

Contribution Details

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R&D project governance with multiple and diverse partners: case study in the electricity sector

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Theme 5: Emerging Markets: 5.3 - Company Innovation Management in Emerging Countries: multiple challenges for corporate governance

14 pages

Abstract

Context

The electricity sector faces competitive pressures due to the emergence of new forces such as decentralization, decarbonization, and digitalization [1]. Seeking innovative outcomes, a Latin American electricity company has designed an R&D model based on alliances with multiple partners, including universities and startups, leading to governance challenges and opportunities.

Literature

Martinez-Noya and Narula (2018) [2], in their review of R&D alliances literature, present different research branches, such as nature and typologies; motivations; projects scope; type of the partners and locations' role; contracts and agreements design; effects on firms performance. We decided to focus on the role of governance on R&D project with multiple and diverse partners. Gesing et al. (2015) [3] discuss mechanisms of governance for different partners, such as market and science-based collaborations, advocating a contingency view of open innovation. Fey and Birkinshaw (2005) [4] approach governance modes choices for external R&D and its impact on performance. Li et al. (2012) [5] address the issue of the complexity in multilateral R&D project governance. On alliances with multiple and diverse partners, Van Beers and Zand (2014) [6] found that partners with different functions, such as suppliers along with universities, affects positively radical innovation performance.

Literature Gap

Martinez-Noya and Narula [2] point out that there are "few studies that have studied this fragmentation of the innovation process" (p. 200) when externalizing the R&D through multiple and diverse partners. Van Beers and Zand [6] also highlight the importance of a deeper understanding of R&D multiple collaboration schemes.

Research Questions

What are the governance challenges and opportunities that arise within external R&D projects with multiple partners with different profiles?

Methodology

Orchestrating multiple and diverse partners has been pointed as relevant, even though not completely explored in the literature [5, 6]. Therefore, this paper aims to explore the implications of a new R&D model based on alliances with multiple and diverse partners. This paper follows a qualitative approach, discussing two case studies [7] of external R&D projects from a Latin American electricity company. Data were collected through interviews with project managers, participants, and the company's representatives; observatory participation in meetings and workshops; on-site visits and access to internal documents.

Empirical Material

The first case is about exploring Drones applications for inspection and maintenance of transmission lines, being the development of autonomous flight one of its main possibilities. The partnership structure involved two teams: a leading research laboratory focused on electrical and computer engineering; a startup focused on drone technologies. The partners were hired to work in a complementary way – the university focusing on algorithms development and the drone startup focusing on the applications possibilities. They were managed by a project manager appointed by the company. Data were collected over three months, in ten interviews with nine different stakeholders, two on-site visits, and one workshop. The second case has the goal to develop a fully automated monitoring solution for energy transmission line corridors and to propose socially responsible and economically viable exploitations of the corridors spaces. The partnership involved four teams: two research laboratories and two service companies. Data were collected in the early activities of the project, such as the set-up, kick-off, and ideation, through six interviews with six different stakeholders, four on-site visits, and one workshop. Documents regarding both projects were also analyzed.

Results

Inspired by Lean Startup, Design Thinking and Agile concepts, the company approached the challenge of integrating multiple and diverse partners by utilizing short cycles of development with continued participation and feedback from the company.

Autonomy for smaller decisions was given to the partners and interaction with the operational level of the company was encouraged. The results show that such strategies helped the projects achieve an increase in the rate of deliverables and at the pace of the project, inducing cross-fertilization between the partner's works. Solutions were considered as having better fit and applicability in comparison to previous traditional R&D projects, intermediary results were already absorbed, and spin-off projects derived. From the standpoint of governance, some challenges were pointed out: (i) despite having complementary skills and capabilities, integration between partners is demanding, and conflict resolution skills from the PMO were seen as insufficient; (ii) interviewers also pointed out the need for higher consistency of meetings and involvement of the company for decision making and alignment; (iii) the active participation of the operational areas caused some bias in decision making, giving priority to short over long term strategic solutions; (iv) partnership complexity impacts the processes of knowledge management.

Contribution to Scholarship

This research presents two main contributions to the current literature. First, by exploring the context of external R&D with multiple and diverse partners, offering insights on governance and innovation management, such as roles and routines that promote alignment, collaboration and a faster pace of development. The second collaborates with recent studies of new innovation processes, such as agile-stage-gate for manufacturing [8], bringing prompting discussions around the importance of topics such as governance, university, and startup-industry collaboration and opportunities.

Contribution to Practice

The present research contributes to practice by improving the understanding of R&D management when it comes to dealing with multiple and diverse partners. In our findings, we highlight the importance of: (i) a clear and present role of the project manager for better integration between the partners and conflict resolution, such as managing the relationship between different mindsets from university and start-ups; (ii) understanding and managing different incentives for diverse partners; (iii) routines oriented to continuous, frequent feedback and active participation in the process; (iv) organizing decision-makers in a way that creates balance between short term and long-term horizons.

Fitness

This research presents a new approach to creating a more dynamic R&D process. Being in an emerging country context, characterized by public universities and stated granted concessionaires, it aligns with the concern of the section on understanding how to develop, and get better management of ambitious innovation strategies.

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Session Details

21-PM2-01: ST5.3 - Company Innovation Management in Emerging Countries: Multiple Challenges for Corporate Governance

Time: Friday, 21/Jun/2019: 2:45pm - 4:15pm

Location: Amphi Painlevé (Polytechnique)

Session Chair: Dirk MEISSNER, Higher School of Economics, National Research University, Moscow