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How to Make Open Innovation Work Better? Leverage Your Competitors

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Abstract

Corporate open innovation initiatives involving start-ups often fail to deliver the expected results. Such failure is due in part to the behavior of individuals within corporate business units. Specifically, we examine the notion of 'not invented here syndrome' (NIHS), a behavioral bias that leads employees to reject external innovations, thus hindering collaboration with promising start-ups. This paper explores how corporations can overcome individuals' NIHS, thus collaborate more effectively with external start-ups. Our research, which is based on an in-depth case study of Telefónica, confirms that NIHS can be the result of a lack of information on start-up promises, use cases, and viability. We identify a three-step organizational routine that can help mitigate NIHS in the process of evaluating external start-ups: (1) referring external start-ups to competitors, (2) monitoring competitors' collaboration with start-ups, and (3) diffusing this additional information with the aim of shifting individuals' decision-making by reducing their reliance on behavioral biases against external start-ups. Our findings extend the behavioral theory of the firm by demonstrating that the organizational routines implemented to offset individual biases can involve external actors rather than being limited to internal processes. We also contribute to open innovation by revealing that bringing the knowledge possessed by outside start-ups into the organization is insufficient in isolation to ensure adoption; external perspectives on those start-ups provide a second opinion to the organization that may offset internal NIHS biases.

Keywords: *Open innovation; Outside-in; Behavioral syndrome; Not invented here syndrome*

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It has been more than 20 years since Henry Chesbrough's seminal book *Open Innovation* posited a novel way of thinking about innovation. Since the publication of this book in 2003, many companies have experimented with the possibility of opening up their innovation processes to external sources of knowledge (Arreola et al., 2021; Oberoi et al., 2014; West & Bogers, 2014). These practices – which are known as outside-in open innovation – include buying or licensing external patents, collaborating with universities, and investing in or collaborating with start-ups (Chesbrough, 2003b).

Despite some successes, outside-in open innovation sometimes fails to deliver the promised results (Chaudhary et al., 2022; Chesbrough, 2020a; Dubouloz et al., 2021). Perhaps surprisingly, the greatest obstacles to the task of achieving results through open innovation often originate within the organization – at the business unit level (Burcharth et al., 2014; Chesbrough, 2020b; Seran & Bez, 2021). Difficulties arise

due to behavioral syndromes – such as the 'not invented here syndrome' (NIHS) – that impede the inflow of external knowledge, thus block the potential results of outside-in open innovation (Burcharth et al., 2014; Hannen et al., 2019; Ismail et al., 2023).

Previous research has improved our understanding of this behavioral syndrome's manifestations, drivers, and consequences for the results of open innovation, as well as its implications for management (Bez & Chesbrough, 2020; Burcharth & Fosfuri, 2015; Ismail et al., 2023). In the context of the management of outside-in open innovation, most academic research on this topic, which has focused mainly on the notions of psychology, attitude, and culture, has aimed to change the psychology of employees to prevent this behavioral syndrome, that is, NIHS, from occurring (Burcharth et al., 2014). However, changing an individual's psychology is costly and time-consuming (Fasolo et al., 2025; Hannen et al., 2019).

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In this article, we explore an alternative approach to the task of overcoming the NIHS behavioral syndrome that prevents open innovation results. Our novelty is that by building on the behavioral theory of the firm, we identify an organizational routine that provides additional information on the value, use, and viability of a start-up to evaluate that external start-up – a sort of second opinion. This additional evaluation, provided by a relevant observer who may not share the same internal biases of the first organization, supplies additional perspective about the potential value of the start-up. In this manner, we embrace emerging research in open innovation that explores how to attenuate the consequences of behavioral syndromes instead of trying to change individuals' underlying attitudes.

Through the observation of the Spanish telecommunications company Telefónica and an examination of the behavioral syndrome of their business units, we specify an organizational routine that is used to reduce the behavioral biases of the business units of this company against outside-in open innovation.

Theoretical background

Not invented here syndrome: A prevalent syndrome

NIHS is an individual attitude that disfavors external knowledge (Hannen et al., 2019) because it was 'not invented here'. Research on NIHS dates back several decades and has been explored in the fields of marketing, strategy, and human resource management (Antons & Piller, 2015). In open innovation research, Hannen et al. (2019) go further than considering it as an individual attitude by referring to NIHS as a persistent decision-making error arising from an automatic rejection of external ideas or technology regardless of the material value that it may offer. Here, we focus on NIHS within open innovation, which leads to the rejection of external knowledge,¹ specifically concerning the potential value of an external start-up to the organization.

One consequence of NIHS is that external knowledge is irrationally underutilized (Antons & Piller, 2015; Hannen et al., 2019), which may hinder the results that organizations might achieve with open innovation (Chesbrough, 2019; Laursen & Salter, 2006). Thus, resources invested at the corporate level to acquire external knowledge can be considered unproductive, as corporations fail to transform external knowledge into a strategic outcome (Cassiman & Valentini, 2016). Several psychological factors underlying NIHS, including ego defense,

group pride, anxiety and insecurity, and negative past experiences, have been identified (Antons & Piller, 2015). In addition to these recognized psychological factors, another key driver aligns with behavioral theory: cognitive biases. This term refers to decision-making influenced by biased heuristics (Marullo & Ahn, 2024).

Past research reported evidence of biased heuristics in open innovation decisions across multiple industries – including banking (Banque populaire Caisse d'épargne BPCE: Seran & Bez, 2021), software (Intel: Chesbrough, 2019), telecommunications (Lucent: Chesbrough, 2003a), space exploration (NASA: Lifshitz-Assaf, 2018), engineering (VDMA: Hannen et al., 2019), and consumer goods (Procter & Gamble: Chesbrough et al., 2006).

A behavioral perspective on open innovation barriers

The behavioral theory of the firm (Argote & Greve, 2007; Cyert & March, 1963; Gavetti, 2012) suggests that researchers and organizations should revise management models to consider how individuals actually behave within an organization. It belongs to the broader 'microfoundations' movement (Cristofaro et al., 2025). As a starting point, individual managers have bounded rationality rather than the neoclassical assumption that they have full and complete information. According to Cyert and March (1963) and later supported by several authors, such as Augier (2013), Powell et al. (2011), or Fasolo et al. (2025), individual managers may not have access to complete information that allows them to make optimal decisions; this perspective counters the economic theories of management that, at the time, assumed entirely rational decisions made on the basis of full information. Because individuals lack the cognitive capacity to make fully informed and impartial decisions in complex environments, they instead use simplifying heuristics to make decisions, which can result in cognitive biases (Powell et al., 2011). These biases negatively impact organizational performance in several ways, ranging from discrimination in hiring to overall organizational failure (Fasolo et al., 2025).

This perspective matters for outside-in open innovation as well. Individual managers might not have complete information when deciding to use external knowledge. Thus, the acknowledged practice of letting business units decide whether to use external knowledge (Arora et al., 2013) does not consider the fact that business managers are cognitively biased and may lack the information necessary to make an optimal decision, nor that receiving additional information is time intensive and expensive for a business unit (Fasolo et al., 2025). The lack of information favors the use of a heuristic, simplified decision process based on a boundedly rational, myopic perception of

¹ Start-up rejection, in itself, is not inherently problematic. The rejection of external start-ups that offer limited or no value to the absorbing organization constitutes a rational and expected decision.

reality to make a decision (Cyert & March, 1963; Fasolo et al., 2025).

In addition, as highlighted by the behavioral theory of the firm, in the process of making a decision, individual managers are not motivated only by the corporate interest; rather, their decisions can occasionally put their own personal interests ahead of the interests of the company. This finding reinforces managers' tendency to reject outside-in open innovation (Antons & Piller, 2015). Thus, individual managers make decisions that do not always maximize the open innovation goal intended at the corporate level (Bez & Chesbrough, 2020). This behavioral syndrome – NIHS – explains this mismatch between individual managers' decisions and corporations' open innovation (Burcharth et al., 2014; Hannen et al., 2019; Laursen & Salter, 2006).

In a previous work, we reinterpreted the manifestation of NIHS in case studies reported in Chesbrough (2003b; 2020a), including the Royal Bank of Scotland, Intel, and Procter & Gamble, from the perspective of 'rejection due to missing information'. The Royal Bank of Scotland and Procter & Gamble cases show that while some business units recognized the external value of the technology and some even had clear use cases, they lacked information on the viability or scalability of the start-up. This missing information led them to reject external start-ups, as they considered using this unproven

technology too risky. Moreover, empirical cases such as the Intel case demonstrate that the business units in question had no time to invest in selecting external ideas or cocreating a relevant solution, thus suggesting that they had no time to search for missing information concerning the value, use cases, scalability, or viability of the start-up. This observation challenges the argument that NIHS is caused by insufficient opportunities for the business unit to participate in open innovation activities (Clagett, 1967; Hannen et al., 2019). In fact, in these cases, the business units had such opportunities but still rejected the resulting solutions because they had only limited information on the value of start-ups and had no incentive to participate in open innovation activities.

Thus, we call to reframe NIHS as a biased decision-making process driven by individuals' lack of information on start-up value, use cases, and viability. This reframing offers the possibility of developing a new routine that can supplement the information and perspective of a boundedly rational, time-starved manager, with a second perspective that might offset her initial biases toward an external start-up. As illustrated in Figure 1, the business units represented by the red individual hinder the integration of the external start-up, despite its entry into the organization through open innovation channels. This reveals how the NIHS, which is driven by incomplete information about the start-up's

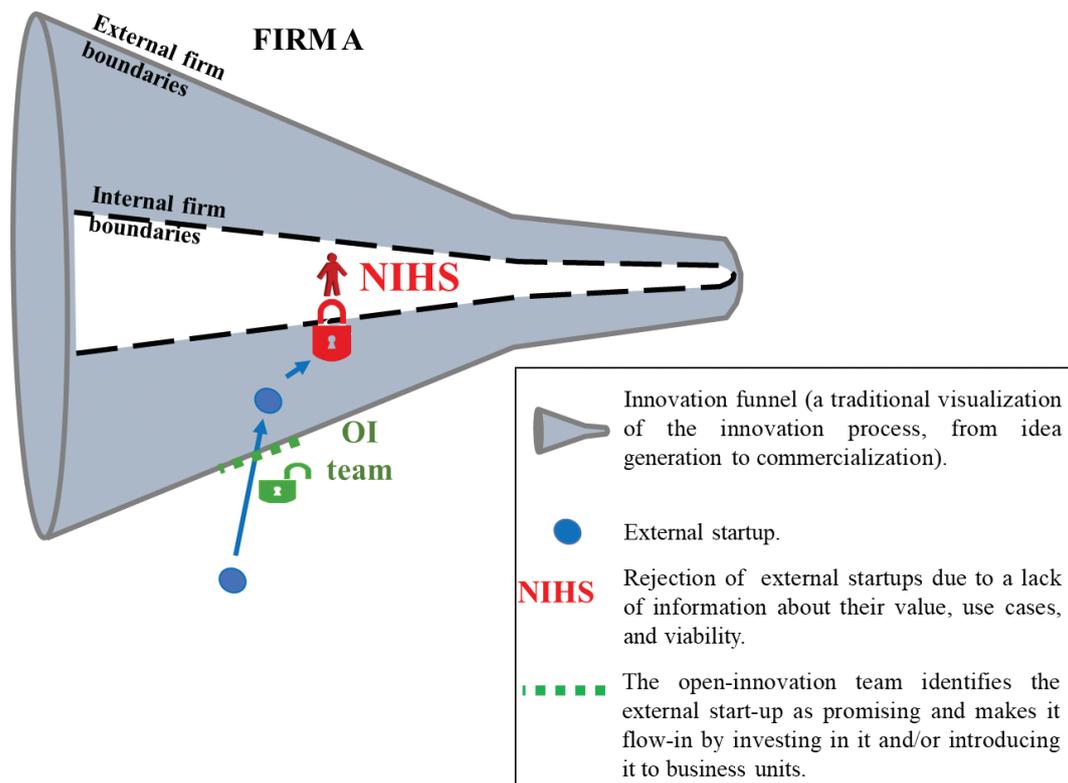


Figure 1. The behavioral syndrome of NIHS preventing the open innovation results of one firm
Source: own elaboration.

value, use cases, and viability, can create internal boundaries that obstruct the absorption of external innovations.

The need for a new organizational routine

In response to the challenges posed by individual cognitive biases in decision-making, the behavioral theory of the firm acknowledges the difficulty of directly correcting these biases at the individual level. Instead, it suggests exploring solutions at the organizational level (Augier, 2013; Fasolo et al., 2025; Powell et al., 2011). This perspective calls for organizations to develop routines to manage the behavior of boundedly rational employees. A routine is a repetitive and recognizable pattern of interdependent actions carried out by multiple actors who enact individual behaviors (Feldman & Pentland, 2003).

Accordingly, Fasolo et al. (2025) divided organizational responses to cognitive biases into two primary types that we reinterpret as routines: debiasing routines and choice architecture routines. Debiasing routines focus on improving individual decision-making skills by increasing awareness of biases and providing strategies to mitigate them, such as critical thinking training, the use of checklists, feedback, and warnings about bias. In contrast, choice architecture routines seek to modify the decision-making environment before a decision is made, thereby reducing reliance on heuristics that could introduce bias. Rather than attempting to correct biases at the individual level, choice architecture routines change the decision-making structure (e.g., increase the accessibility of an unbiased option, change the format or positioning of options) or change the decision information (e.g., the ease of processing and salience of decision-relevant information, reframing or changing the visualization of the information). The specificity of 'choice architecture routines' is that they require no additional effort or direct involvement on the part of the decision-makers targeted.

Open innovation research, under the name 'direct countermeasures', has explored debiasing routines to increase decision-makers' awareness of their biases and mitigate their impact (Hannen et al., 2019; Burcharth & Fosfuri, 2015).² Routines that shape choice architecture by increasing the ease of processing and salience of decision-relevant information constitute a nascent research stream. Shaping the choice architecture modifies the

² According to the open innovation literature, direct countermeasures seek to change individual attitudes on the basis of incentive systems that reward the adoption of external innovations (Hannen et al., 2019), cultural and socialization initiatives that promote openness (Burcharth & Fosfuri, 2015), transparent communication regarding innovation capabilities and training programmes that explicitly encourage external technology integration (Burcharth et al., 2014).

decision-making environment before a decision is made, which reduces a manager's reliance on heuristics caused by incomplete information. This nascent research stream, labeled 'indirect countermeasures toward NIHS', has begun to identify some practices and routines, such as perspective-taking exercises that prompt employees to view innovations from partners' standpoints (Hannen et al., 2019), standardization efforts to foster consensus (Marullo & Ahn, 2024), guidelines that present external knowledge as cocreated rather than imported (Suzic et al., 2024), and the use of intermediaries to translate and align knowledge between firms and partners (Dubouloz et al., 2021). This perspective highlights a promising path: instead of focusing solely on changing mindsets, organizations can design routines that offset information asymmetries and reduce reliance on biased heuristics.

We build on this emerging research stream by arguing that new routines can allow individual managers to systematically access and process additional information, thus counteracting their need to rely on simplified heuristics in their decision-making. In the case of open innovation, new routines enable business units to reconsider decisions regarding the internal use of external knowledge. Such routines overcome NIHS by facilitating access to additional information in evaluating external start-ups and thereby increasing the likelihood of using external knowledge.

More concretely, we investigate how corporations such as the Spanish telecommunications company Telefónica can overcome individuals' NIHS by identifying an organizational routine that facilitates access to additional information in the process of evaluating external start-ups – thereby motivating the greater use of external knowledge and reducing reliance on biased heuristics.

Methodology

This study uses an in-depth single case study to explore how a large firm developed a routine to reduce the effects of the NIHS. A single-case approach is particularly appropriate when the goal is to open the 'black box' of organizational decision-making, thus uncovering mechanisms that are not yet well understood or codified in practice (Yin, 2009).

Case selection

We selected Telefónica as a revelatory case (Yin, 2009). The company is widely recognized for its pioneering role in corporate – start-up collaboration through its open innovation arm, Wayra, which has invested in 1,168 start-ups through direct investment and funds (Telefónica Consolidated Management Report, 2025). Over time, Telefónica transitioned from simply participating in open innovation to offering open innovation

services to other firms, demonstrating a high level of institutional maturity. This characteristic makes Telefónica an appropriate setting for examining how a company designs and scales routines that help overcome NIHS.

Data collection and analysis

Our analysis is based on 27 semistructured interviews with 11 key informants conducted between 2019 and 2025, alongside a diverse set of secondary sources (see Table 1).

We initially analyzed the drivers, processes, and outcomes of two start-up-focused initiatives led by Telefónica – Go Ignite and Alaian – in collaboration with competing telecommunications companies. During data collection, a recurring pattern emerged: the presence of NIHS and the use of these alliances resulted in a routine that systematically gathered perspectives on the potential value of external start-ups from multiple organizations. These additional perspectives helped mitigate NIHS. This pattern was first observed in the Go Ignite programme and was formalized in a subsequent programme,

Alaian. The initial use and subsequent replication of this process of collecting multiple organizations' views grew into a clear organizational effort to manage NIHS by Telefónica.

Our second analysis, which focused on this emerging routine, revealed a consistent three-step sequence – refer, monitor, and diffuse – underlying this routine. Although this research is based on a single case, its repetition across two alliances provides internal replication logic, thereby enhancing the credibility of our findings. Two confirmatory interviews with Telefónica's global director of partnerships and a Orange's top manager on the start-ups and open innovation team further validated the structure and relevance of this routine.

Case context: Telefónica

Telefónica, which was founded in 1924, is a long-established telecommunications group that operates mainly in Europe and Latin America, generating more than €40 billion in revenue in 2023. Its portfolio spans fixed and mobile telephony, broadband, pay TV, cloud computing, and other digital services (Telefónica Annual Report, 2023).

Table 1. Data collection

Int #	Position/role	Organization	Involved in Go Ignite and/or Alaian	Notes
1	Global director of partnerships	Telefónica	Go Ignite and Alaian	13 interviews from 2019 to 2025 (including one validation interview)
2	Project manager for Go Ignite	Telefónica	Go Ignite	2 interviews from 2019 to 2022 (note: project manager only for Telefónica)
3	Project manager for Alaian	Telefónica	Alaian	2 interviews (note: project manager for all the Alaian partners)
4	Head, Silicon Valley office	Telefónica	Go Ignite	1 interview US scouting
5	Business unit leader	Telefónica	Go Ignite	1 interview
6	Venture development team	Telefónica	Go Ignite	1 interview
7	Top manager, start-ups, and open innovation team	Orange	Go Ignite and Alaian	3 interviews from 2019 to 2025 (including one validation interview)
8	Senior expert, venture capital	Orange	Alaian	1 interview
9	Top manager, start-up incubation and venturing	Deutsche Telekom	Go Ignite	2 interviews
10	Head of operations	Start-up, Alaian winner	Alaian	1 interview
11	Chief strategy and transformation officer	Mobile Telephone Networks (MTN) Group	Alaian	Secondary interview

Secondary data collection that provided contextual depth:

- Minutes from the inaugural Go Ignite workshop (June 2015)
- Speeches at the Mobile World Congress about Go Ignite and Alaian (2019, 2022, 2024)
- A media interview with MTN's chief strategy and transformation officer
- Press articles and LinkedIn posts related to the alliances' evolution and positioning

Source: own elaboration.

In 2011, the company created Wayra, its corporate-venture capital and accelerator network, after recognizing that internal R&D alone could not keep pace with the sector's rapid digital transformation. In response to increasing competition from 'over-the-top' service providers, senior management observed that many of the most promising innovations were emerging in start-ups outside Telefónica's traditional ecosystem. Wayra's mandate was to identify, invest in, and scale such external innovations, allowing Telefónica to secure early stakes in breakthrough technologies before they were acquired by larger tech players. Through investment, mentoring, office space, and global visibility, Wayra aimed both to rival top-tier venture-capital offerings in the United States and Israel and to integrate start-ups into Telefónica's business units (Chesbrough et al., 2016, 2023; Gutmann et al., 2020).

Since its launch, Wayra has evolved from a seed-stage accelerator and funding programme into a post seed/series A corporate venture capital. It has deployed a portfolio of complementary corporate – start-up initiatives, including, among many others, an inside-out venture-building arm, as well as two inter-firm alliances that issue joint calls for start-ups among competing telecommunications companies – Go Ignite (initially launched in 2015 and ended in 2022) and Alaian (launched in 2022). Both Go Ignite and Alaian rely on the idea that to reinvent industry, global telecommunications companies must collaborate to discover and help scale the most disruptive start-ups.

Findings: New routines that can help counter behavioral biases

The two analyzed initiatives of Telefónica, that is, Go Ignite and Alaian, employed similar three-step routines (i.e., refer–monitor–diffuse) that involved exposing unused start-ups to

external actors to gain additional information about their value, use cases, and viability and to allow business units to revise their decision not to use such start-ups. In this section, we begin by presenting Telefónica's problem of wasted knowledge, followed by each of the three steps of the routine. This three-step process and its concrete implementation at Telefónica are summarized in Table 2.

Telefónica's recognition of wasted knowledge

In 2019, at the launch of the Go Ignite initiative, Wayra – the start-up innovation arm of Telefónica – aimed to provide resources to seed-stage start-ups that were creating breakthrough innovations in the information and communication fields. After having made these investments for some time, however, Telefónica realized that they had no strategic impact. One top manager of open innovation at Telefónica explained this situation as follows:

We found ourselves with 400 start-ups that brought little value because very few business units worked with them [...] that's super frustrating, both for the investment team and the start-up. [...] [One example is] one of the best performing start-ups in Spain [...] invested by Telefónica. They came here so many times for so many meetings with so many business units, and Telefónica never signed an agreement with them. (Int 1 – global director of partnerships, Telefónica)

Telefónica was suffering from NIHS, driven mainly by the business units, which feared that the start-up would not survive or that the start-up solution would not deliver the expected quality and reliability needed in their business. This fear biased their perception of the start-up's potential value, regardless of how exciting the technology was. A business unit leader of the cybersecurity product line explained this situation as follows:

Table 2. Organizational routines that provide additional information concerning the value, use, and viability of start-ups

Routine step	Go Ignite (Subcase 1)	Alaian (Subcase 2)
Context: recognition of NIHS	Telefónica realizes that many invested start-ups are not adopted by business units (BUs) due to perceived risks.	The same challenge persists: promising start-ups remain unused internally despite strong initial interest.
Step 1: refer Refer unused start-up to external actors	Telecommunication companies informally refer start-ups via phone calls and Go Ignite demo days.	A shared digital repository is created to systematically refer start-ups among telecommunications companies.
Step 2: monitor Track how referred start-ups are used by external actors	Start-up usage by other telecommunications companies is monitored through meetings, informal exchanges, and shared updates.	The digital repository is updated with proof of concept, results, use cases, and names of telecommunication companies collaborating with start-ups*.
Step 3: diffuse Feed-validated information (signals of value, use, and viability) back to internal BUs	With the additional information (other telecommunications companies' interest, use cases, success), business units begin adapting or selling certain start-up solutions that they had previously rejected.	The same change of decision from business units; in addition, business units begin asking for this external information (signals of value, use, and viability).

Note: *Not all information is disclosed; a certain level of confidentiality must be maintained to comply with European law and antitrust regulations. For instance, only the overall success or failure of initiatives is shared, whereas specific figures remain undisclosed.

Source: own elaboration.

'Most start-ups are promising but very young, some without even an Minimum Viable Product (MVP). I cannot assign resources to a demanding project whose outcome is that uncertain'. (Int 5 – business unit leader; Telefónica)

The head of the Silicon Valley office observed the same bias against start-ups:

[The business units they told me]: sounds good, but actually, I would prefer to work with big names like Intel, McAfee, Cisco that we're already working with and that is more reassuring. Whereas, regarding your start-up, I'm not sure they'll be there in six months. (Int 4 – head, Silicon Valley Office, Telefónica)

Even well-funded ventures failed to work with the business units. Recalling an €18 million AI company sourced through Go Ignite, the global director of partnerships admitted the following:

That was a disappointing case because the company really took time to speak with all of us. I thought, it's an 18 million company, I'm sure, if they're big enough, something will happen. And nothing happened in the end ... So, I think it was because we didn't know how to work with them. (Int 1 – global director of partnerships, Telefónica)

One Telefónica business unit leader confirmed that a mature start-up could still be dismissed if it conflicted with immediate operational commitments:

When presented with mature start-ups with proven business models, we find them impressive but irrelevant to our current needs and timelines. Resources are limited, and I've already committed internally to similar technology. During the execution phase, I cannot afford to explore even superior external technologies. (Int 5 – business unit leader; Telefónica)

Thus, some business units in Telefónica experienced NIHS. Business units rejected the possibility of collaborating with promising start-ups because of perceptions of immaturity, viability risk, and poor fit. Therefore, even though Telefónica was an investor in these companies, the start-ups were blocked from entering Telefónica's core operations. The next subsection explains how the company addressed this barrier by developing the three-step refer–monitor–diffuse routine.³

Routine step 1. Refer: systematized revelation of unused knowledge to external actors

To address this internal behavior bottleneck, Telefónica used its alliances with other telecommunications companies, which

³The global partnerships director of Telefónica pursued several measures to overcome business-unit resistance, from HR-led initiatives that promoted openness, to revised investment criteria favouring more mature start-ups, and even the involvement of business-unit managers in the process of start-up screening. In this paper, we focus on the measure implemented for Go Ignite and Alaian.

were initially created for scouting start-ups (first Go Ignite in 2016 and subsequently Alaian in 2022), as a way to refer unused but promising start-ups to other telecommunications companies.

The referral (or 'shared deal flow') began in Go Ignite with monthly oral meetings and demo days, in which context each telecommunications company referred three to six start-ups to the other telecommunications companies. The referral process was both structured and formalized:

'Each of us have shared between three and six start-ups [...] The Go Ignite members will be discussing them the week following next'. (Int 1 – global director of partnerships, Telefónica)

This referral was confirmed by one start-up founder who acknowledged having been encouraged by one telecommunications company – TIM (Italy) – to apply to the Alaian call for start-ups, which led to successful participation:

'TIM introduced us to Alaian. We were not even aware of the call for start-ups. They pushed us to apply and do the pitch, and we won!'. (Int 10 – head of operations – start-up K, winner of Alaian)

In an interview published on Alaian's website, Chika Ekeji, chief strategy and transformation officer at MTN Group, emphasized the referral opportunity created by the alliance:

The alliance is an opportunity for global telecommunications providers to come together and expose one another to a pipeline of innovation, particularly in the start-up space across all the different verticals that are of interest to us. (Int 11 – chief strategy and transformation officer, MTN Group – secondary data)

Under Alaian, this referral process was formalized into a digital repository of promising start-ups that was shared with the business units of all the telecommunications companies associated with Alaian. Alaian's project manager presented this digital repository listing over 400 start-ups digital as one benefit of Alaian:

'We have a "deal flow marketplace". It refers to this referral list in which we share start-ups' solutions, business models, [and] integration to accelerate our business and processes'. (Int 3 – project manager of Alaian, Telefónica)

Routine step 2. Monitor: tracking the use of the start-ups externally

Telefónica not only referred start-ups to other telecommunications companies but also carefully monitored subsequent events to determine (1) which companies engaged with the referred start-ups, (2) how they used those start-ups, and (3) what outcomes emerged as a result.

This monitoring takes three complementary forms: formal meetings, repository updates, and continuous peer exchange. First, formal meetings are used. At every Alaian plenary, the first agenda item is a round-table on recent deployments, as highlighted publicly in a press article: 'Much of Alaian's agenda so far has been research groups, promoted by Telefónica, where its members deal with topics of common interest, provide feedback and share examples of real cases'.⁴

Second, they rely on repository-based tracking. Whenever a start-up is submitted on the basis of an open call, the Alaian manager enters a standardized template into the digital repository that captures the pitch and then continuously updates the detailed use-case information, the partners working with the start-up, and the stage of collaboration.⁵

The open call that we launched is for helping us to describe their use cases and [...] the business areas of the other partners too [in which they use the start-up]. [...]

If KPN or Cellnex connect ... they see that [the start-up] is working with Telefónica. (Int 3 – project manager of Alaian, Telefónica)

Third, monitoring is also performed on the basis of informal peer and founder updates. Managers supplement formal records through ad hoc checks:

I'm asking for news ... the support of an industrialist in a field is a good sign. [...] Once a year is good ... side events allow us to exchange insights we don't have on the digital calls [about the referred start-up and their collaboration with the other telcos]. (Int 8 – senior venture capital, Orange)

Through these intertwined mechanisms – agenda-based feedback, repository updates, and continuous peer exchange – Telefónica monitors the use of the referred start-ups by other telecommunication companies.

Routine step 3. Diffuse: the delivery of information back to business units to facilitate reassessment

The final step of diffusing back the monitored information was initially conceptualized as a 'blush' tactic. By showing that a rival telecommunications company could work with a start-up that Telefónica business units had rejected, innovation staff hoped to embarrass internal decision-makers into changing their minds: 'We shared every start-up in our portfolio with [the partners] ... maybe if we show Telefónica that Orange is able

⁴ Prieto, E. (2022). Nace Alaian, una alianza global para impulsar la innovación. ABC. <https://www.abc.es/contentfactory/post/2022/07/07/nace-alaian-una-alianza-global-para-impulsar-la-innovacion/>

⁵ Not all information is disclosed (e.g. figures remain undisclosed); a certain level of confidentiality must be maintained to comply with European law and antitrust regulations.

to work with them, it's like making them blush' (Int 1 – global alliance partner, Telefónica).

However, experience soon revealed that embarrassment alone seldom moved certain managers and did not truly motivate them; it was effective mainly when the external adopter was a respected direct competitor, and the internal audience was new to start-up collaboration:

'If it's the first time they work with a start-up, they're more attracted when they see Vodafone as a partner ... Others who have worked with several start-ups don't really care; they look at fit'. (Int 6 – venture development team, Telefónica)

The factor that ultimately prompted business units to revisit their earlier decisions was the concrete validation embedded in competitors' use of the solution. First, the knowledge that competitors had worked with the start-up reassured the business units that the start-up had already worked at scale:

'Telefónica has them ... Deutsche Telekom achieved these numbers – so why shouldn't we?' (Int 9 – top manager, start-up incubation and venturing, Deutsche Telekom)

Second, the knowledge that competitors had worked with the start-up signaled technical robustness, and the suggestion that rival operators had made the first move elicited a sense of urgency:

'See that other telcos go there – it makes you want to go there too because otherwise you'll be late'. (Int 8 – venture investment senior principal, Orange)

At the same time, shared adoption shifted the risk calculus, thereby providing reassurance about the start-up's long-term viability:

'It is reassuring ... to know the start-up's survival is not dependent on one client'. (Int 7 – top manager, start-ups and open innovation, Orange)

Moreover, in the case of start-up failure, interest from other telecommunications companies demonstrated that supporting the start-up was not inherently viewed as a bad call:

the other is reputational risk. [...] If you're proposing a solution that's coming from a start-up and it fails ... [while] if it fails for Microsoft, it's like: 'Oh, it was Microsoft'. How did this happen? But yeah, I'm safe. But if I was the one pushing for a new [solution with the start-up and its fails, it is bad for my reputation] But if Orange and Deutsche have done the same, then it can mitigate the risk to a certain extent. (Int 1 – global alliance partner, Telefónica)

Concrete evidence of the impact of this routine emerged when a Telefónica business unit – following 18 months of hesitation

– finally adopted the technology of a high-potential Spanish AI start-up (already in Telefónica’s investment portfolio) as soon as the start-up secured a major contract with another telecommunications company.

‘They hated Telefónica [we had spent months negotiating and nothing was happening] ... then they signed with Vodafone, a huge contract. [After that, Telefónica’s] business unit signed the contract and worked with them’. (Int 1 – global alliance partner, Telefónica)

Further concrete evidence of the impact of this referral routine is that business units now proactively ask for monitoring reports:

‘This year we are seeing more business units asking ... “Do you have any news about these start-ups?”’. (Int 3 – project manager, Alaian)

In summary, other telecommunications companies that engage with referred start-ups are channeled back to business units to supply credible proof of concept, details concerning use cases, and viability signals that can offset the information gap identified in the context, thereby enabling informed reassessment. This three-step process – refer, monitor, and diffuse – provides crucial external information that helps counter NIHS behavioral biases (see Figure 2).

External interest offers an opportunity to perform a second evaluation of unused knowledge and technology, thus facilitating a reassessment of its potential value. Additionally, this process provides empirical evidence on the basis of use cases that demonstrate how to realize or extract that value while ensuring the security of its promises and viability. With concrete use cases illustrating how

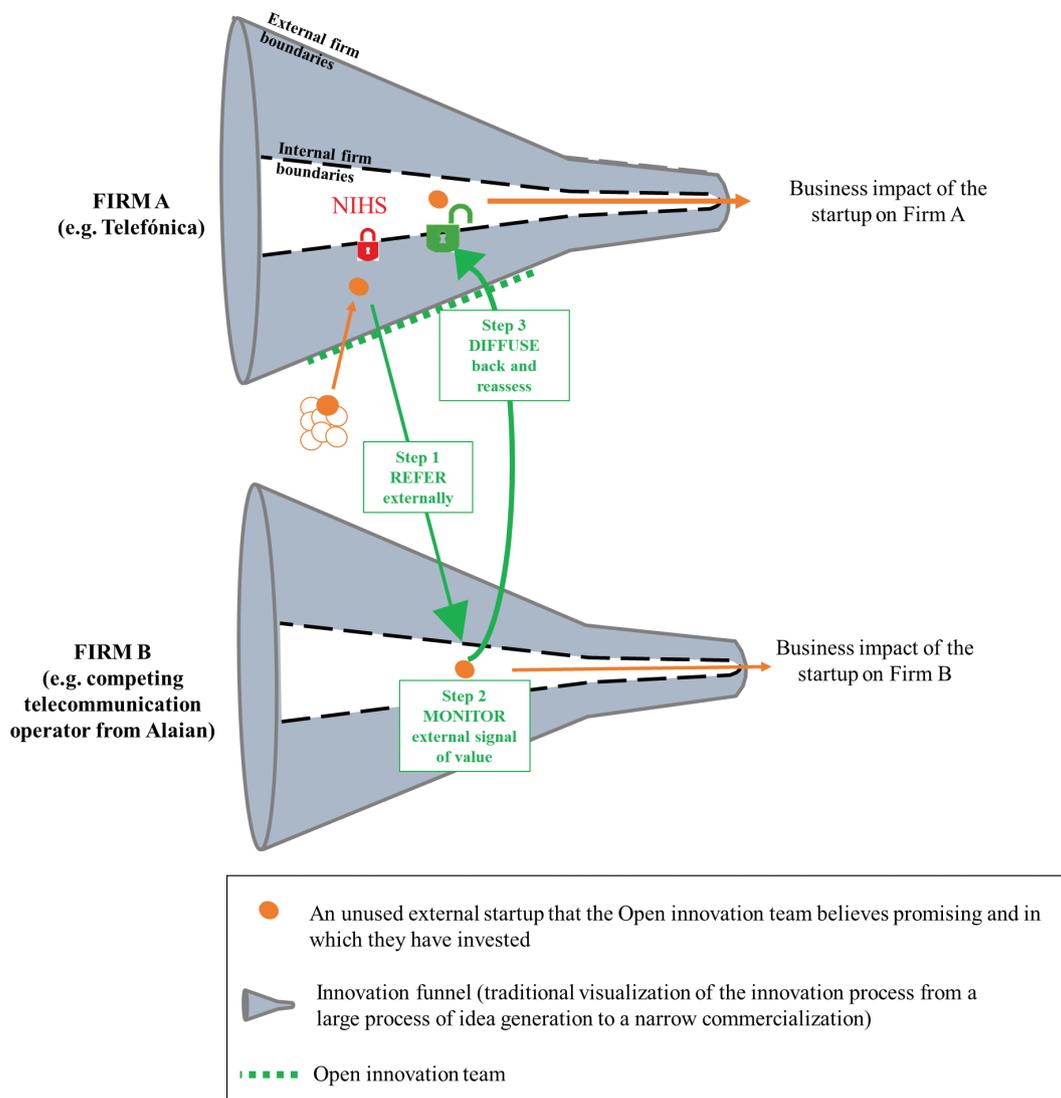


Figure 2. Overcoming open innovation behavioral syndromes on the basis of a three-step refer–monitor–diffuse routine
Source: own elaboration

to utilize the start-ups, some business units were able to overcome their initial NIHS and collaborate to produce new applications with these start-ups.

Contributions

Past research has acknowledged that behavioral syndromes such as NIHS can be common in outside-in open innovation results (Burcharth et al., 2014; Hannen et al., 2019). The prevalence of NIHS in the open innovation literature has focused the attention of academics and practitioners on the task of changing the cognitive biases of individuals but has neglected the possibility of organizational routines to overcome the lack of information on the start-up's promises and viability, which is one reason for the need for decision-makers to rely on simplified heuristics.

Our case study of Telefónica shows that under proper management, far from serving as a barrier to start-ups' commercial development, the referral of promising start-ups to external actors can facilitate the use of start-ups by providing more unbiased views of their value, use cases, and viability.

The first theoretical contribution extends the *behavioral theory of the firm* by showing how organizational routines can mitigate individual cognitive biases in an open-innovation setting. Prior work has highlighted architectural interventions that can help overcome cognitive biases – deliberate design choices that alter information structures and reduce reliance on cognitive shortcuts (Fasolo et al., 2025; Marullo & Ahn, 2024). Our findings corroborate this perspective by identifying a routine that supplies decision-makers with additional information, thereby decreasing their dependence on heuristics such as NIHS. Moreover, consistent with the *behavioral theory of the firm*, this routine emerges in response to performance shortfalls (Fasolo et al., 2025) – specifically, when business units fail to engage with promising external start-ups – and delivers relevant information without imposing extra cognitive effort.

We further demonstrate that such information-enhancing routines can extend beyond internal organizational structures to include external actors. This finding contrasts with previously developed frameworks, such as Fasolo et al.'s (2025) review of architectural interventions, which focused exclusively on internal mechanisms (e.g., increasing salience, reframing information, visualizing options, setting defaults, or repositioning choices). Our findings reveal a novel form of architectural intervention – one that involves referring promising start-ups to external stakeholders, monitoring their subsequent engagement, and using this external activity to increase the accessibility and credibility of information about the start-up. This insight is in line with later developments in the behavioral theory of the firm that have highlighted the informational value of diverse external network ties (Baum & Ingram, 2002).

The second theoretical contribution of this study advances research on open innovation and NIHS. Earlier studies have often portrayed NIHS as a cognitive 'disease' (Clagett, 1967) or decision error (Hannen et al., 2019) without considering the informational conditions required for start-up absorption. Our data show that identifying a high-potential start-up is insufficient; successful integration also depends on complementary information – clear use cases and credible evidence of viability. Recognition of the start-up's value at the business unit level is not automatic when there is incomplete information. The three-step routine (i.e., refer–monitor–diffuse) renders this information more concrete and actionable, thereby enabling business units to revisit their initial rejections. We therefore call for future research to explore not only the flow of external start-ups into incumbents but also the parallel flow of contextual information to peer organizations, thus allowing them to make independent assessments of these start-ups. More broadly, our results reinforce calls to examine the 'back end' of open innovation – internal barriers to the absorption of external knowledge (Chesbrough, 2020; Dubouloz et al., 2021; Seran & Bez, 2021) – because the success of open innovation ultimately hinges on organizational routines that address individual-level obstacles to adoption.

Finally, while our study highlights a routine in which competitors trigger the information flow, emerging research – such as Gutmann et al. (2023) – has shown that referring promising start-ups to customers can also supply crucial contextual information and accelerate adoption. Our findings and those reported by Gutmann et al. (2023) jointly open a new avenue for research on when and why firms refer external start-ups to different stakeholders and how those stakeholders construct actionable knowledge for innovation uptake. More broadly, this agenda invites a dialogue between the open-innovation and the selective-revealing literatures (Alexy et al., 2013).

Managerial contributions

Our first contribution for managers is that we empirically show the need for them to recognize and manage the behavioral biases of their business units to obtain results from open innovation. When managers decentralize the decision of using start-ups to business units, they cannot assume that a business unit will automatically embrace any technology or start-ups promoted by an internal innovation group or general managers. In many cases, decision-makers operate with cognitive biases and significant information constraints, often lacking sufficient insight into a start-up's value proposition, scalability, or long-term viability. This uncertainty increases the likelihood that they will rely on familiar heuristics that favor internal solutions over external ones. Importantly, searching for missing information is often perceived by business units as too

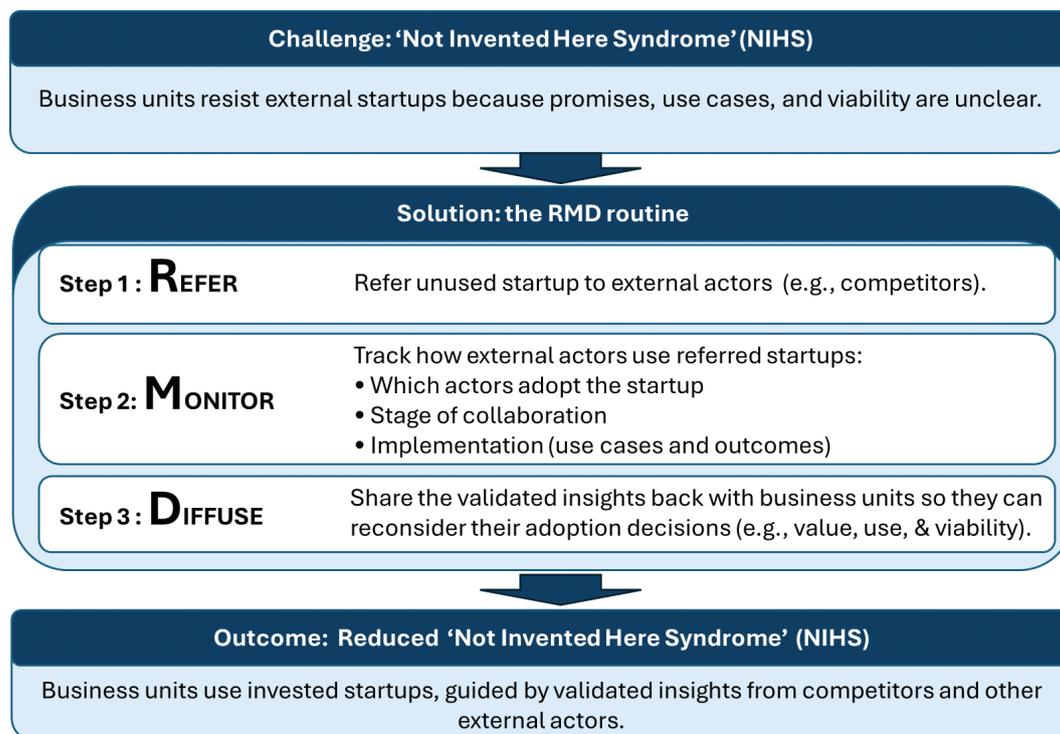


Figure 3. The RMD routine to overcome business units' not invented here syndrome'
Source: own elaboration.

time-consuming or costly, reinforcing inertia and resistance to external innovations.

Our second managerial contribution is to encourage managers to rethink – and, where necessary, redesign – the decision environment in which business units choose whether to adopt external start-ups rather than focusing solely on changing negative attitudes toward them. Specifically, we identify a three-step routine that managers can deploy to increase the uptake of external knowledge – particularly start-up solutions – within their organizations, a routine that proves especially valuable when behavioral biases such as the NIHS lead business units to resist or reject external innovations. The first step is to refer promising but unused start-ups – those that have previously been rejected by internal business units – to selected external actors, such as competitors. The second step is to monitor these external actors' engagement with the start-up, thereby generating high-quality, real-world feedback on the start-up's performance, use cases, and viability; in effect, this process represents free market research for internal business units. The third step is to diffuse this new information back to the rejecting units, thereby offering them a low-effort opportunity to revise their initial decisions on the basis of more robust, externally validated insights. Figure 3 provides a summary of a routine that we call the Refer Monitor Diffuse (RMD) routine, which offers managers a simple, actionable process that can help mitigate the impact of behavioral biases on open-innovation decisions.

Importantly, the routine is effective only if the three steps are deliberately integrated and sequenced. Referring a start-up to others without monitoring or reintegrating insights will not overcome internal resistance. If the process is applied systematically, it equips decision-makers with the contextual information that they originally lacked, thereby helping them overcome the heuristics and biases that typically hinder outside-in open innovation.

More broadly, we encourage managers to rethink the strategic role of competitors in innovation processes. Rather than viewing competitors solely as threats, managers can use those competitors as indirect validators of external technologies and provide valuable signals to inform internal decisions. The role of the other party thus shifts from that of a pure competitor to that of a cooperator. Finally, the routine also offers guidance for business units, demonstrating that decision-making under uncertainty can be supported structurally without overburdening individual managers.

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