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53. Overcoming Organizational Obstacles to Open Innovation Success

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Abstract and Keywords

Open innovation is a powerful concept that can explain various phenomena within the area of innovation management. There are however different organizational obstacles that may limit firms' ability to apply open innovation successfully: the link with corporate and business level strategies might be unclear or missing, and different capabilities and management competencies are needed to efficiently implement open innovation compared to closed innovation. In this chapter we will further explore internal / organizational level obstacles, which tend to support or hinder the successful implementation of open innovation practices.

Keywords: Growth strategy, Absorptive capacity, Dynamic capabilities, Open innovation strategy, Partnering skills, Organizational obstacles

Introduction

Firms increasingly rely on open innovation to boost the performance of their innovation activities. For a long time, the literature has been focusing on the strategic benefits of open innovation (Albats et al., 2021; Bogers et al. 2017, 2019; Chaudhary et al., 2022; Chesbrough 2003b; Chesbrough et al., 2006)). Although there is ample evidence that open innovation has enabled firms to be more innovative (Du et al. 2014; Laursen and Salter 2006) we still do not have a clear understanding of the organizational obstacles to open innovation (Abhari and McGuckin, 2022; ; Audretsch and Belitski, 2022; Bigliardi et al., 2020; Salge et al. 2013; Saura et al. 2022; Stefan et al., 2022). Some of the organizational level open innovation challenges were already highlighted in other chapters from this volume focusing on failures (Chesbrough, 2023b, Chapter 55), large companies (Chesbrough, 2023a, Chapter 10) and SMEs (Radziwon and Vanhaverbeke,

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2023, Chapter 8). In this chapter, we will specifically focus on organizational obstacles which keep open innovation from achieving successful results. Moreover we will examine under which organizational conditions open innovation might be particularly useful. We start with the failure to integrate open innovation strategy to a firm's corporate or business level strategy. Second, we focus on open innovation failures at the process level. Third, we pay attention to the back-end problems of open innovation. Finally, we consider how open innovation strategy depends on firms building capabilities, including technical capabilities, absorptive capacity and dynamic capabilities.

Strategic obstacles

Open innovation obstacles at the strategy level are related to the development and implementation of open innovation strategies. We distinguish different types of strategy related obstacles: poor integration with corporate strategy, misalignment with a firm's business model and business model innovation failures.

Poor alignment with corporate strategy

Firms often engage in open innovation activities to address challenges in R&D projects or when internal knowledge has proven to be ineffective in ongoing innovation projects. Sadly, quite frequently Open Innovation is added as a garnish in an ad hoc process. In such situations, there is at best a poor alignment between Open Innovation initiatives and a company's corporate strategy. This may lead to its ineffectiveness (Bertello et al., 2022). Instead, the way how Open Innovation could be properly linked to corporate strategy depends on the firm's growth strategy. Table 53.1 shows how McKinsey's three horizons of growth framework (Baghai et al., 2000) maps onto Open Innovation strategies. The innovation efforts should consider not just one or two, but all three

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horizons simultaneously. At the same time each horizon has to be managed and measured differently. *Table 53.1: Open innovation strategies based on the three horizon model*

Horizon	Goals	Business Model Strategy	Open Innovation Strategy
1. Short term	Strengthen current business	Utilize known, scalable model	Utilize existing internal R&D to collaborate with in- or out-licensing
2. Medium term	Extend existing innovation to adjacent market	Likely requires model revisions	Combine existing and new R&D capabilities through joint venture or acquisition
3. Long term	Disruptive, radical or architectural innovation to develop entirely new business	Search required to discover new model	Acquire new technologies or competencies through venturing or spinout effort

Each corporate growth objective requires different Open Innovation approaches to be successful. To connect Open Innovation and corporate strategy, we use the innovation matrix of Kuiper and van Ommen (2015). The vertical axis spans the product-market life cycle from defending a market position in a declining market to creating long-term growth options in an emerging one, while the horizontal axis represents the newness of the offering. The lowest level of innovativeness is in the lower-left corner for new product creation in existing businesses, the highest level is the creation of new businesses in the upper-right one. We use the model to explain outside-in and inside-out types of open innovation, respectively in Figures 53.1 and 53.2.

Figure 53.1: Outside-in open innovation modes positioned in the innovation matrix

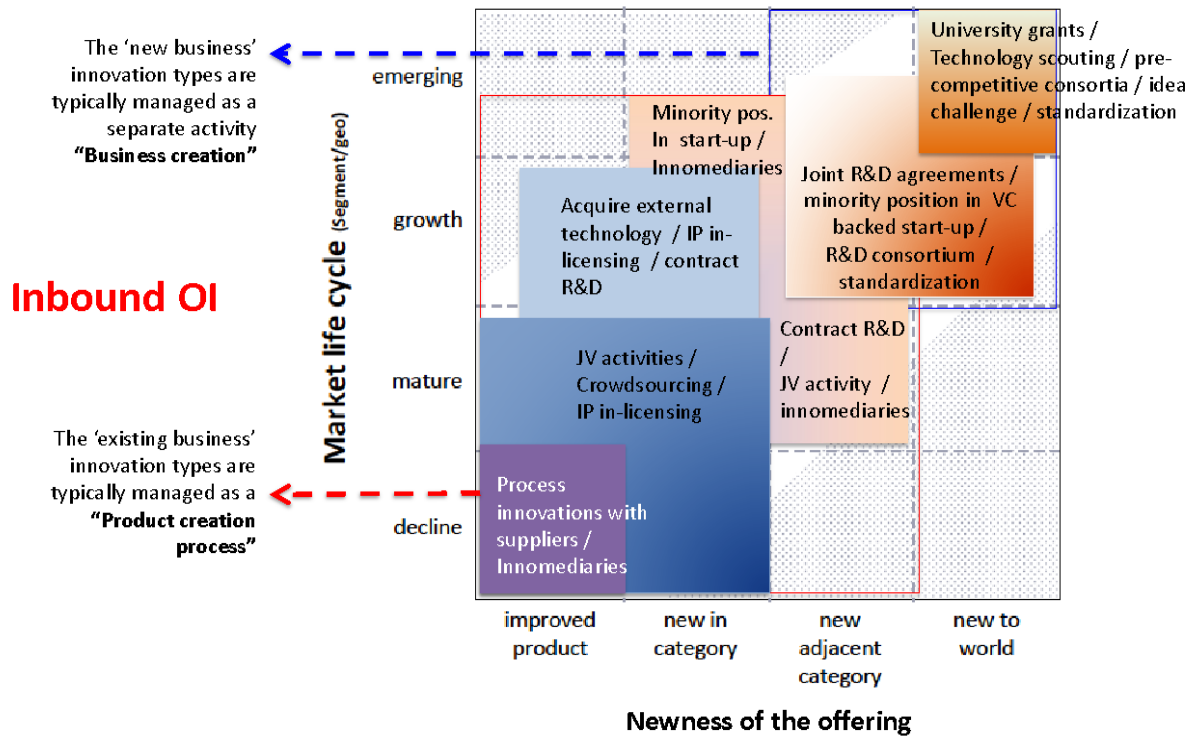
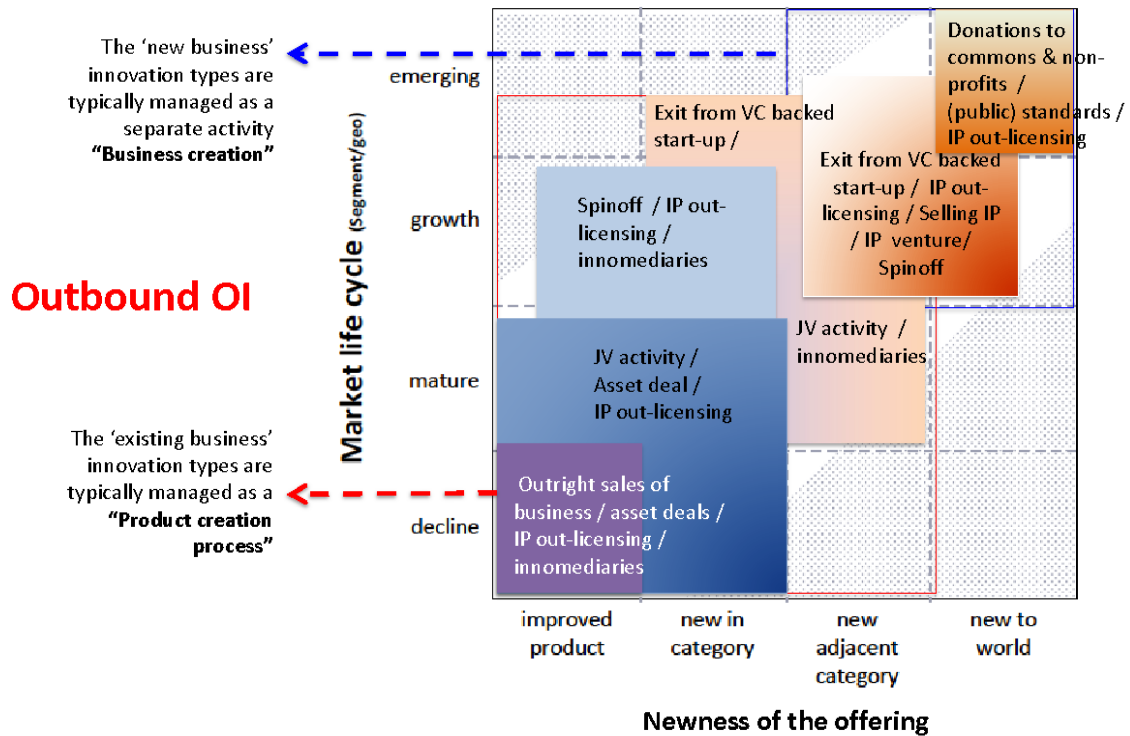


Figure 53.2: Inside-out open innovation modes positioned in the innovation matrix



Business model misalignments and business model innovation

Strategy at the business unit level deals with the question how to compete successfully in individual markets based on the design of its business model. A business model describes value creation for an organization’s customers and how it generates revenues and profits (Chesbrough and Rosenbloom, 2002). In an Open Innovation model it is a company’s business model that drives its search for innovation activities (both from internal and external sources). Managers should look for both useful technologies that can improve the business model and, the way to share or license technologies that do not fit with the prevailing business model of their business (Chesbrough, 2003a; 2006). Misalignment with new technologies (which may be internally developed or externally sourced) poses considerable challenges for the innovating company. We focus on two

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main challenges: misalignment between technology and business models and business model innovation as potential barriers for open innovation success.

Let's first focus on potential misalignments between technologies and the prevailing business model in a business unit:

When ideas and innovations connect directly to a company's business model, they create additional power and leverage for the other parts of the strategy. Conversely, when these linkages are absent, even very good ideas can be worth little or nothing, because they lack the other elements required to turn an idea into real value.

(Chesbrough 2006, 131).

Innovating firms could significantly benefit from selecting and developing ideas in line with the prevalent business model. This is easier said than done because most non-incremental (and most promising) ideas start as a patented or patentable invention while the value proposition and business idea have yet to be developed. Newly developed technology in an incumbent firm may require major changes in value proposition, customer segmentation, sales channels, key activities and assets, and revenue generation, when compared to the current business model (Chesbrough and Rosenbloom, 2002). To avoid misalignment between the extant business model and ensure good Open Innovation performance, companies should use a stepwise integration approach. Integrating non-trivial technologies could start with research collaboration and corporate venture in the early development stages and gradually move to licensing, joint ventures and technology acquisitions in the later stages. This stepwise approach will enable companies to verify whether the innovation can be connected to their business model. Early misalignment identification allows

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timely divestment of non-compatible technologies through licensing and spin-offs.

Interestingly, in some cases divesting innovations can be an obstacle to Open Innovation. More specifically, increasing the innovation process inputs may create process congestion. This may occur due to the inability to increase the pace of divestment activities. There are significant barriers to divestment in many companies: a typical example is Bayer's 7,000 researchers, while only two people were assigned to out-licensing activities in the company (Chesbrough and Chen, 2013).

Second, new technologies tend to disrupt business models and even entire industries. Extant business models can be eclipsed by new, more powerful ones. In that case business model experimentation is imperative: with a few notable exceptions, incumbents have a poor track record in redesigning and reconfiguring their business models (Radziwon et al., 2022). This problem is rooted in the inability to conceive disruptive innovations: its cause is the tension between the established business model focusing on the existing technology, and the emerging model which may be required to exploit the disruptive technology (Christensen, 1997; Christensen and Raynor, 2003; Chesbrough, 2010). Business model experimentation sounds easy, but it is a tough nut to crack as incumbents are hindered by the dominant logic of how a firm creates and captures value (Prahalad and Bettis, 1986). This logic poses a cognitive barrier to business model experimentation (Chesbrough and Rosenbloom, 2002) and it can be a double-edged sword. On the one hand it can help firms to quickly discover technological applications enhancing their business model, but on the other hand it can blind them to discovering potentially valuable uses of their technologies if they do not fit their current business model.

Dominant logic makes business model innovation difficult (Chesbrough, 2010), which is why we conclude this section by offering suggestions for managers. First, a senior manager should have

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the resources and authority to define and launch business-model experiments. Second, business-model experiments should not compete directly with the mainstream initiatives within the company. Funding these experiments with a separate pool of money set aside specifically for this purpose is one way to realize that objective. Finally, once a new business model demonstrates real potential, the company needs to test whether the model can work at higher volume and scale up. If successful, its expansion will lead to increased competition for resources between the new model and the established business model. Competition between the two models can no longer be avoided at this stage, and managers have to decide which one is a higher priority based on customers' preferences (Chesbrough, 2007).

Bad strategic resource allocation

Regardless of the size of the organization, defining clear goals and developing a clear plan for Open Innovation is crucial for proper resource allocation and the organization of Open Innovation (Abhari and McGuckin, 2022; Radziwon and Bogers, 2019; Radziwon et al., 2022). One of the most cited limiting factors in Open Innovation are resource constraints (Torres de Oliveira, 2021; Vanhaverbeke et al. 2018; von Briel and Recker, 2017). Open Innovation has to be properly organized and managed, which requires securing, allocating, and sustaining resources needed for Open Innovation operation and maintenance. Companies engaging in Open Innovation frequently underestimate that Open Innovation requires a proper organization of the intra- and interorganizational relationships, a clear definition of roles and responsibilities, a proper planning and coordination (Barbosa et al., 2021; Pikkarainen et al., 2020), and adequate funding for support functions like legal, purchasing, HR, and finance (Chesbrough, 2019). Lack of a clearly defined organization of Open Innovation activities will negatively affect the formalization of internal

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innovation processes (Gentile-Lüdecke et al., 2020; Torres de Oliveira et al., 2021) and external innovation partners will experience difficulties in determining how to contribute effectively to the open innovation process (Germonprez et al., 2020).

Process Related Obstacles

Firms engaging in Open Innovation may fail at the process level. Open Innovation managers' may be limited by their ability to manage innovation processes that involve a diverse set of external partners (Gassmann et al., 2010). Prior studies identify five main obstacles related to: 1) engagement mechanisms, 2) coordination of innovation activities, 3) time constraints, 4) digital technologies and 5) misappropriation of knowledge and intellectual property, which we will briefly elaborate on.

First, inefficient *engagement mechanisms* may limit Open Innovation operations. It's essential that a company recruits qualified and productive innovation partners (e.g. Dekkers et al., 2019; Kohler and Nickel 2017; Leckel et al., 2020; Ullrich and Vladova 2018; von Briel and Recker 2017; Yuan and Gasco-Hernandez 2021). Open Innovation requires both pecuniary and non-pecuniary rewards in attracting and motivating innovation partners. Commitment of partners should be guaranteed over the length of the entire innovation project. As interests and stakes may change over time the engagement incentives have to be adjusted accordingly.

Second, Open Innovation is not simplifying the innovation process compared to closed innovation. Organizations have to properly *manage the coordination* of the innovation activities with different external partners. Coordination can be a complex and costly task to accomplish. Its costs have been found to “constitute an important barrier to the effectiveness and efficiency of joint work in innovative settings” (Vural et al., 2013, p. 134) and, consequently, they may represent

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a significant barrier to collaborative innovation. Vivona et al. (2022) make a distinction between coordination costs related to the nature of the innovation problem (e.g. autonomy, communication, waiting costs and managerial efforts) and costs related to the structure of the collaboration (formality, hierarchy, size, trust, and geographical location).

The effective alignment and adjustment of the partners' actions – is therefore critical for successful Open Innovation management. The division of skilled labor among partners, and timely completion of both joint and individual tasks are very important, but also pose many challenges. Even if partners have well-aligned incentives, they may be incompetent administrators of inter-organizational relationships and fail to manage “who will do what by when and how”. By failing to plan or to adjust to each other's practices and structures, and by adopting rigid rules and procedures, partners may jeopardize the accomplishment of their joint innovation goals (Gulati et al., 2012). Therefore, the biggest coordination challenges are related to organization design, communication, and process management in Open Innovation.

Third, *time constraints* are another limiting factor. Open Innovation takes time to plan, implement and create value, thus lack of time is a barrier to a successful Open Innovation implementation (Bertello et al., 2022; Capurro et al. 2021; Nguyen et al.2021). Open Innovation projects can be complex to manage which in turn may lead to delays by inadequate management, leading to adverse reactions of partners and discouragement of the Open Innovation management in the company.

Fourth, *digital technologies* allow firms to facilitate collaboration with internal and external stakeholders (Dabrowska et al. 2022; Liu et al. 2020; Sun et al. 2020; Wu and Hu, 2018). Firms with limited digital capabilities may lack the necessary competencies to benefit from open

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innovation. In an era of information overload and an abundance of potential innovation partners, it is important to efficiently filter valuable information to make effective decisions (Ovuakporie et al., 2021). An illustrative example is Innovation Flow at Bayer CS. Vanhaverbeke (forthcoming) showcases how the open innovation team at Bayer CS introduced a digital tool called Innovation Flow to effectively access useful technologies developed in a wide range of start-ups and other types of innovation partners. The tool streamlined the interface between the different business units in the company with its many external innovation partners. The use of Innovation Flow has dramatically improved Bayer CS' absorptive capacity while technology search and assimilation costs have dropped.

Finally, collaboration with innovation partners may lead to abusive use and *misappropriation of knowledge and intellectual property* (Bogers et al., 2017; Dahlander et al. 2021; Chesbrough 2003a, 2006; Laursen & Salter, 2014; Stefan et al. 2021, 2022; Zobel et al., 2016). 'Technology leakage' is not a new phenomenon (Cassiman and Veugelers, 2002; 2006), but with the breakthrough of Open Innovation as the new normal in innovation management, the risks of involuntary knowledge spillovers may increase. Firms engaging in Open Innovation face a paradox: to benefit from collaboration they have to open up their innovation process, but at the same time they also have to take security measures to protect their own technology base (Laursen and Salter, 2014). Without security measures partners will be discouraged from sharing their knowledge (Beck et al., 2022). Chesbrough (2003a, 2006, 2011) has illustrated how firms can deal with different types of abusive practices, including strategies against IP trolls, IP theft, smart licensing contracts, tactics against intellectual property contamination, etc.

Obstacles Related to Capabilities

Organizing the front-end and back-end of Open Innovation requires internal capabilities such as technical capabilities, absorptive and desorptive capacities, and dynamic capabilities. The successful Open Innovation implementation depends on internal technical capabilities, not least because it takes a technically skilled person to accurately evaluate the potential capability of a collaboration partner (Cohen and Levinthal, 1990). With an inbound Open Innovation approach, a company's goal is to learn about new technologies and turn that knowledge into novel offerings that strengthen firms' competitiveness. This is contrary to using Open Innovation for outsourcing purposes. Let's have a closer look into the three crucial capabilities and related obstacles.

Scholars report contradictory findings related to the role of internal R&D in fostering the impact of Open Innovation on firms' performance. Laursen and Salter (2006) found unexpectedly that internal R&D is a substitute and not a complement for Open Innovation. Berchicci (2013) also finds that higher R&D capacity is associated with greater innovative performance at a lower level of external R&D: for firms with high R&D capacity, the maximum efficiency is reached at half the openness compared to firms with low R&D capacity. They suggest that firms with high R&D capacity require less exposure to external knowledge to effectively assimilate it. In contrast, other research (e.g. Cassiman and Veugelers, 2006; Chen et al., 2015; Hung and Chou, 2013) finds that internal R&D is a critical enabler for maximizing the impact of externally sourced knowledge on firms' innovation performance. Firms with strong internal R&D capabilities benefit more from external knowledge sourcing than firms with lower levels of internal R&D capabilities. Hagedoorn and Wang (2012) conclude that internal R&D and external R&D are complementary innovation activities at higher levels of in-house R&D investments, whereas at lower levels of in-house R&D

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efforts, they turn out to be substitutive strategic options. Recent research has shown that the substitution effects between Open Innovation and internal R&D vary by the economic sector (Lu and Chesbrough, 2022). In sum, considerable research has studied the relationship between internal R&D investments and external sourcing of innovations, but we still need more research to better understand the substitution or complementary role of internal and external technology (West and Bogers, 2014).

The ambiguous results for the impact of R&D investments on how Open Innovation impacts firm performance, brings us to the next obstacle: *the lack of absorptive capacity*. A number of studies have highlighted this topic (Huang and Rice, 2009; Huber et al. 2020; Hughes and Wareham, 2010; Lowik et al., 2017; Naqshbandi and Tabche, 2018; Rangus et al. 2017; Spithoven et al., 2010; Xia and Roper, 2016). For sake of brevity we cannot summarize the findings of this line of research, but we want to highlight a few critical points. First, absorptive capacity is frequently proxied by R&D investments in empirical studies. R&D expenditures are only an imprecise proxy of the absorptive capacity of firms, which should be considered in the light of the dual role of R&D as identified by Cohen and Levinthal (1989, 1990, p.569): “We suggest that R&D not only generates new information, but also enhances the firm’s ability to assimilate and exploit existing information.” R&D investments – measured as a yearly expenditure or as a stock variable over years – capture the overall financial effort to achieve the two roles, but we cannot disentangle them. Therefore, we need more sophisticated proxies for absorptive capacity (see for instance, Flatten et al., 2011; Hernández-Perlines et al. 2019; Lane et al. 2006; Zobel, 2017).

Second, absorptive capacity is not the only capability firms have to develop to be successful in OI. Lichtenthaler and Lichtenthaler (2009) make a distinction between absorptive, connective

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and desorptive capacity. Connective capacity refers to the fact that external networks have to be maintained and managed over time (Kale and Singh, 2007). In contrast to absorptive capacity, external knowledge retention does not assume inward knowledge transfer, but connective capacity ensures that firms get privileged access to external knowledge whenever they need it (Grant and Baden-Fuller, 2004). Desorptive capacity describes a firm's capability of external knowledge exploitation. It refers to outward knowledge transfer or outbound Open Innovation. Desorptive capacity is a firm's ability to externally exploit knowledge. It includes the stages of identifying external knowledge exploitation opportunities and subsequently transferring the knowledge to the recipient.

The concepts of connective and desorptive capacity haven't been taken up by the Open Innovation research community. They are however important and relate well to a strategic management approach developed by McGrath (2013). She argues that sustainable competitive advantage is no longer achievable and firms must try to achieve transient advantage. In her view, rather than focusing on a distinct set of capabilities, companies must continuously search for new business opportunities. Firms have to continuously evaluate new ideas and technologies on their value for the company. In a similar vein, Chesbrough (2006) argues that firms have to speed up their innovation activities by tapping more effectively into external sources of technology, optimizing internal development and commercialization processes, discontinuing investments early enough when they are no longer commercially viable, and monetizing ideas that do not fit the firm's business model. McGrath's "transient advantage" and Open Innovation share the underlying view that the world is in flux and that companies only can survive if businesses and innovation projects are built, scaled, and abandoned in a swift way.

The inherently dynamic view on innovation underlying the Open Innovation literature has been recently explained by Teece (2020) where he explicitly connects Open Innovation and dynamic capabilities. Dynamic capabilities are defined as “the ability of an organization and its management to integrate, build, and reconfigure internal and external competences to address rapidly changing environments” (Teece et al., 1997: 516). According to Teece (2020), Open Innovation enhances dynamic capabilities: Sensing capabilities are enriched by the deeper technological and market understanding that comes with openness to external knowledge sources. Seizing can be boosted using Open Innovation to build new capabilities. When management identifies a strategic capability gap Open Innovation resources may be available to accelerate the process of in-house capability development. Finally, Open Innovation also helps with transformation because opening up the innovation process can allow a redeployment of internal resources away from non-core technologies that can be externally sourced.

Conversely, dynamic capabilities also strengthen Open Innovation: Strong dynamic capabilities are required to turn Open Innovation into a source of competitive advantage (Bogers et al, 2019; Teece, 2020). For instance, strong dynamic capabilities are vital for the sensing and sensemaking needed to determine the directions that open innovation efforts should pursue. They ensure the dynamism in an organization so that its innovations can be rapidly exploited. And they are critical for orchestrating across the organizational, competitive, and regulatory contexts in which innovation occurs. This recent work by Teece (2020) and others shows how open innovation should fit into a broader strategic management framework in order to be effective. Lack of dynamic capabilities is arguably an organizational obstacle for successful implementation of open innovation, which – if handled properly could help companies in connecting open innovation with

a broader strategic management framework.

Obstacles in the Back end of Open Innovation

Connecting effectively to the internal businesses is one of the capabilities firms have to develop when they want to implement Open Innovation successfully. Transferring external knowledge to the internal businesses once knowledge has arrived within the company has received scant attention in the Open Innovation literature, because it was implicitly assumed that it goes automatically to the place in the company where it is most needed. There are however silos within organizations that can block the flow of knowledge, and there are sub-groups within organizations who have incentives to hoard knowledge instead of sharing it. This tenacious problem has been recently receiving attention from Open Innovation researchers (Chesbrough 2019; Gutmann et al., 2022) and we dedicate a separate section to the back end of open innovation to encourage others to give the topic a prominent place in their research.

Let's start with inside-in knowledge flows (i.e., knowledge flows from one part of an organization to another part of that same organization) which were largely overlooked in academic studies (Gutmann et al., 2022; Pundziene et al. 2021; Radziwon et al. 2022; Seran and Bez, 2021). Gutmann et al., (2022) study CVC investments and they observe that in many studies it is assumed that the knowledge that exists in the portfolio company is automatically available to the corporate investor once a CVC investment is made. However, there is substantial evidence that this is not the case, and companies need to actively address the challenge of internalizing external innovations. A small but growing literature is documenting the “Multiunit Back-End Problem”, where internal rivalries, incentives and tensions impede such knowledge transfers (Seran and Bez, 2021). Companies that have practiced CVC for an extended period are well aware of this problem,

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while companies that have only recently started their CVC activities get easily disappointed by the lack of impact CVC makes on the internal innovation. In countering this problem CVC may respond as a knowledge broker by facilitating the transfer of knowledge from a CVC unit to operating business units of the company. A CVC unit can break down silos between itself and other internal units through practices such as reciprocal exchange of knowledge, venture-informed decision-making, and inspiring intrapreneurs (see Gutmann et al. 2022 for a detailed explanation of these practices).

The problem of internal silos that block the flow of knowledge within large organizations is not restricted to CVC investments but is related to all external knowledge that is transferred via an Open Innovation unit, a CVC unit, a licensing unit or other dedicated organizational vehicle. Chesbrough (2019; 2023a, Chapter 10) finds evidence that the most critical factors to consider are the silos inside the internal organization, and the company's own employees. Reaching out to partners poses several challenges to firms adopting Open Innovation, but it is the internal organizational challenges that are perceived as most difficult to manage. When a company switches from closed to Open Innovation a range of organizational changes in the firm are required. Chesbrough (2019) calls these challenges an internal Valley of Death that can thwart the successful transfer of a technology to the business unit that will take it to market. The problems are related to people, funding and senior management support.

Managers involved in Open Innovation should have a dual focus. First, they should be well connected to the outside world. Second, to ensure the implementation of the external knowledge in the firm they need to be well connected to the internal businesses too. Employees with deep networks inside the company will be more effective in gaining this support. The link between Open

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Innovation success and the employment of internally well connected managers shows the need to connect Open Innovation to HR practices – only a few publications have been focusing on the human resource implications of Open Innovation (Bogers et al. 2019; De Stobbeleir et al. 2013; Del Guidice et al., 2018; Diaz-Fernandez et al., 2015; Engelsberger et al. 2022; Podmetina et al., 2013; Remneland et al. 2022).

Defining the role, authority, selective recruitment of and career opportunities for Open Innovation managers is required to succeed at the back end.. Cheng et al. (2017) found evidence based on LinkedIn profiles of 158 Open Innovation managers highlighting a stay on average 7 years in the job requiring a long-term commitment, while the average tenure before starting the Open Innovation job is 15 years. This confirms the need of Open Innovation managers to have a good understanding of their company and to be well-connected to the internal businesses. 72% of these managers stay in the company once their Open Innovation role is over and the other 28% leave the company to start a job – sometimes an open innovation job – in another company or to start a consultancy business. Those that stay in the company return to their previous job (56%), switch to a new business (13%) or get promoted (31%).

Funding is the second critical ingredient to get results out of Open Innovation. A key problem is the mismatch between innovation budgets and innovation opportunities. Budgets in large companies are set annually. Once set, there is virtually no room for adjustments until the next budget cycle. Innovation opportunities, in contrast, arise unpredictably. A promising innovation project may all of a sudden require a multiple of the scheduled budget when a technical breakthrough happens or when a corporate client is interested to apply the technology. Yet most business units lack the slack in their budgets to absorb these swings in financing requirements of

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innovation projects. Small companies on the other hand may not have any Open Innovation budgets at all or may rely on external funding for financing their Open Innovation activities (Radziwon & Vanhaverbeke, 2023, Chapter 8).

Finally, attention and support of senior management is also critical for success in the back end of the Open Innovation process (Chesbrough, 2019). Top management executives are busy people and are usually preoccupied with existing businesses as these provide the company's profits. In contrast, the possibilities offered by Open Innovation projects are too vague, too distant, or initially too small, to command much top management time.

Obstacles in Partnering and Open Innovation Readiness

A growing part of the Open Innovation literature has been focusing on the readiness of organizations and of their partners. One of the major limitations is that firms are not well organized to be successful with Open Innovation. Early contributions were delivered by Enkel et al. (2011) and Chiaroni et al. (2011). Enkel et al. (2011) operationalize Open Innovation maturity as five levels of maturity on three different dimensions: the capacity for partnership, a climate for innovation and the right internal processes. But there are important support functions that are needed as well, from Legal to HR to Purchasing (Chesbrough, 2019). If these functions are not maintained and resourced, an increasing number of open innovation projects can easily overwhelm the limited support resources in the organization.

Here we focus on the need for trust in partnering between organizations. While collaborating parties can and do take legal steps to protect their IP, not all knowledge can be protected. This implies a certain degree of trust that has to be assumed in Open Innovation collaborations (Bloomquist, 2023, Chapter 13). Prior research has recognized and assessed the beneficial

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consequences of interorganizational trust by making the interactions more productive or by reducing governance costs (Dyer and Chu, 2003; Kale et al., 2000; Zaheer et al., 1998).

This assumption that trust is required in Open Innovation collaborations prompts some follow-on questions. Are subsequent collaborations more effective, because they are built on prior projects where the parties did perform as they promised? The literature on strategic alliances confirms the positive results of working with partners whom an organization has been innovating with before (Gulati, 1995). Gulati and Sytch (2008) further explore how prior collaboration with partners accounts for the formation of trust between partners. They found evidence that trust can emerge from the history of interorganizational interaction as well as from the history of interpersonal interaction between organizational boundary spanners. They furthermore showed that organizations that are more similar to each other can derive greater stocks of trust from prior collaboration compared to more heterogeneous partners.

Those findings imply that firms can improve the effectiveness of Open Innovation over time and that trust building between partners depends on the history of interpersonal ties between boundary spanners of the partnering organizations. Their findings also imply that collaborations between companies of different sizes, industries and (corporate) cultures will have more difficulties in improving their Open Innovation performance through repetitive ties. If, on the other hand, collaborations are mostly one-offs, a firm's own knowledge and IP may be at greater risk, because former partners and employees are no longer engaged with the innovating firm and have learned some knowledge from the latter they would not otherwise have known (Laursen and Salter, 2014, 2020).

Conclusions

This chapter gives an overview of organizational obstacles to Open Innovation, explaining why companies might fail in achieving success with Open Innovation. We did not seek to be exhaustive, but instead focused on major or frequently recurring obstacles in practice, and those that allow us to connect Open Innovation to strategic and managerial frameworks.

Organizational obstacles to Open Innovation stem from the fact that companies often start unprepared or they implement it in an ad hoc way. Open Innovation cannot be implemented overnight and requires that firms adapt their organizational and managerial systems in order to open up their innovation processes effectively. Moreover, it has to be integrated with strategy both at the corporate as well as at the business level. Technical and organizational capabilities have to be developed and applied, and Open Innovation teams from R&D have to interact with people from other corporate functions such as legal, HR and purchasing to make open innovation effective. Partnering skills and trust building are essential in teaming up with innovation partners. Inefficiencies in dealing with those factors lead to poor Open Innovation performance and limitations in its applicability. Obstacles to Open Innovation are not fixed or absolute but depend on its maturity of companies: firms that start with Open Innovation should learn in a stepwise way from best practices.

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