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GENERAL PRESENTATION. RETHINKING BOUNDARIES FOR INNOVATION: EXPLORING THE SHAPES AND STAKES OF THE OPEN INNOVATION PHENOMENON

Thierry Burger-Helmchen, Caroline Hussler, Julien Pénin

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GENERAL PRESENTATION. RETHINKING BOUNDARIES FOR INNOVATION: EXPLORING THE SHAPES AND STAKES OF THE OPEN INNOVATION PHENOMENON

Thierry BURGER-HELMCHEN

BETA, EM Strasbourg
University of Strasbourg, France
burger@cournot.u-strasbg.fr

Caroline HUSSLER

RECITS, BETA
University of Technology of Belfort-Montbéliard, France
caroline.hussler@utbm.fr

Julien PÉNIN

BETA, Faculty of Economics and Management
University of Strasbourg, France
penin@unistra.fr

Economic and management studies have investigated the origin and dynamics of firm boundaries in-depth, dealing with their influence on the production and the commercialisation processes of goods and services. Recently however the analysis of the boundaries in their various dimensions (horizontal, vertical, within or outside the firm, in terms of communities, etc.) switched away from production and commercialisation, to integrate a focus on the innovative process. The question thus became: which are the appropriate boundaries to be designed in order to catalyse innovation? Whereas historically this core and strategic activity was mostly kept internal, firms progres-

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sively have been reconsidering alternatives between doing innovation by themselves, with others, or simply by buying innovative products on the market. Indeed, according to Chesbrough et al. (2006) adopting an open innovation strategy is a key to success, but not the only one as noted by Pisano and Verganti (2008). Hence, we have recently seen the development of new forms of distributed innovative models and practices such as markets for ideas, crowdsourcing, open source co-development, which shed new light on the analysis of firm boundaries.

Rethinking the boundaries of the firm, by considering them as equally important for creation of ideas as for production of goods or services, changes the nature of the economic problems and the management challenges at stake. The analysis of the impacts of those recent changes calls for additional academic contributions and motivates this special issue.

In the first article of the Special Issue on *New Shapes and New Stakes: A Portrait of Open Innovation as a Promising Phenomenon,* Julien Pénin, Caroline Hussler and Thierry Burger-Helmchen introduce and define the concept of open innovation popularised by Chesbrough (2003). The authors first provide the main outlines of this concept and then specify its shapes, by presenting the heterogeneous forms of open innovation a given firm may adopt, according to their degrees of openness and of interactivity. This introductory article also provides an opportunity to discuss the stakes of open innovation, i.e. to come back to the costs and benefits of open innovation for organizations and to highlight the determinants that may affect the likelihood of success of such a strategy.

The overall context being set up, the rest of this special issue gathers papers which focus on and tackle some more precise (recurrent or non-recurrent) questions associated to the topic. Among them, two contributions are interested in understanding who are the major actors of the open innovation phenomenon and what are their main objectives, whereas the three other papers investigate the challenges raised by the development of open innovation practices (in terms of management, competition and quality of innovation produced).

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THE ROLE OF FIRMS IN OPEN INNOVATION MODELS

When analysing open and collaborative practices, a crucial actor appears on the stage: the boundary spanner. The term boundary spanner refers to those individuals whose relationships span boundaries within and beyond the organization. They provide bridges between different networks or groups of individuals. But who are they and what is their influence on the evolution of the innovative boundaries?

Nicolas Jullien and Jean-Benoît Zimmermann tackle this question in the case of a FLOSS (Free Libre Open Source Software) environment. In such an environment one can legitimately wonder whether firms, users and communities, who do some similar tasks, have a similar influence on the collective outcome, or whether on the contrary, they push it in opposite directions. To put it differently, the question becomes what are the respective roles of firms, users and communities, and can all these groups coexist and hold a viable position?

To answer these questions the authors first pinpoint that they do not know successful FLOSS products without any firm in their ecosystem, firms being in those cases either responsible for financial support of foundations (Eclipse, Linux) or for commercial support. Various approaches on these phenomena have been proposed, but most of the time, scholars studied either the implication of firms in a community or the integration of FLOSS into their market strategy, but not both. In their article, Jullien and Zimmermann plead for a more structured and global analysis, based on industrial economics concepts, thus starting from the basic conditions of the computer market and of the demand. This conceptual framework helps them to distinguish between the different roles firms may play in the FLOSS ecosystem and, more specifically, allows them to highlight and explain the variation in the intensity of firms' involvement in the development of the collective project.

By restating the role of every actor in such an open innovation environment, they clearly show that most of them do play ambivalent roles (mixing proprietary activities with open ones), and that all of them do have different motivations to take part in the FLOSS projects (those motivations evolving through time). But, as profit seeking entities firms play an even

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more ambivalent role as they need profit generating activities (not available through free libre practices exclusively) but simultaneously do not want to be excluded from user-communities, which motivates them to continuously redefine their boundaries.

If firms remain the major actors in the distributed innovative process, the next step of the analysis consist in understanding which are the firms -and other contributors- which mostly adopt those new and borderless innovation models, and in studying the main motives and incentives for them to engage in such open innovative models.

WHO ARE THE MAIN USERS OF (AND CONTRIBUTORS TO) THOSE NEW AND BORDERLESS INNOVATION MODELS?

Eric Schenk and Claude Guittard have those questions in mind when they describe the crowdsourcing phenomenon used by a vast variety of firms for very different tasks. The word crowdsourcing - a compound contraction of Crowd and Outsourcing -, is used in order to define outsourcing to the crowd. It covers heterogeneous situations and it has inspired a number of authors, but the aim of the Guittard and Schenk paper is precisely to provide a general and synthetic view of this concept and to characterize Crowdsourcing in various dimensions: first by defining Crowdsourcing, and by providing examples that illustrate the diversity of Crowdsourcing practices; then, by presenting similarities and differences between Crowdsourcing and other established concepts and theories (such as Open Innovation, User Innovation and Free-Libre-Open Source Software). The main goal of Schenk and Guittard is to avoid future misunderstandings and to show that Crowdsourcing is a concept *per se*.

In a second step, they build an original typology of Crowdsourcing practices based on two criteria: the integrative versus selective nature of the process and the type of tasks that are crowdsourced (simple, complex and creative tasks). Their paper concludes with some hints on the impact the emergence and development of crowdsourcing may have on the ways firms do and manage innovation.

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Complementing those first reflections on the consequences of open innovation practices, another contribution of this special issue investigates more in depth the managerial challenges raised by this new phenomenon.

HOW DO FIRMS REBUILD OR RESHAPE BOUNDARIES?

If open source, open innovation or crowdsourcing become the standard organisational forms to perform innovation in the 21st century, how do those new phenomena influence the competences and tools needed to stimulate and govern distributed knowledge collaborations? Do firms need to develop specific dynamic capabilities to manage those borderless knowledge exchanges?

In their paper "Innovation 3.0 embedding into community knowledge – Collaborative organizational learning beyond open innovation", Joachim Hafkesbrink and Markus Schroll provide an original conceptual approach of the next generation innovation paradigm in the digital economy (which they call "embedded innovation" or innovation 3.0), in which they give deep insights into the need for reshaping firms' boundaries and into the managerial stakes of such a major change.

Concretely, the authors explain that the main challenge for the forthcoming years consists in integrating the firm into the communities they are working with, rather than in helping them to develop efforts to harness those communities. Indeed, the new innovation paradigm, "Innovation 3.0", is mostly based on collaborative learning and firms have to swim in a sea of communities and to irrigate themselves with the knowledge those communities create. To develop their arguments the authors use a series of longitudinal case studies in the digital economy which allow them to identify the main competences required to become successful and innovative in this new era.

After this short look at the internal consequences of the development of open innovation practices, the next paper aim at studying the external consequences they might have, i.e. at testing whether and how these distributed innovative practices modify the rules of competition.

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DOES THIS NEW WAY OF DOING INNOVATION MODIFY INNOVATION COMPETITION?

Introducing a collaborative innovative behaviour might modify the way competition is organised and revenues are shared. For instance one might be interested in knowing whether the research strategies of different firms are more correlated to one another when the innovative boundaries become more open ended, or whether one should fear that too many multi-firm collaborations on technological fields and innovation might lead to too unified and homogenised a view (which in turn would sterilize innovation in the long term), etc.

Adrien Querbes-Revier, in his work on the open source consortia in mobile OS (operating systems) development, provides an original case-study-based analysis of the way the introduction of open innovation practices has modified strategic choices and competition in this industry. More precisely, he explains how the trivialization of smart phones gave rise to the complexity of the mobile operating system innovation process, and how, in order to deal with such a complexity, phone makers have recently created and taken part in open innovation consortia (such as the Symbian and LiMo Foundations, or the Open Handset Alliance). Querbes-Revier analyses these consortia via two interlinked issues: standard settings and the diffusion / appropriation of technological knowledge. He shows that these consortia are original forms of open innovation and act as complementary standard committees rather than market competitors. Finally, if historically competition in this industry was mainly organised around the production of differentiated platform software, phone makers have changed the rules of competition, agreeing in some specific cases to collaborate on some components of their products.

But if competitors may choose to adopt open innovation practices and develop their innovations jointly, the next contribution investigates whether firms modify their innovative boundaries (by agreeing to collaborate with others) for all types of innovation, or whether their behaviour varies, depending on the more or less strategic value of the innovation they are working on (strategic innovation remaining developed internally whereas small and marginal innovative projects become shared and outsourced).

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WHAT IS THE VALUE OF IDEAS CREATED IN A BORDERLESS CONTEXT?

According to Teece, the value of an idea increases when (i) the technology is not easily expropriated by others and (ii) specialized assets exist that must be used in conjunction with the innovative product. Today in the new innovation model, (i) the technology is jointly owned by several firms, and (ii) the specialized assets are traded from one firm to another within a specific network. Does this lead to a decrease in the quality of collectively developed innovation as compared to the one developed by a single firm?

The collective work by Stoyan Tanev, Pavel Durchev, Hristo Milyakov, Petko Ruskov Steve Allen, Tony Bailetti entitled "How do value co-creation activities relate to the perception of firms' innovativeness?" precisely tackles this question. According to them, value co-creation is an emerging marketing and innovation paradigm describing the opening of the firm to its customers by providing them with the opportunity to become active participants in the design and development of personalized products, services and experiences. Their paper starts with an attempt to conceptually refine the value co-creation paradigm and continues with the identification of the key components of value co-creation, based on a research methodology using web search and Principal Component Analysis techniques applied to data collected from a sample of 273 firms. In a third step, the authors examine the relationship between the degree of firms' involvement in value co-creation and the characteristics of the innovation output, leading them to highlight different logics of value co-creation implementation patterns.

To conclude this introduction, if one wondered whether there was still something new to say on the open innovation phenomenon - after so many papers and special issues on the topic - the reading of the papers of this special issue will undoubtedly have convinced the JIE's reader that there remain many interesting research possibilities to be investigated: Open innovation is more in a launching phase than in a maturity one.

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Note

The order of presentation of the articles in the journal has been determined by random draw, all papers contributing equally to the special issue.

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