaboration and collective effort. In contrast, the general performance measures capture the collective dimensions better. However, the existing performance measures lack relevance to innovation performance and support short-term and revenue-generating decision making.

Our findings suggest that the incentives for service innovation activities were predominantly aimed at individual behaviour. The studied firms used a limited number of measures to evaluate the outcomes of their innovation activities and utilized general performance measures that to a larger degree evaluated collective performance. Several informants stated that their innovation activities involved a boundary-spanning exercise between internal and external stakeholders and that the innovation performance was a collective effort. The scale-intensive service firms explored did not have explicit innovation strategies but rather general business strategies. The employees involved in innovation activities in these scale-intensive firms exercised considerable autonomy, enabling them to perform the boundary-spanning role required to coordinate the internal and the external resources that collectively contributed to innovation performance.

The findings confirm that the increasing drive for openness and client-centricity in service innovations produces a tension between the autonomy of employees engaging in boundary-spanning innovation activities and the need for management control and alignment between innovation activities and organizational goals. Open innovation practices are collective efforts and will suffer if performance measures and incentives apply only to individual behaviour. These findings suggest that the capacity to enable collective efforts and mobilize both external and internal resources are to a limited degree linked to individual incentives but more to performance measures that apply to the collective level of the innovation outcomes.

The collective effort is an aspect that is not addressed by Foss *et al.* (2011) in their argument for the prerequisite attention to incentives to foster innovation performance. Our findings suggest that the incentives aimed to affect individual behaviour do not necessarily align individuals' efforts to enable a collective effort. Thus, we offer the following proposition:

P1: Innovation activities benefit from incentives and performance measures that capture innovation activities at the collective level, and not only individual behaviour.

The extant innovation management literature suggests that an explicit innovation strategy is articulated and that there is a relation between sustained innovation performance and the existence of a predefined innovation strategy (Barczak, Kahn, and Moss, 2006; Cooper, et al., 2001; Froehle and Roth, 2007; Menor and Roth, 2007). We found that our case firms had not defined specific innovation strategies. Instead, the overall business strategy of the case

firms gave direction to innovation activities, and based on this we offer the following proposition:

P2: The overall business strategy sets the scope for innovation activities and general performance measures apply to the collective effort required for innovation activities.

Moreover, our findings suggest that measuring and controlling innovation activities in detail are difficult, while general innovation outcome measures to some degree capture the collectiveness of innovation activities. Performance-oriented management control initiatives attend more to outcomes than behaviour, and are thus by nature more collective. Hence, we put forward the following proposition:

P3: Explicit innovation strategies, incentives and performance measures reduce individualistic behaviour and short-term decision making, enhancing innovation performance.

Based on the findings of our study, performance measures that promote innovation practices appear to be more relevant to the innovation performance in these large scale-intensive service firms than innovation incentives since performance measures capture the collective dimensions of innovation practices better than individualized incentives.

Consequently, whereas Foss *et al.* (2011) raise some important questions with respect to individual autonomy, open innovations and incentives, they underemphasize the collective and collaborative aspects of innovation practices and the effect of individualized incentives on innovation performance. In addition, Foss *et al.* (2011) highlight the importance of connecting innovation practices with management control systems. This study indicates that there are existing general performance measures aimed at the collective level, but they do not directly incentivize improved innovation performance.

6 Conclusion

The extant theory claims that the increasing drive for openness and client-centricity, especially in service innovations, produces a tension between the autonomy of employees engaging in boundary-spanning innovation activities and the need for management control and alignment between innovation activities and organizational goals. This study reveals how addressing the effect of incentives and performance measures on the individual as opposed to the collective level can reduce this tension. Open innovation practices are collective efforts and will suffer if the performance measures and incentives attend only to individual behaviour. The main lesson that can be drawn from this study is that innovation performance benefits from incentives and performance measures that facilitate innovation practices at the collective level, not only individual innovation behaviour.

There are some obvious limitations to our study. Our explorative research design with its limited sample cannot claim generalizability based on statistical representativity. However, the strategic sampling of scale-intensive service firms suggests that there is the potential to transfer our observations to other types of firms experiencing tension between individual autonomy and managerial control. Based on our limited sample, we cannot claim external validity for our findings, whereas the internal validity and veracity of our findings are maintained as the exploration of the innovation practices involved the multiple roles concerned and the process of data analysis allowed for the verification of the findings and initial analytic constructs. Further research should emphasize the testing of the suggested propositions in a broader set of scale-intensive firms as well as in firms from other sectors to verify the generalizability of our findings.

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Appendix

Firm	Key informants	Management	Innovation	IT	Other	Total
Alpha	1	1	1	1		4
Beta	1	2	2	2	1	8
Gamma	1	1	1	1	1	5
Delta	1	1		1	1	4
Epsilon	1	1	2			4
Sum	5	6	6	5	3	25

Table I: Data Sources