



Research Insights

# Open the door to open innovation

Realizing the value of ecosystem collaboration

IBM Institute for Business Value





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## Key takeaways

### Open innovation drives growth

Open innovation has become an essential lever for growth. 84% of executives say open innovation is important for their future growth strategy. And 61% told us open innovation is more successful than innovation conducted by their organizations alone.

### Open technologies accelerate open innovation

Open and interoperable technologies—such as hybrid cloud, APIs, blockchain, and AI—allow for many more ways to create value by unlocking the hidden potential in existing business relationships. Compared to peers, 40% more of the open innovation leaders see hybrid cloud as driving future innovation.

### Ecosystems reinforce open innovation

Open innovation needs ecosystems in order to create value opportunities within and across the value chains. Organizations are tripling their participation in partner networks and ecosystems. 63% of executives want to encourage new ideas from outside their organizations.

## Foreword

*Much has changed over the 15-plus years that the authors of this study have been helping clients build and advance their innovation strategies.<sup>1</sup> During the first decade, one key tool we used to help clients focus on the right things was a model comprising 4 distinct innovation archetypes:*

- *A charismatic leader (such as Apple’s Steve Jobs)*
- *A rigorous process of constant assessment (such as in many electronics firms or banks)*
- *A marketplace of ideas across the enterprise (such as early Google)*
- *Collaboration among an organization and its partners (such as early-21st-century Procter & Gamble).<sup>2</sup>*

*Among the hundreds of clients we engaged with or surveyed about their innovation preferences, by far the most desired innovation archetype was the marketplace of ideas. Roughly 80% of clients surveyed preferred that innovation model—even when it was clearly antithetical to their corporate cultures and structures.<sup>3</sup>*

*The one archetype that was never chosen—not even once—was innovation through collaboration. So, it’s ironic that of all the archetypes, innovation through collaboration based in ecosystems and across platforms has now become by far the most important and desirable model of innovation across business and beyond.*

*In this report, we share next-generation thinking about collaborative—or open—innovation based on almost 2 decades of innovation experience.*

Organizations that embrace open innovation had a 59% higher rate of revenue growth.

## Open innovation: An introduction

The concept of open innovation—first put forward by theorist Henry Chesbrough in 2003—asserts that sharing ideas and collaborating, both internally and externally, delivers better outcomes.<sup>4</sup> The recent emergence of exponential technologies and the acceleration of digitization, combined with rising stakeholder expectations, have created an urgent imperative for organizations to embrace open innovation.

Open innovation has rapidly become an engine of growth and business performance. Organizations that embrace open innovation had a 59% higher rate of revenue growth compared to those that don't.<sup>5</sup>

But successful open innovation doesn't happen in a vacuum. It requires deep engagement with broad ecosystems that enable open innovation. The results are telling. In our new survey of almost 2,400 executives around the world, open innovators with strong ecosystem engagement had a 58% revenue growth rate premium over organizations that pursue open innovation alone (for details, see “Our research methodology” on page 11).

## Share more, gain more

Innovation used to be straightforward. R&D departments would develop new products or enhancements, which would then be created and sold. Organizations would measure their innovation prowess by how much they spent on R&D and the number of patents filed. Indeed, many of the more popular innovation metrics still do this.

Amid a more intensely competitive and rapidly changing global economy, this narrow view of innovation has become inadequate.

Over the past 15 years, organizations have expanded the concept of innovation beyond R&D into processes, operations, and business models. Innovation has become a driver of transformation. As such, it needs to be less sporadic, more systemic. Focus has turned to building an innovation culture, as well as processes that help make innovation self-sustaining and less susceptible to the voracious demands of quarterly performance reports.

With a few notable exceptions, organizations have lacked the confidence, skills, and culture to embrace game-changing innovation by collaborating with external partners and stakeholders. It has been seen as much too risky. And when you're struggling to create new value within your own organization, how could you possibly expect to do so by coordinating a diverse group of partners? It was deemed too slow, too hard, and much too complicated.

As recently as 2019, half of the organizations we surveyed cited low levels of trust among ecosystem partners as a barrier to open innovation. And 46% saw inadequate technology as a key reason to step back from collaborative innovation through ecosystems.<sup>6</sup>

However, the past 18 months have revealed new potential and value for open innovation. Rather than being too slow and difficult, open innovation proved to be the central—and at times the only—way that organizations could respond to the pandemic.

3 recent examples of critical COVID-19 solutions illustrate the new imperative for organizations to enable innovation and collaboration by tapping into ecosystems and partnerships:

- *Vaccines*. Pfizer collaborated with BioNTech on a highly effective vaccine against COVID-19. With BioNTech’s mRNA expertise and Pfizer’s broad experience with clinical trials, regulatory approval, and global manufacturing and distribution, the partners developed the vaccine and scaled the manufacturing at extraordinary speed.<sup>7</sup>
- *Ventilators*. Working together with 3M, GE Healthcare, and the United Auto Workers, Ford built ventilators in its Michigan factory by using parts from existing products, such as seat fans from the Ford F-150 truck.<sup>8</sup>

- *Personal protective equipment (PPE)*. Nike’s manufacturing and product teams worked with Oregon Health & Science University (OHSU) to produce PPE equipment based on designs by OHSU, using Nike-owned materials and manufacturing facilities.<sup>9</sup>

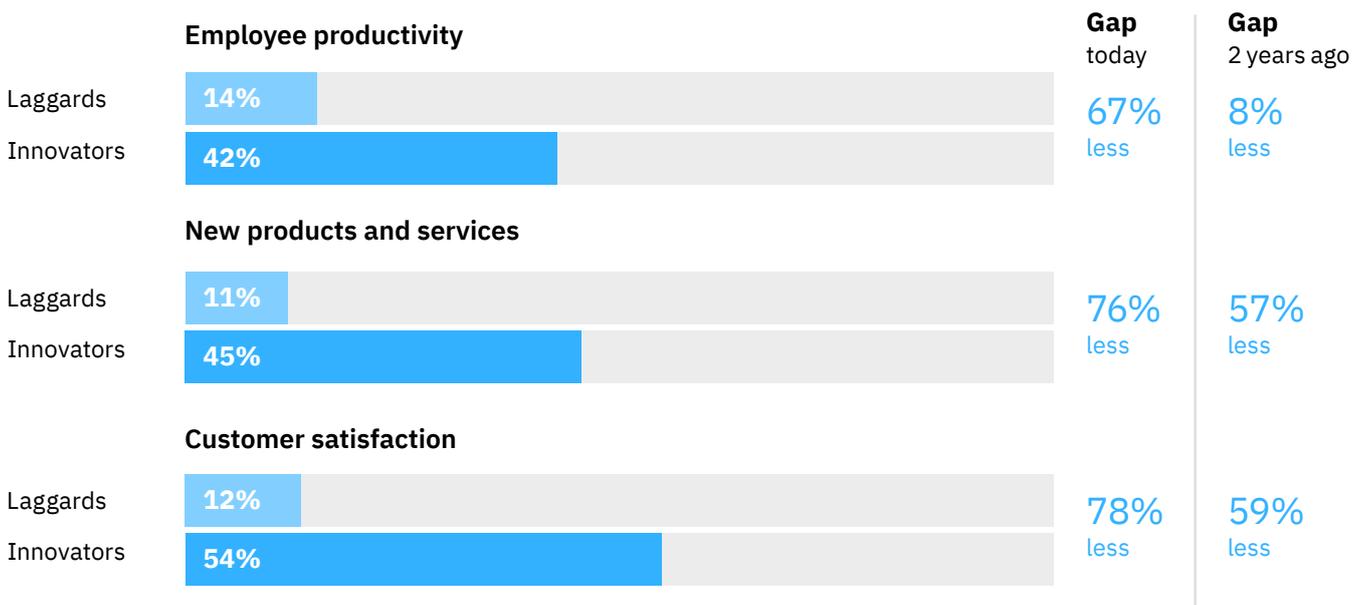
Accelerated by the pandemic, open innovation has become a must-have for organizations. Indeed, our analysis finds that organizations that neglect open innovation suffered a 12% lower rate of revenue growth compared to others. 61% more of that lagging group underperformed on profitability and efficiency. And strikingly, 75% more of them have *paused* innovation altogether during the pandemic.

When organizations didn’t adopt open innovation, the repercussions extended from customer satisfaction to the development of new products and services to employee productivity (see Figure 1).

**Figure 1**

### The consequences of closing off

Organizations indicate that innovation has a positive impact on performance measures. Those that lack open innovation see far less of an impact.



# 56% of respondents plan to increase their investments in innovation in the next 2 years.

## Looking both outward and inward

Open innovation does not replace other types of innovation. It's also not a simple substitute for investing in internal innovation capabilities. Rather, open innovation is amplified by an enterprise's existing innovation capabilities.

An organization can gain the most value from open innovation by combining it with other approaches to innovation (see Figure 2). For example, compared to other open innovators, surveyed organizations that combined open innovation with strong product and services innovation, traditional R&D, or business model innovation saw greater growth rate premiums of 39%, 38%, or 29%, respectively.

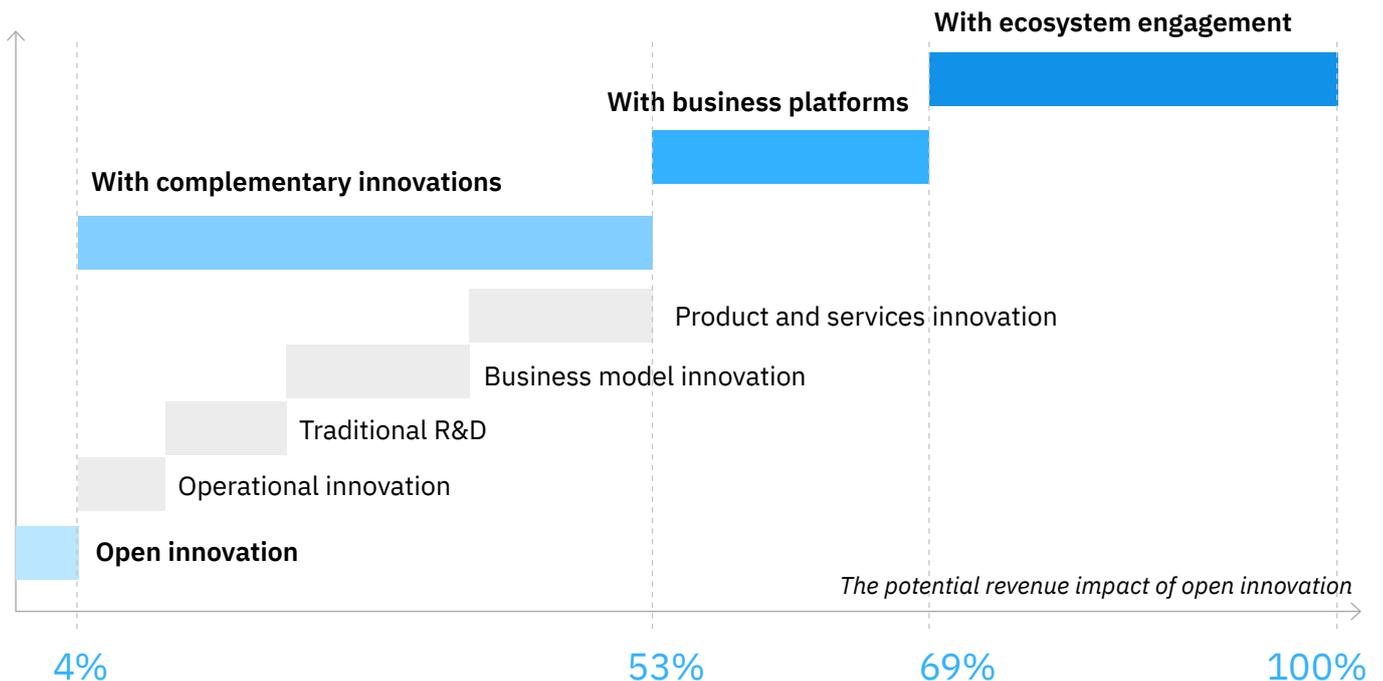
With 56% of respondents planning to increase their investments in innovation in the next 2 years, companies recognize the importance of cultivating their internal innovation capabilities. 65% see product and services innovation as significantly important for their growth strategy in the next 2 years, while 53% view operational innovation as significant for growth.

In sum, organizations understand that internal and external innovation capabilities complement one another—and they invest in both.

**Figure 2**

### Strength in numbers

The relative contribution to revenue growth from open innovation alone and from open innovation when combined with other capabilities



## Open technology for open innovation

The pandemic has forced many companies to rethink and accelerate their digital transformation efforts. 52% of respondents say their organizations have successfully accelerated digital transformations due to COVID-19. Organizations that integrate digital transformation with open innovation saw results dramatically exceeding others.<sup>10</sup>

In fact, open innovation and digital technologies are becoming more intertwined. New technologies such as hybrid cloud and blockchain can create vastly improved opportunities for trusted and security-rich collaboration and co-creation—with shared and accessible data as a key ingredient.

*Data* underpins the discovery and development of new ideas. Indeed, more than 64 zettabytes of data were created in 2020, and data creation is forecast to increase 23% annually through 2025.<sup>11</sup>

However, more data is not the same as more insight—or more value. Data can quickly become difficult to share and integrate within and among organizations. For many organizations, data sits within silos and remains inaccessible across the enterprise, let alone across an ecosystem. Siloed data makes it difficult to collaborate and co-create in both innovation and discovery processes.

The emergence of *hybrid cloud* helps address this integration and collaboration challenge. It allows you to connect—integrating, moving, sharing, and accessing data in a vastly improved manner. Unlike public cloud, which can sometimes reinforce data silos, hybrid cloud provides connectivity and interoperability across public and private clouds as well as on-premises systems. It acts as the technological glue enabling open collaboration, experimentation, and co-creation across ecosystems.

## SBI YONO: Transformation through digital workflows

Having been around for more than 200 years, State Bank of India (SBI) was losing market share and customer loyalty amid India's economic ascent. With 60% of the country's population under the age of 35, digital financial inclusion is growing.

Through agile methods, SBI defined intelligent workflows based on security and stability. It created a digital bank, an online marketplace for third-party offerings, and a digital financial superstore for its joint venture offerings under the brand SBI YONO (You Only Need One). Its platform helps ensure dynamic data integration and analysis, and it provides greater visibility and real-time insights by accessing huge volumes of distributed data.

Partnering with more than 100 e-commerce sellers, SBI YONO quickly grew into a platform with more than 10 million daily logins and over 100 million downloads. Since the launch of the ecosystem, SBI has implemented over 100 digital customer journeys, hosted over 650,000 mutual fund transactions, and sold over 400,000 life insurance policies through YONO.

# Technology is only one part of the story. Open innovation must permeate the entire organization.

Compared to others, 40% more of today’s open innovation leaders see hybrid cloud as a driver for future innovation. They understand its necessity for the systems and processes needed to innovate openly.

Blockchain is to ecosystem workflows what enterprise resource planning (ERP) is to internal enterprise processes. It can provide the security, transparency, trust, and efficiency necessary for interactions and transactions among many participants in multiple roles in an ecosystem. It also functions as a shared system of record among participants. As such, blockchain allows individual enterprises to transform internal innovation and extend it to many other stakeholders.

While still in relatively early adoption, blockchain is now being actively used by pioneering companies to disrupt and open up industries. 56% more of the open innovation leaders, compared to other respondents, see the high potential of blockchain to drive innovation in the next 3 years.

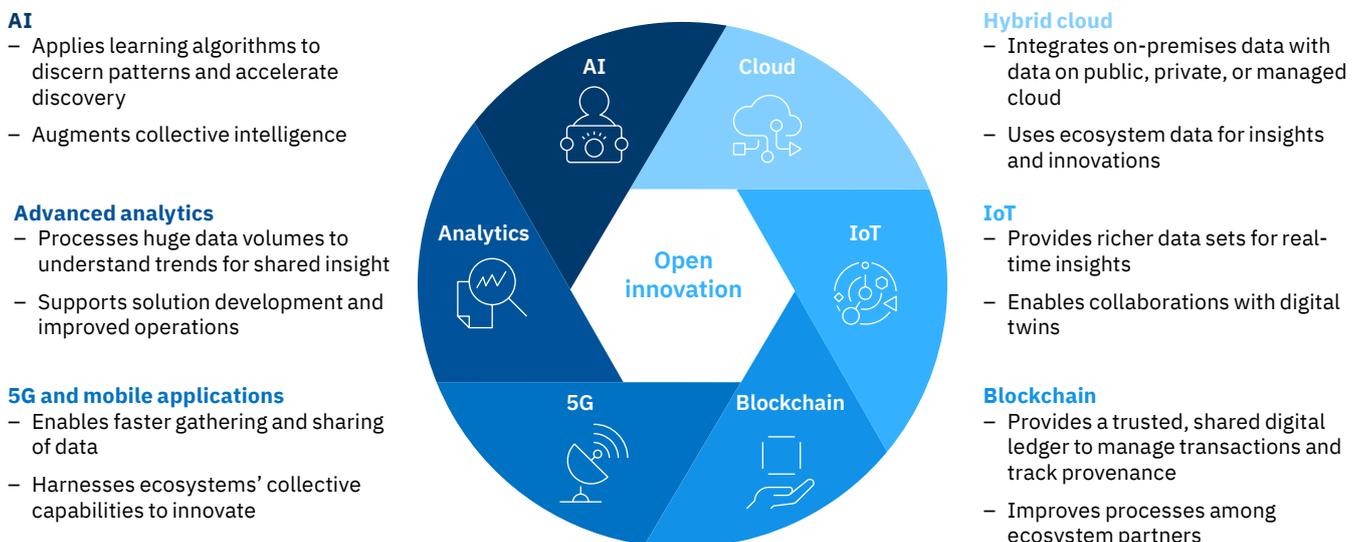
Other exponential technologies, such as *AI-enabled analytics and the Internet of Things (IoT)*, improve the abilities to both capture vast quantities of data and make sense of it—which, in turn, support accelerated discovery and innovation (see Figure 3). Unsurprisingly, 51% of executives say AI has a high potential for driving innovation in the next 3 years.

But technology is only one part of the story. Open innovation must permeate the entire organization. It should be enabled through platforms that connect and facilitate open and collaborative ways of working and create value with ecosystem partners. Rather than being considered optional, open innovation needs to define the underlying tenets of the enterprise’s operating model.

**Figure 3**

## Innovation engines

Exponential technologies power open innovation.



## An open operating model

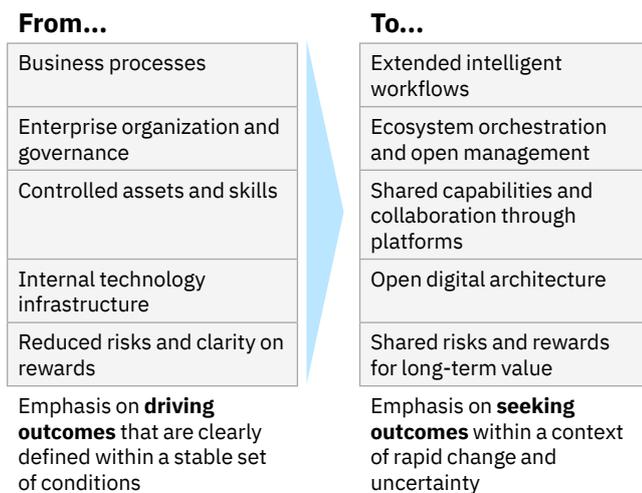
Open innovation is not just another way of doing innovation. It constitutes a new operating model for organizations—one that harnesses the collective intelligence of employees, partners, vendors, and customers in the pursuit of innovation and value.

With open innovation, outcomes are achieved not by a single organization but through dynamic ecosystems (see Figure 4). Ecosystems aren't just a part of the innovation operating model—they define it. Openness allows organizations to tap into capabilities and resources from virtually anywhere inside and outside the organization, then orchestrate them into dynamic pairings and combinations to achieve and scale specific tasks or objectives. This orchestration is more effectively done through platforms.

**Figure 4**

### Getting there from here

To harness open innovation, organizations must change their operating model.



## Verizon: Innovation through collaboration

Verizon and IBM have partnered to develop and test innovative, 5G-enabled use cases for Industry 4.0 applications.

Enterprise customers can explore how Verizon's 5G Ultra Wideband, which is being deployed in cities across the US, can be combined with hybrid cloud, edge, and AI technologies to deliver a new class of intelligent applications and next-gen use cases. These include robotics, guided vehicles, manufacturing process automation, visual quality inspection, data analytics, and more.

By trialing new use cases and highly automated deployment and management approaches, Verizon provides hands-on experience for enterprises seeking to leverage new 5G capabilities, such as reduced latency, increased bandwidth, network slicing, and edge.

## Organizations need to accept less direct control over how they capture rewards and a greater willingness to absorb risks.

Indeed, the most successful open innovators build and participate in platforms that enable them to work more effectively across their ecosystems, often encouraging others to participate as well. And platform participation is increasing exponentially as more and more enterprises recognize the importance of extending their organizations outward.

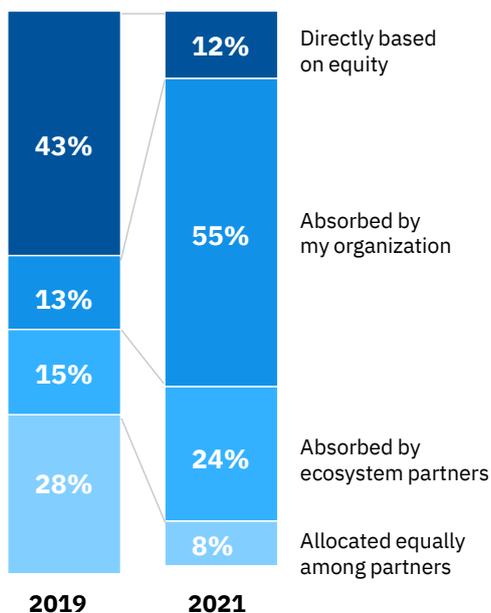
Successfully realizing value from platforms and ecosystems will require a change in how you view both risks and rewards (see Figure 5). To encourage collaboration and co-creation with partners, your organization needs to accept less direct control over how it captures rewards within your ecosystems. You also have to accept a greater willingness to absorb risks. Today, 55% of organizations say they absorb most or all of their risks within their innovation ecosystems, compared to just 13% in 2019.

**Figure 5**

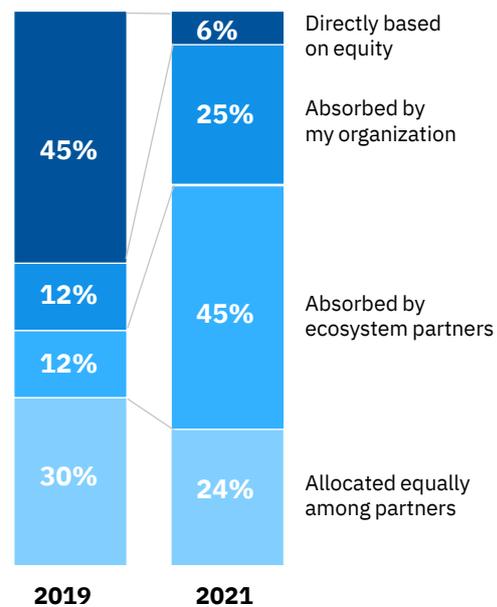
### Perils and prizes

In ecosystems of innovation, organizations are open to taking on more risks—and realizing more rewards.

#### Innovation risk sharing in ecosystems



#### Innovation reward sharing in ecosystems



Leading open innovators move away from strictly allocating innovation risks and rewards based on equity or equal distribution among partners. Instead, they take a more flexible approach to innovation and reward-risk allocation—which allows ecosystems to innovate with greater speed and scale. They recognize it's more important to foster positive innovation dynamics than look for immediate transactional gains in their interactions with ecosystem partners.

Sustainable ecosystems for open innovation are a multistage game. They're not a winner-take-all contest.

More broadly, open innovation requires an open culture that encourages collaboration and fosters a passion for discovery, creativity, and knowledge. Crucially, these features can be sourced from anywhere inside and outside the boundaries of your own organization.

Such advances may come at the expense of more rapid efficiency gains or efforts to optimize processes for clearly defined outcomes. In fact, the open culture of open innovation leans more toward seeking sometimes unclear outcomes, rather than aiming for a prescribed set of clearly defined outcomes.

This is not just sentiment or aspiration. A culture of open innovation can be realized only through deliberate efforts. It must be manifested in the organization's operating model. It should define how work and collaboration are prioritized, incentivized, and accomplished. And it calls for leadership and ownership of organizational culture at the very top of the enterprise.

## Alior Bank: Building an innovation ecosystem

Alior Bank, a leading bank in Poland, is building an ecosystem of partners and collaborators to comply with industry-changing regulations, seizing them as an opportunity for innovation.

To protect consumers and innovate the payments market, the European Commission issued the Second Payment Services Directive (PSD2), which requires banks and financial services to share approved customer data more openly with third-party providers.

For Alior Bank, the EU directive represented an opportunity. Launching new partnerships to prepare for the next wave of financial regulations, Alior Bank is embracing open APIs to drive innovation with collaborators and developer communities.

## Action guide

### *Open the door to open innovation*

Enabling open innovation is different from driving closed innovation: The levers available to organizations and the value-capture requirements are different. Here is a step-by-step guide to advance your open innovation capabilities:

#### **Elevate the strategic role of innovation within your enterprise**

- Create clarity on business strategy and objectives, and help ensure they're widely understood by employees, ecosystem partners, and stakeholders.
- Align innovation activities with strategic objectives. Use strategic clarity to set priorities and make clear choices. Without this sharp focus, too many unsupportable ideas compete for attention.
- Integrate innovation and ecosystem strategies to tap into the full innovative potential of your partners, customers, and stakeholders.

#### **Scale ideation and experimentation**

- Expand ideation and experimentation opportunities—aligned with the strategic priorities—and embed experimentation within the organization.
- Seek out external platforms and ecosystems to extend ideation and experimentation beyond your organization.
- Create end-to-end ideation and experimentation capabilities with design thinking and Garage methodologies to drive innovation at scale and generate value iteratively throughout the ecosystems.

#### **Use platforms for innovation dynamics**

- Integrate innovation, digital, and platform strategies to facilitate the open digital capabilities that can realize the potential of open innovation.
- Build and participate in different types of platforms to generate new business opportunities and extend your organization.
- Connect with ecosystem partners, customers, and other stakeholders through platforms to enhance capabilities and scale at speed.

#### **Create an open technology foundation for open innovation**

- Invest in hybrid cloud as the technology foundation for open innovation, collaboration, and co-creation across the ecosystem.
- Drive innovation with open standards, open source, and interoperability. The technology foundation for open innovation requires interoperability and moving data easily between organizations and systems—which in turn calls for open standards.
- Apply exponential technologies such as AI to accelerate and enhance the innovation dynamics. And gain deeper, better insights for the development of new solutions and approaches.

#### **Harness the collective intelligence of ecosystems through innovation dynamics**

- Work with ecosystem partners and strategically integrate ecosystem collaboration.
- Focus on the long-term value creation potential from ecosystem partners, rather than short-term transactional gains.
- Stimulate positive ecosystem dynamics. Create connections and networks to access capabilities that can help create and capture value. Rather than a linear process, innovation happens in a complex system that requires orchestration.

#### **Foster an open innovation culture**

- Adapt incentive mechanisms to encourage collaboration, and define your KPIs to reflect the pursuit of long-term value.
- Empower employees to take initiative and drive innovation. Flatten the hierarchy, and facilitate easy access to decision makers.
- Take a more fluid approach to the allocation of risks and rewards from innovation. Move away from a strict allocation based on equity or equal distribution among partners.

## Our research methodology

This study's analysis is based on a survey of 2,379 executives, representing 24 industries and 26 countries, conducted by the IBM Institute for Business Value in cooperation with Oxford Economics.

We have used a combination of analytical methods to understand how organizations are approaching open innovation, as well as the relationship between open innovation and business performance.

First, we used descriptive statistics to understand innovation trends. To understand the role of open innovation for business performance, we segmented the sample based on 2 criteria: the extent to which the organization sees open innovation as important for its growth strategy and the extent to which it is effective in advancing open innovation. Respondents that performed high on both criteria make up our open innovation leader group. The performance of this group was compared to others. In addition, we segmented the data further to understand how open innovation in combination with other capabilities differentiates performance.

To understand these relationships in greater detail, we used a combination of multivariate regression and neural networks analysis, with revenue performance as the dependent variable. This included open innovation performance and maturity on various capabilities as complementary variables, as well as multiple interaction terms.

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January 2022

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