

An open invitation to open innovation: Guidelines for the leadership of open
innovation processes

Diana Rus
Creative Peas

Barbara Wisse and Eric F. Rietzschel
University of Groningen

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Innovation is crucial to how organizations create value for themselves, secure a position of competitive advantage and attain market leadership (Christensen, 1997; Davis & Eisenhardt, 2011). For instance, in a recent study by Bain & Company among 1.208 global executives, 74% identified innovation as more important than cost-reductions for the long-term success of their companies (Rigby & Bilodeau, 2013). However, in increasingly complex, dynamic industries with frequently changing and highly dispersed resources it is unlikely that any single organization can consistently deliver breakthrough innovations on its own. Instead, more open and collaborative approaches to innovation are needed to enhance internal innovation capabilities and to secure a position of competitive advantage (Chesbrough, 2003; 2011; Chesbrough, Vanhaverbeke, & West, 2006; Dahlander & Gann, 2010).

Over the past decade, the academic and popular literature on open innovation (OI) has increased exponentially (for reviews see Chesbrough & Bogers, 2014; Huizingh, 2011; Van Der Vrande, Vanhaverbeke, & Gassmann, 2010). Moreover, companies such as Procter & Gamble, Hewlett-Packard, Intel, IBM and Genzyme are often credited with having strongly profited from adopting the OI paradigm, by collaborating with external partners (Whelan, Parise, De Valk & Aalbers, 2011). Fueled by the successes of these trailblazing companies, an increasing number of organizations of different sizes and across industries have followed suit in adopting the OI paradigm, in the hope of reaping the same rewards. However, many of them are finding it difficult to replicate these successes and fully realize the benefits associated with OI (Mortara & Minshall, 2011; Slowinski & Sagal, 2010). Indeed, evidence suggests that returns from OI vary substantially between companies, with a large

number of firms reporting failed OI projects (Laursen & Salter, 2006). Yet, little is known about why some firms are capable of profiting from OI while others are not.

In this chapter, we argue that one of the main reasons why some organizations fail to fully capitalize on the promise of OI is their neglect of the intra-organizational, micro-level foundations of OI implementation. That is, we contend that some organizations that shift from a more closed to a more open innovation model fail to address the question of how to organize and manage OI internally. We therefore advocate taking an intra-organizational perspective by zooming in on leader behaviors and practices that, we believe, are crucial for successful OI implementation. In the following, we will first provide more specific reasons as to why we think that a micro-level perspective in general, and a focus on leader behaviors in particular, is valuable in helping us better understand and manage the OI implementation process. We will then show the value of taking a micro-level perspective by discussing how leaders can play a vital role in the OI implementation process, and provide some much-needed practical advice to executives mired in the fog of embedding OI within their organizations.

The added value of taking a micro-level perspective on OI

To date, most of the literature on OI has concentrated on identifying the macro-level organizational practices firms use to leverage external sources of knowledge and capture value from collaboration by boosting internal innovation (Salter, Criscuolo, & Ter Wal, 2014; Van der Vrande et al., 2010). In contrast, our understanding of the micro-level foundations of OI adoption—the internal processes and dynamics of implementation, especially as they relate to the employees and leaders involved—is lagging behind (da Mota Pedrosa, Välling, & Boyd, 2013; Mortara & Minshall, 2014). Indeed, the individual and team levels of analysis are the most under-investigated areas

in the OI domain (Chesbrough & Bogers, 2014). Yet, there are several reasons why taking a micro-level perspective on OI in general, and a leadership perspective in particular, is essential and in need of more attention.

First, a successful shift from a paradigm of closed innovation to one of open innovation needs to be underpinned by foundations on two levels: the *macro-level foundations* of (re)structuring units, work flows and alliances involving potentially risky collaborations with external partners, and the *micro-level foundations* of instigating and leading a significant organizational change process (cf. Mortara & Minshall, 2014; Salter et al., 2014). Thus, practitioners always need to balance two distinct sets of concerns: one focused on organizational structures and linkages with external collaborators and one focused on the process of managing implementation internally.

Second, it is precisely the (understudied) micro-level processes of change management that seem to make successful OI implementation so difficult. Many companies have found their OI efforts stalled in large part due to internal barriers related to the human side of OI (Salter et al., 2014). For instance, a recent survey among executives of 125 European and American large firms found that the biggest challenges in managing OI are within the firm, with executives rating the change process from closed to open innovation as the most difficult task (Chesbrough & Brunswicker, 2013). Although the role of management has been touted as crucial in overcoming the internal challenges of OI implementation (Chiaroni, Chiesa, & Frattini, 2011; Giannopolou, Yström, & Ollila, 2011; Mortara, Napp, Slacik & Minshall, 2009), practical guidelines based on systematic empirical research are largely missing.

Third, even those processes that take place at the macro-level often find their foundations at the micro-level. The shift from closed to open innovation inevitably requires profound changes in terms of internal processes and structures. However, this always involves changes in the attitudes, mindsets and behaviors of organizations' most 'basic' constituents, namely the individuals within them. It is individuals that make decisions and act upon them, not organizations (Foss, Husted, & Michailova, 2010). Given that individuals are the driving force behind all organizational processes (Senge, 1990), a micro-level-perspective is essential to our understanding of OI processes.

Fourth, a micro-level perspective on leader behaviors may help organizations capture concrete opportunities to successfully manage OI processes, since out of all organizational members, leaders exert disproportionate amounts of influence on employee attitudes, motivation, behavior and performance (for reviews see Boal & Hooijberg, 2001; Yukl, 2008). Moreover, leaders have been identified as being crucial in sparking, driving, and sustaining organizational culture change (Kanter, 1983; Schein, 1993; 2004). Yet, although leaders' critical role in successful OI adoption has often been acknowledged (cf. Elmquist, Fredberg, & Ollila, 2009; Mortara & Minshall, 2014), there is a relative paucity of research or practical guidelines devoted to understanding their role in successfully managing OI.

The ensuing parts of this chapter will therefore be dedicated to showing how a micro-level perspective can be useful in facilitating the successful implementation of OI programs. We will zoom in on the role of leadership in particular because, as stated above, leaders can potentially influence the OI implementation process to a great extent. By drawing on our own experience with the implementation of OI programs as well as on empirical evidence from the leadership, organizational change and open

innovation literatures, we will provide several guidelines that may increase leaders' chances of successful internal OI adoption. Note that we do not claim to be exhaustive; that would take several volumes instead of one chapter. We simply want to show that a micro-level perspective can help organizations seize and capitalize on opportunities to manage OI processes successfully. To this end, the rest of this chapter will be dedicated to answering the following question: "How can leaders contribute to the successful embedding of OI within their organizations?"

The role played by leaders in the internal OI implementation process

We identify four critical aspects of OI implementation in which leaders can play a vital role in ensuring success. All four aspects must be managed carefully, because they are central to making or breaking employee motivation and the ability to engage in OI. Specifically, we focus on the role that leaders play in getting people on board, reassuring employees that OI is here to stay, reshaping the larger definition of success within the firm, and enabling internal capability building. Importantly, for each of these four aspects of OI implementation we outline two possible practical strategies (based on empirical findings) that leaders could bring to bear to overcome impediments related to issues of employee motivation and ability.

Get people on board

"Provide opportunities for people to get on board. As with any fundamental shift, it will take time for people to fully digest the change that open innovation represents and its implications on the business and their specific role." – Todd Boone, Director Open Innovation at Psion¹

Once a decision has been made by top management to make OI a strategic priority, it is imperative that the rest of the organization follows suit and embraces a shared view of open innovation. This much is obvious. However, it is often less obvious how this can best be achieved. Below we outline two main strategies leaders

can employ to promote a shared view of open innovation within the organization: *craft and communicate a compelling vision* and *promote shared ownership*.

Craft and communicate a compelling vision. One of the most effective ways to get people on board is to inspire them by advancing a simple, compelling vision of a desirable future (Conger & Kanungo, 1998; Shamir, Arthur, & House, 1994). Visions provide abstract guidelines that help direct the behaviors of organizational members by providing an ideal sketch of what the organization may look like in the future.

Although goals and visions are similar, they are not the same. Visions are more abstract and global than goals, and unlike goals, they are not necessarily meant to be fully achieved (Kirkpatrick & Locke, 1996). A clear vision of OI can, for instance, incorporate what the organization tries to become by opening up the innovation process (e.g., the aim of Philips Research to “become a leader in health and well-being”²).

Organizational members can use the vision as a sort of standard against which they can hold their behaviors, thoughts, and feelings, and assess their appropriateness (e.g., “Does this decision to bring in external knowledge help us become a leader in health and well-being?”). As such, a vision that incorporates OI promotes a set of desirable attitudes, values, and beliefs (e.g., collaboration, openness, borrowing with pride). Importantly, a vision that creates a common sense of purpose and meaning around a set of collective goals by stressing a shared, organizational identity is more likely to inspire and motivate a wide array of internal stakeholders (Awamleh & Gardner, 1999; Stam, Van Knippenberg, & Wisse, 2010). Focusing on collective goals and promoting a shared identity at the organizational level that supersedes individual, team or business unit identities is especially important when shifting to OI, given the

increased need for collaboration between people in different parts of the organization that may traditionally have pursued competing goals.

The success of a vision is contingent on how well it is communicated (Awamleh & Gardner, 1999), and this, in turn, is contingent on several leader behaviors. First, visions are more persuasive when they are communicated with the use of colorful language that appeals to people's imagination and emotions. Skillful leaders address their audience directly and incorporate rhetoric devices, vivid imagery, metaphors, analogies, and symbols into their communication (Emrich, Brower, Feldman, & Garland, 2001). For instance, one vivid metaphor that has been effectively used in different contexts (e.g., pharmaceutical industry and retail industry) to depict the need for communication, coordination and collaboration is that of a NASCAR race crew (Sutton & Rao, 2014; Roberto & Levesque, 2005). In addition, successful vision communicators use slogans, anecdotes and tell compelling stories of past successes (Awamleh & Gardner, 1999; Den Hartog & Verburg, 1997). For instance, DSM's mantra of "Proudly found elsewhere"³, Procter & Gamble's "Look to connect and develop before you research and develop"(Cloyd & Euchner, 2012; p. 16) or Henkel's "We borrow with pride"⁴ are excellent examples of the skillful use of slogans in sparking change. An example of the importance of storytelling is Amazon's CEO Jeff Bezos who stated in an interview that "there are stories we tell ourselves internally about persistence and patience, long-term thinking, staying focused on the customer" (Hansen, Ibarra, & Peyer, 2013; p. 85), arguably in order to keep employees on track and unwavering. Finally, artful communicators instill a sense of shared identity (e.g., "We are Googlers"⁵) and do so by, for instance, frequently using collective pronouns such as "we," "us," and "ours" (Stam et al., 2010).

Second, effective vision communicators use an expressive communication style bringing their conviction and intensity of emotions (e.g., optimism, enthusiasm) to the fore via the skillful use of voice (inflection, pauses), gestures, facial mimicry and body language (Antonakis, Fenley, & Liechti, 2012). The use of emotional displays by leaders has been shown to be highly effective in securing buy-in from subordinates via processes of emotional contagion, whereby subordinates start feeling the emotions displayed by their leaders (Damen, van Knippenberg, & van Knippenberg, 2008). Most importantly, visions that are communicated with genuine passion and intent are more likely to generate internal commitment, which is crucial for perseverance and sustained performance in the face of obstacles (tough schedule, lack of resources, etc.) (cf. Yukl, 2010).

Third, visions that are communicated frequently and are integrated across a variety of channels are more likely to be accepted and internalized (Argenti, Howell, & Beck, 2005; Yukl, 2010). Effective executives understand that they are the face and voice of the organization, and that communication cannot be outsourced to the communication department. Frequent, personal, interactive communication, whether during company meetings, team-building exercises, or around the water cooler tends to be the most effective, as it actively engages the listeners and allows for questions and the voicing of concerns (cf. Yukl, 2010). At the same time, making use of an integrated multi-platform approach—via the corporate website, videotaped speeches, internal documentation, emails, personal blogs, social media—can help reinforce and strengthen the message.

Promote shared ownership. Successfully getting people on board in the shift from closed to open innovation goes beyond a top-down approach, where leaders develop a vision of OI behind closed doors and then unleash a perfect storm of

communication upon a hapless group of employees. Effective leaders understand that large-scale acceptance and adoption of any vision of change requires distributing ownership of that vision as broadly as possible (cf. Ready & Conger, 2008; Yukl, 2010).

There are multiple ways to achieve this aim. First, to enable a sense of shared ownership, key stakeholders whose support is crucial for OI adoption should be involved at the very early stages. Depending on the organization, these could be members of the top management team, senior executives from the different business units, influential union leaders, as well as highly networked employees, regardless of their position in the formal organizational chart. Based on our own conversations with an executive trying to bring OI to her organization, it might even be helpful to include one or two of the most vocal opponents of OI, especially if they are well-respected members of the community. In her words, “the two of them wore us down with reasons why OI wouldn’t work, but once they were on board, we knew that we had crossed the Rubicon”.

The key advantage of mobilizing the support of such a wide array of stakeholders at the early stages of OI adoption is that those involved in the co-creation process are more likely to have a sense of shared ownership of the change, and hence are more likely to be committed to it (Kotter & Schlesinger, 1979). However, there are several additional benefits to coopting such a variety of constituents early on in the process. One advantage is that these constituents can voice different views and perspectives on the issue and can articulate their concerns about potential challenges lying ahead. To this end, leaders should actively encourage an open exchange of opinions and explicitly promote the expression of conflicting points of view (cf. Yukl, 2008). Some companies, such as IBM, Shell, Anheuser-Busch and 3M, use formalized

methods to spark the discussion of conflicting points of view, such as dialectical inquiry methods (Schweiger, Sandberg, & Ragan, 1986) or devil's advocacy (Schwenk, 1984). Research shows that such 'constructive controversy' contributes to successful decision-making and innovation (e.g., Chen & Tjosvold, 2002; Tjosvold & Yu, 2007). Further, involving a wide array of constituents builds trust in top management and among the various stakeholders, and serves as a signaling function to the rest of the organization, communicating that openness and collaboration are lived values, and not only professed on paper.

In addition, employees in favor of OI should be given a platform to advocate their support throughout the adoption process. As Worley and Lawler (2006) aptly put it: "Think of the corporation as a community of people spread over miles of hills, fields and forests. To get everyone moving in a new direction, leaders need to be dispersed across the countryside." (p. 22). Those involved in the early stages of OI adoption are the most obvious line of offense in becoming active champions of OI. Another group of self-evident evangelists are those that already believe in the open innovation paradigm. They are intrinsically motivated to spread the news about the benefits of OI, thereby increasing support from the bottom up. These individuals exist in every organization; it is just a matter of finding them and empowering them to speak up by, for instance, granting them interviews in corporate news bulletins, etc.

Show people that you mean it

"By far the most important [factor in OI adoption] is to have serious and visible support from top management. Without this, nothing can or will happen." - Tomas Lackner, Head of Open Innovation and Corporate Scouting at Siemens Corporate Technology⁶

For the shift from closed to open innovation to be successful, employees need to believe that leaders really mean it and that OI is not yet another fad that shall also pass. In other words, they need to be convinced that leaders are committed to a long-

term change. Too many change efforts fail because leaders run out of steam after the initial blitz of communicating the new vision (Gilley, Dixon, & Gilley, 2008).

Effective leaders know that change does not happen overnight and that it requires patience, determination and resilience. Importantly, they understand that it is a continual process of showing commitment and enabling people to enact the change. Hence, leaders need to do at least two things: *walk the talk* and *show support*.

Walk the talk. Typically, visions of change towards OI are filled with buzzwords like “openness”, “collaboration”, “trust” and “commitment”. These slogans are often mounted on company plaques, plastered all over the company website, employee newsletters and PowerPoint presentations. However, without leader behavior that matches the words, they become empty platitudes that (in the best case) are ignored and forgotten, or (in the worst case) make leadership the butt of employee jokes and kill the change initiative.

Real change only happens when employees know what is expected of them and when they trust their leaders. To make sure that employees know what is expected of them, leaders should role model desired behaviors (Bandura, 1986). Role modeling is helpful because employees watch their leaders (more than they do others) with a magnifying glass, seeking signals and cues as to which behavior is desirable (Magee & Galinsky, 2008). The impact of role modeling may be particularly strong during periods of organizational change, as these are typically characterized by uncertainty and ambiguity (Schein, 2004). Several examples of effective role modeling can be found in the literature. For instance, when ConocoPhillips aimed to increase cross-organizational knowledge sharing by introducing their Networks of Excellence, senior managers not only endorsed the networks, but actively joined the trenches by answering posts and acting as mentors in the discussions, thus inspiring employees to

act the same way (Pugh & Prusak, 2013). So, the message is: if you want more collaboration, stop running your own fiefdoms within the top management team and start collaborating. If you want more openness, be open to employee ideas and suggestions. If you want more information sharing, exit stealth mode and share more information.

Research has clearly indicated that walking the talk leads to increased trust in the leader (Palanski & Yammarino, 2009) as well as to increases in employees' willingness to accept change (Armenakis, Harris, & Mossholder, 1993). On the other hand, failing to match words and deeds can be seen by employees as a form of betrayal and will have disastrous repercussions on the leader's long-term reputation and credibility.

Show support. Top management support has frequently been touted as being crucial in successful OI implementation (cf. Mortara & Minshall, 2014). In fact, in a cross-industry case study of 36 companies, top management support was identified as being *the* key enabler of OI implementation (Mortara et al., 2009).

Interestingly, in the OI literature 'showing support' typically tends to be equated with 'providing adequate resources for OI adoption', and 'resources' in turn are usually taken to mean *financial* resources for project funding. Indeed, resources are critical for innovation (Ekvall & Ryhammer, 1999), and project funding is imperative. However, the potential value of other resources, such as time and human resources dedicated specifically to OI, should not be underestimated. Employees often need to balance their day-to-day job with involvement in OI projects for which they frequently have to learn new skills (Nakagaki, Aber, & Fetterhoff, 2012). This leads to conflicting demands on an already limited resource: time. It also implicitly tells employees that OI is not a top priority for management. Therefore, to increase the odds of successful OI

adoption, it is crucial to explicitly incorporate OI activities into employees' job descriptions and set dedicated time aside for them. In addition, dedicated OI teams, armed with a clear mandate from the top and a budget, can help successfully implement OI by establishing new practices within the firm and by creating a common language around OI (cf. Mortara & Minshall, 2011). Indeed, an increasing number of companies that are relatively successful with OI, such as Procter & Gamble, DSM, Philips, Siemens, and Unilever have invested in the creation of OI teams (cf. Mortara & Minshall, 2014). Last but not least, leaders can free up resources by removing organizational barriers (e.g., red tape, administrative hassles) to OI adoption that sap people's time and energy. For instance, if R&D engineers spend a large proportion of their time filling in project status reports, leaders can drop the non-essential ones or simplify the process. This will not only free up employees' time schedule, but also send a clear signal that leaders see OI as important and have every intention of embedding it in the organization.

As remarked above, there is more to showing support than providing resources. Leaders can also engage in supportive behaviors by showing that they value employee contributions and care about their well-being (Kottke & Sharafinski, 1988; Rhoades & Eisenberger, 2002). Although often neglected in the OI literature, this type of support is certainly worthy of attention. Leader supportive behaviors have been linked to several OI-relevant outcome variables, such as increased employee trust in leadership, motivation, cooperation, creativity, performance and identification with the organization (Amabile, Schatzel, Moneta, & Kramer, 2004; Bass, 1990; Yukl, 2008; Zaccaro, Rittman, & Marks, 2001). Moreover, this perspective underscores the importance of also focusing on the role played by lower-level leaders in supporting OI implementation. Support by direct supervisors is particularly important, given that

shifting to OI increases uncertainty regarding expected behaviors, or required skills and knowledge, on the part of employees. Because direct supervisors tend to be employees' most prominent focus of attention when it comes to dealing with uncertainty, their support is indispensable.

Leader support behaviors can be divided into more instrumental, task-oriented or more relationship-oriented behaviors, although the boundaries between them tend to get blurred (cf. Amabile, et al. 2004; Tierney, 2009). The more instrumental behaviors that are perceived to be supportive by employees usually revolve around providing clarity and structure as well as feedback. Especially in the context of OI, it is imperative that direct supervisors provide goal clarity ("what are we trying to achieve"), clarify terminology and behavioral expectations ("what does it mean and what do you need to do") as well as extend various forms of assistance and guidance throughout the process (cf. Amabile et al., 2004). These types of behaviors do not only facilitate learning and performance but also increase motivation and involvement (cf. Amabile, 1996; Rietzschel, Slijkhuis, & Van Yperen, 2014; Yukl, 2008).

In terms of the more relationship-oriented behaviors, sharing information openly, delegating control, consulting with employees about decisions that affect them, and providing them with a platform to voice their opinions and concerns tend to have a positive effect on motivation, acceptance of the change, and trust in the leader (cf. Conger, Kanungo, & Menon, 2000; Colquitt et al., 2013). Other interpersonally sensitive behaviors, such as keeping employees informed about stressful issues, disclosing one's own feelings, showing concern, empathy, respect, and positive regard have also been shown to increase trust, motivation and performance (cf. Amabile et al. 2004; Oldham & Cummings, 1996). Because engaging in any innovation-related behavior is potentially risky, it is also important that leaders provide political support,

by “standing up” for their employees (Tierney & Farmer, 2004) and by serving as an ambassador for their direct subordinates within the larger organization (Ancona & Caldwell, 1992).

Reshape the meaning of success

“A success that has outlived its usefulness may, in the end, be more damaging than failure.”-Peter Drucker (1973, p. 159)

A third critical aspect of OI adoption that leaders can significantly influence concerns a redefinition of what it means to be successful. People’s deeply ingrained implicit assumptions about “how things are done around here” – that is, beliefs about behaviors that are prevalent and necessary to be successful within the organization - need to be unearthed, challenged and reframed, especially if they run counter to OI principles. To this end, reward and incentive systems need to be changed and aligned with the new types of behaviors that are desired and expected. Below we will outline how leaders can promote behavioral change by taking a two-pronged approach aimed at: *unearthing and reframing implicit assumptions* and *aligning rewards*.

Unearth and reframe implicit assumptions. In organizations, a large proportion of individuals’ behavior is guided by a set of deeply entrenched tacit beliefs about organizationally appropriate conduct. These beliefs have been developed over time, are socially reinforced and provide the frame through which information is processed, goals are set and events are interpreted (cf. Detert & Edmondson, 2011; Senge, 1990). In essence, they are the invisible strings that direct individuals’ behavior from out of the shadows. Some of these implicit assumptions may pertain to the type of behavior that will help one climb the career ladder, such as: “If you want to make it to the top here, you’d better be a rainmaker.” Others may refer to the type of behaviors that will most certainly either not help or actively hurt one’s career such as: “Spending all day talking to people trying to build relationships is jolly good fun, but will not get you

anywhere” or: “ If you make a mistake, hide it, and if possible blame others for it.” Yet others might be more specifically related to one’s role, such as R&D researchers thinking: “I need to solve this problem alone. Asking for help or working with others means admitting failure.”

These types of implicit beliefs complicate the shift from closed to open innovation. Some of them may promote behaviors that run counter to the behaviors needed for successful OI implementation (e.g., competition instead of collaboration). Furthermore, because they tend to be largely tacit it is unlikely that their validity gets challenged, making it difficult to change them. Hence, it is critical that leaders uncover some of these deeply ingrained beliefs, and actively challenge and change them where necessary (cf., Fiol, Harris, & House, 1999). In essence, leaders need to nudge people’s behaviors in a different direction by providing them with alternative ‘frames’ for processing information and pursuing goals.

To change these implicit beliefs, leaders have language at their disposal as one potent tool they can employ. Language provides a powerful way to frame “reality” and shape behaviors by triggering certain associations regarding desirable/appropriate or undesirable/inappropriate behavior (cf. Thaler & Sunstein, 2008). For instance, researchers found that participants spent a larger proportion of windfall money they had received if it was called a “bonus” rather than a “rebate” (Epley, Mak, & Idson, 2006). Similarly, studies have shown that the labeling of a prisoner’s dilemma game – a game where people can choose to either compete or cooperate – significantly influenced participants’ behavior. For instance, calling a prisoner’s dilemma game a “community game” led about 70% of participants to cooperate, whereas calling the same game a “Wall Street game” led only about 30% to cooperate (Lieberman, Samuels, & Ross, 2004).

Some case studies also support the idea that leaders can effectively make use of language to shape their employees' behavior. For instance, to change a culture riddled by silence and blame, the COO of a children's hospital introduced a policy of "blameless reporting" in which words such as "errors" and "investigations" were replaced by words such as "accidents" and "analysis" (Garvin, Edmondson, & Gino, 2008). Similarly, to promote more creativity among their staff in the Consumer Marketing department, leaders at Facebook changed the name of the department to "Creative Marketing". This had an immediate effect on the group, because people now saw it as part of their job to be creative (cf. Seelig, 2012). Likewise, OI leaders at Roche Diagnostics discovered that one of the main barriers to OI adoption among their research staff was that they tended to label themselves as "problem solvers". In the Roche Diagnostics context, this implied that researchers needed to solve problems on their own and that looking for help meant admitting failure. As such, this label clearly inhibited collaboration and precluded the use of external knowledge. To overcome this, managers encouraged the use of "solution finders" as a more inclusive label that would favor the search and use of knowledge regardless of where it came from (Nakagaki et al., 2012). Finally, leaders at DuPont skillfully articulated the shift to OI by replacing "We can do it all ourselves" with "Together we can achieve what no one of us individually can accomplish⁷", thus communicating that collaborative behaviors will lead to success.

Align the rewards. Naturally, successfully reframing implicit assumptions will not be enough to redefine what it means to be successful. Both monetary and non-monetary rewards need to be consistent with the desired behaviors. It is clearly perilous and counterproductive to reward for A (e.g., number of patents filed) while

hoping for B (e.g., an increase in solutions that incorporate external knowledge) (cf. Kerr, 1975).

In terms of monetary rewards, if people continue to get primarily rewarded for in-house development (e.g., number of patents filed, publications), outside ideas will be ignored. Financial incentives need to be revised to reduce the focus on internal innovation and to increase the focus on OI by explicitly introducing incentives for solutions coming from OI. These could, for instance, include rewards for patents that are the result of collaboration, the identification of licensing opportunities or the initiation of collaborative projects (cf. Remneland-Wikhamn & Wikhamn, 2011; Salter et al., 2014). In addition, promotion systems would also have to be changed to account for the increased need for collaboration. For example, continuing to promote only the ‘lone stars’ that deliver great results but do not collaborate would dissuade employees from investing time in building and maintaining internal and external relationships.

When it comes to promoting behavioral change, the value of non-monetary incentives, such as acknowledgement, praise and recognition should not be underestimated, either. Besides communicating to employees that their involvement and achievements are valued, they can serve as powerful signals to the rest of the organization suggesting that OI is desirable. Non-monetary incentives could, for instance, consist of an “open innovator of the year” award (Salter et al., 2014) given out to the one person that excels at OI or a “collaborator of the year” award for the one individual that has gone out of his/her way to share information and bring people together to find a solution for a problem. In this respect, in the 1990s, TI instituted a “not invented here, but I did it anyway” award as part of their push to share best practices internally and increase collaboration (Davenport, De Long & Beers, 1998). Another example is the strategy employed by Tor Myhren, President and Chief

Creative Office at Grey Advertising who instituted a “heroic failure⁸” award. The award is given out on a quarterly basis to employees who take a big, edgy risk. This sends a clear signal throughout the organization that taking risks is encouraged and that failure is acceptable.

(Over)invest in capability building

“If open innovation is not seen as a long-term capability building exercise, then it will fail.” – Tomas Lackner, Head of Open Innovation and Scouting at Siemens Corporate Technology⁹

Finally, a fourth and critical aspect of OI implementation that leaders can meaningfully steer, concerns the investment in employee capability building. Open innovation requires not only the capability to bring outside knowledge in, but also the internal capabilities to review and assess external opportunities and to assimilate them into the organization (cf. Mortara et al., 2009). Indeed, a longitudinal study among 1,170 German firms shows that companies with a strong in-house capacity and extensive cross-functional internal collaboration reap higher benefits from openness than those without these innovation management capabilities (Salge, Böhne, Farchi, & Piening, 2012). In our view, the development of these internal capabilities requires a concerted investment in *developing individuals* into effective innovators, and *enabling and leveraging internal connections among individuals*.

Develop individuals. A shift to OI implies that individuals will be faced with new challenges such as finding promising opportunities on the outside, successfully selling these internally, navigating the ‘legal niceties’ of what can and cannot be shared with outsiders, and being involved in more cross-functional internal collaboration. Some individuals might already have the necessary abilities and skills, whereas others might not. Throwing these individuals into the water assuming that they will learn to swim is not only unrealistic, but also irresponsible. To facilitate

successful OI adoption, leaders need to identify individual development needs and ensure that they are addressed.

It is only fair to admit that research into the skills, abilities and attributes that are critical for OI is still in its infancy. However, some attributes seem logical candidates for development for all employees that are involved in OI activities. These attributes include a learning orientation, adaptability, flexibility, communication, cooperation, proactivity, creativity and an entrepreneurial attitude (cf. Mortara et al., 2009). Moreover, certain types of knowledge such as having a broad grasp of the different functions within the company, knowing who knows what and clearly understanding the company's strategic OI direction also seem to be helpful in facilitating employees' OI-related activities, regardless of their actual position. Leaders can play a vital role in ensuring that concerted employee development programs, consisting of a combination of training, mentoring, coaching and job-rotation initiatives, are rolled out throughout the firm. For instance, creating "OI Academies" where employees in all functions are trained in what OI means and how it can be beneficial to them can help distribute knowledge about OI throughout the firm (cf. Mortara et al., 2009). To underscore the more general value of training in overcoming some barriers to OI adoption, a recent study among 311 firms shows that both training aimed at deepening existing professional skills and training aimed at increasing creativity skills helped buffer the negative effects of the not-invented-here (NIH) syndrome (De Araújo Burcharth, Knudsen, & Søndergaard, 2014).

Some attributes may need to be developed depending on the specific roles that people hold (e.g., idea scouts, R&D researchers, OI leaders). For instance, some firms like Procter & Gamble invest in training their tech scouts on how to identify potentially valuable opportunities. Other programs, such as Fiat's "researchers with a

briefcase” initiative, focus on training R&D people to become effective gatekeepers by clarifying what the borders are between information that can be openly shared with outsiders and information that cannot be shared. Yet others, such as Unilever’s attempt to roll out a training program for OI managers, focus on developing specific leadership skills needed for OI (cf. Mortara & Minshall, 2014). We would also like to draw attention to another type of role—the “assimilator” role—that is in need of developmental attention, but has, so far, been largely ignored. External ideas need to be translated into a shape and form that will make them palatable internally. Therefore, the organization needs individuals that can help assimilate this external knowledge into the firm (cf. Salter et al., 2014). Specifically, they would need to have the capabilities and expertise to repackage external ideas into a form that appeals to internal stakeholders and to clarify how these ideas can add value internally. In our view, the development of this role is critical for successful OI adoption, given that a large proportion of external ideas brought in by the idea scouts never get absorbed internally.

Facilitate internal connections. Many internal barriers to OI—such as limited internal collaboration, difficulties in locating information internally (e.g., needle in a haystack problem) and problems with assimilating external ideas internally (e.g., NIH syndrome, see above)—can be traced back either to underdeveloped or underutilized internal networks. Leaders can play a key role in overcoming these barriers by establishing and leveraging a myriad of horizontal and vertical connections among employees across functions. This does not mean that everyone should be connected to everyone. Rather, it implies that leaders need to take a targeted approach at ensuring that individuals with complementary skills and knowledge are connected to each other.

Leaders can employ a variety of initiatives to foster interpersonal connections that facilitate internal collaboration and the cross-pollination of knowledge. For instance, establishing cross-functional teams or task forces, or instituting horizontal job rotations can have this effect. As a case in point, 3M managers attribute part of their success with OI to 3M's unofficial job rotation policy, whereby technical employees regularly shift between businesses, labs and countries (Jaruzelski & Holman, 2011). Other initiatives, such as development programs that promote cohort-based learning and peer coaching, not only help create trust-based personal relationships but also an internal network of peers that can act as advisors (cf. Schweer, Assimakopoulos, Cross, & Thomas, 2012). To this end, BP's peer assist program – a process whereby peer groups of managers are used to drive knowledge sharing and learning – is widely known to help collaboration and decrease the NIH syndrome (cf. Ghoshal & Gratton, 2002). Finally, by identifying and co-opting the internal bridge-builders—the people who know where certain pockets of expertise reside within the company and are willing to connect people to each other—leaders can mitigate the inability to locate internal knowledge.

Keeping the context of open innovation in mind, internal connections can also increase the odds of internal absorption of external ideas. In order to achieve this, leaders would benefit from connecting idea scouts to internal idea brokers. For ideas from the outside to be accepted internally, they do not only need to be translated in a form that is palatable internally, but they also need to reach the right persons (cf. Salter et al., 2014; Whelan et al., 2011). Typically, idea scouts do not have the required internal social standing or the distribution network to effectively broker their ideas. In contrast, successful idea brokers are the 'go to' individuals within a company – they are at the center of a large social network, know who knows what, and have the social

capital to bring external ideas to the right people. By connecting idea scouts to idea brokers, the odds of successful assimilation of external ideas improve dramatically (Whelan et al., 2011).

Concluding thoughts

In this chapter, we have argued that a micro-level perspective, focused on the role of leadership in the internal implementation of OI programs, is indispensable for an adequate understanding of OI and for the successful transition from a closed to an open innovation model. To this end, we have presented a number of domains in which leaders can help to overcome some of the most common internal impediments to OI adoption, clustered around employees' motivation and ability to engage in OI activities. Specifically, we have stressed the critical role that leaders can play in (1) getting people on board by creating and promoting a shared vision of OI within the organization, (2) earning employee commitment to OI by showing in words and deeds that it is more than just a new flavor of the month, (3) reshaping the definition of success within the organization by challenging assumptions about appropriate behaviors and aligning the reward and incentive systems, and (4) contributing to internal capability building by developing individuals and facilitating the development of internal networks. Moreover, we have provided some practical strategies that leaders could employ in each of these domains.

As stated earlier, our discussion of the role of leadership in facilitating the successful embedding of OI principles in the organization is not meant to be exhaustive, but we do hope to have underscored the importance of acknowledging and accommodating motivational and capability factors in any large-scale change initiative from a closed to an open innovation model. Certainly other factors affect the internal success of OI adoption efforts, such as creating the right systems, structures and

processes and ensuring that the more general organizational culture favors OI (cf. Chesbrough & Bogers, 2014; Mortara & Minshall, 2014). Although different authors and practitioners may stress the importance of one factor over the other, it is critical to think about them as being interlocking parts of a larger system not as stand-alone issues that can be addressed in isolation. Changing any part of a larger system, such as its structure or its processes, will inevitably affect other areas and might give rise to unanticipated consequences. Effective leaders understand that it is arduous work to achieve any large-scale change and work hard on aligning strategy with systems, processes and structures—all the while being mindful of the effects that any of these changes will have on the people that are affected by them. They also understand that success will not happen overnight and that there will be some trial and error along the way.

Embedding OI into an organization won't just happen. If it is to become part and parcel of the organization, it cannot be left to serendipity and the grassroots efforts of a few OI champions. Rather, it needs to be nurtured and managed as a deliberate act. It is essential that leaders do not sit back and wait for employees to become innovative; instead, they must actively extend an open invitation to open innovation.

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Footnotes

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