

Research Insights



IBM Institute for  
Business Value

# The Virtual Enterprise

The Power of Market-making  
Platforms and Ecosystems



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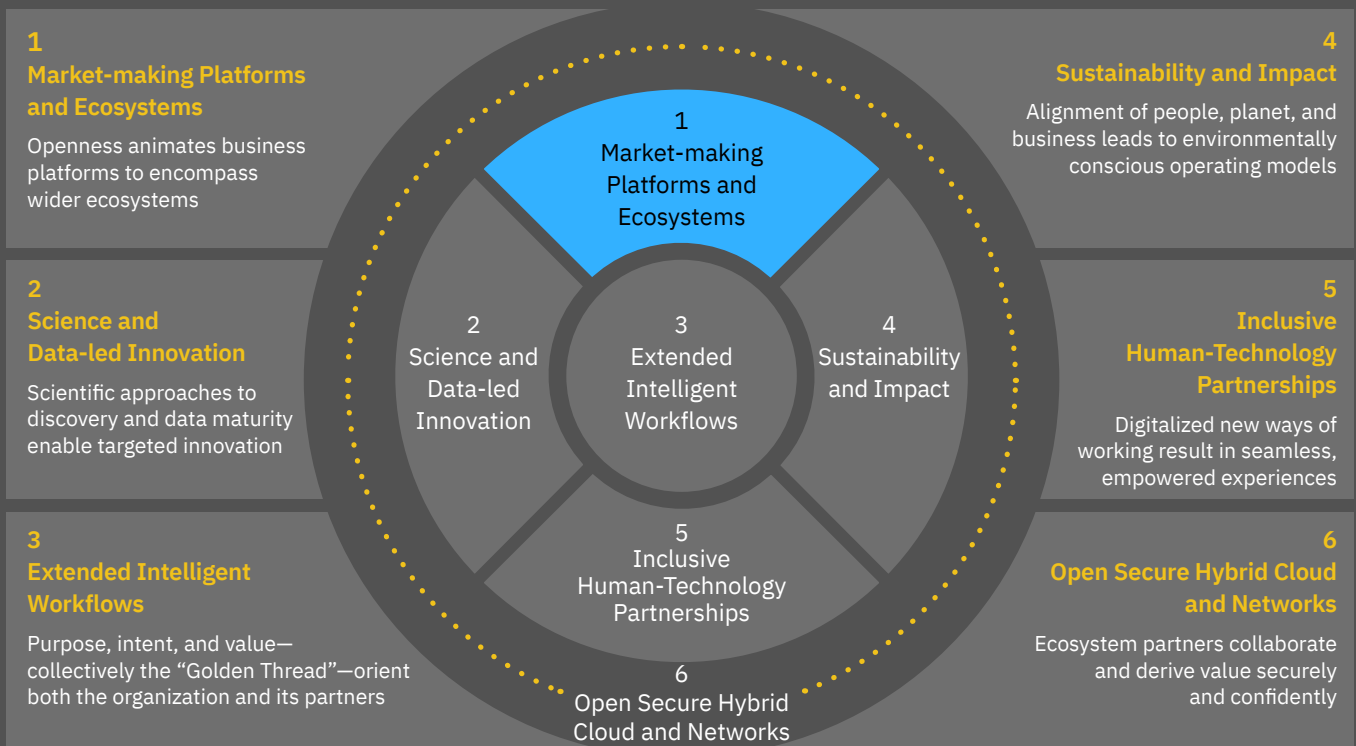
Technology is transforming the business models of enterprises across the globe, creating new opportunities for growth and fresh benchmarks of cost and efficiency. The ability to apply AI, automation, blockchain, the Internet of Things (IoT), 5G, cloud, and quantum computing at scale has made the promise of Cognitive Enterprises real.

As we place this revolution in the context of an increasingly virtual world, we see even more power arising from the ecosystems, digital workflows, and networked organizations that are made possible. The Virtual Enterprise is emerging, supported by a “Golden Thread” of value that animates the enterprise and binds ecosystem participants (see Figure 1).

Openness is the defining characteristic of the Virtual Enterprise. Most importantly, openness can help stretch the business platforms that are being envisioned to encompass wider ecosystems. We see organizations recognizing the power of combining platforms to seize new markets, as well as recognizing that the scale of the impact that is required demands this alignment with other substantive players. By optimizing platform economics, open connectivity, and frictionless engagement, the Virtual Enterprise enables all participants across market-making platforms and ecosystems.

**Figure 1**

Building blocks of the Virtual Enterprise



The Virtual Enterprise makes ecosystems the heart of its strategy to enhance innovation, make markets, and massively enhance capabilities.

# How open platforms and ecosystems can boost value

The biggest strategic idea of the Virtual Enterprise is the combination of platform thinking with the concept of ecosystems. The Virtual Enterprise makes ecosystems the heart of its strategy to enhance innovation, make markets, and massively enhance capabilities. It requires leadership to have a clear vision of the growth potential that comes from creating strategic relationships with other organizations, as well as the competitive advantage that comes from orchestrating the extended business platform in which others wish and need to participate.

The openness of the ecosystem increases its reach and value creation potential while enabling those entities that are “in the club” to share in maximum business outcomes, within industry contexts as well as with new cross-industry combinations.

The potential for ecosystems to connect with customers and participants is given a new release through the power of digital connectivity and the sharing of information and new combinations of data. And thanks to technology architectures built on open, secure standards and software-defined networks, such engagement is increasingly straightforward.

Externalized business processes and extended workflows, differentiated through the combined power of applied technologies, create new market opportunities for all participants. We can see industry and cross-industry platforms and ecosystems providing solutions and standards that individual organizations cannot.

## What are platforms and ecosystems?

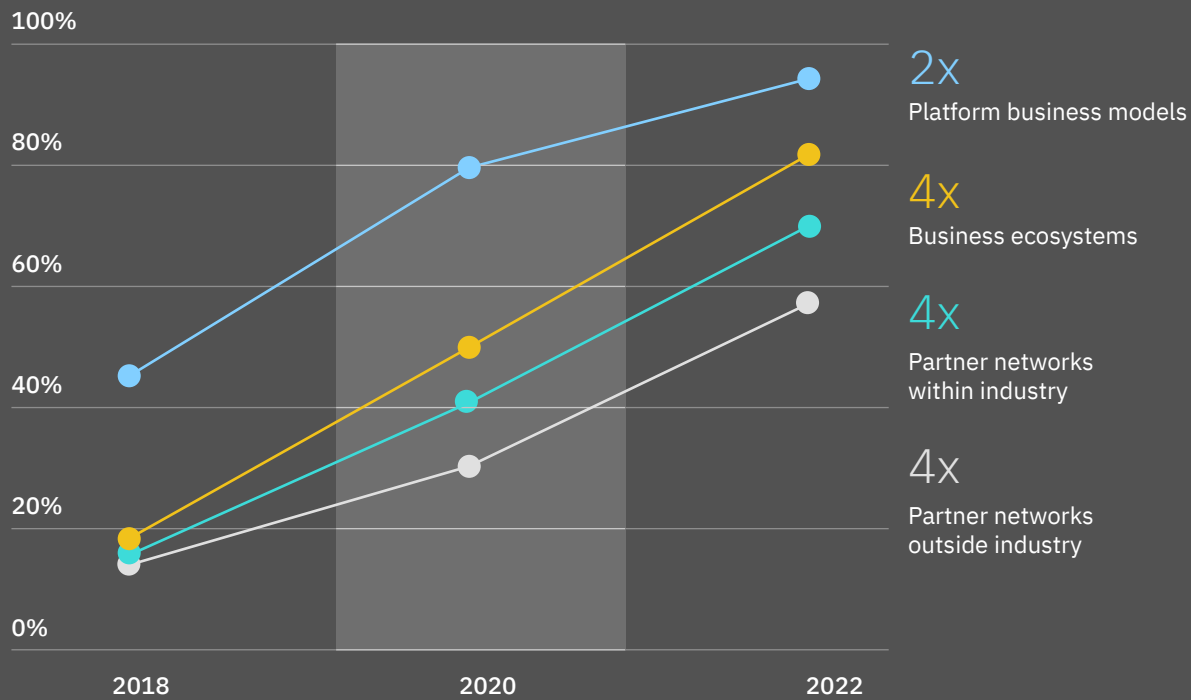
Platforms enable organizations to gain a competitive advantage by allowing them to tap into resources otherwise unavailable to them—whether due to scale, maturity, or capital—and develop stronger offerings themselves. Platforms can exist across functions within a single organization, across organizations within an industry, across industries, across the consumer market, or across a range of technologies. On a platform, all players provide value to others, and they extract greater value for themselves through the benefits of the network.

Ecosystems are the basis for continuous collaboration, co-creation, and open innovation. They move working relationships beyond the transactional or tactical. Within an ecosystem, the collective intelligence, capabilities, and technology of the networked participants are harnessed for enhanced value propositions and greater value creation. Ecosystems can foster cooperation and trust among partners, suppliers, customers, and stakeholders. Within an organization, they can break down silos and encourage cross-departmental collaboration.



**Figure 2**

Businesses are increasingly opening up



Source: "COVID-19 and the future of business: Executive epiphanies reveal post-pandemic opportunities."  
IBM Institute for Business Value. [ibm.co/covid-19-future-business](https://ibm.co/covid-19-future-business)

Q: To what extent is your organization participating in the following networks and business models (2 years ago, today, or in 2 years)?  
Percentages represent respondents that answered high or very high; n=3,450, fielded April-June 2020.

Many of the bigger challenges facing the world need this kind of collaboration. Whether it is for extended public-private partnerships (such as those that provide vaccine solutions for the pandemic) or the alignments of players that drive sustainable impact on climate change or food security, the power of open, extended, and secure platforms is very evident.

Blockchain consortia have been one class of industry and cross-industry ecosystem play that has arisen over the past few years. They help participants trust the data as they remove cost, drive efficiency, and securely "know" all the participants throughout the workflows.

The applications that have emerged first have been in areas such as supply chain, provenance, and identity. We can imagine that the combination of secure and reliable identification of participants and status of

transactions—combined with the immediacy of real-time synchronization—will only enhance the viability and creativity in the shaping of platforms and ecosystems (see Figure 2).

As a first step toward a platform business model, many organizations that market physical products or services are creating new digital experiences that enhance the originals. For example, digital services that support physical blood monitoring could send alerts to trigger pharmacological testing.

The power of digital solutions to drastically reduce barriers to entry and create new cost benchmarks is real, too—as the opportunity expands to replace expensive capital expenditure with shared operating expense. Automation and zero-touch approaches reinforce this potential.

# Leveraging the transformative value of openness

With openness at the heart of the Virtual Enterprise, ecosystems have become the engine that drives performance and impact across economies. For enterprises battling dislocation and disruption, extended partner platforms can promote agility and resilience, and open new revenue opportunities. For businesses exploring such opportunities, ecosystems have been the essential vehicle for growth and expansion.

New IBM Institute for Business Value (IBV) research reveals that the companies most focused on ecosystem engagement across 16 industries generated higher growth and more business value. During the pandemic, revenue growth captured by these ecosystem leaders outpaced that of others by 5 to 1.<sup>1</sup>

But value does not automatically emerge from ecosystem engagement. If an enterprise continues to operate in old-style, analog ways, then potential is squandered. While most organizations now participate in and/or own a variety of platforms and have ecosystem strategies in place, those efforts can still deliver disappointing results. What's required is an intentional effort to digitally transform the business.

Enterprises must take the correct, considered steps to create and capture value from existing and new ecosystems. Only by appropriately cultivating a value-focused strategy—managing a portfolio of value opportunities and their risks—can an organization fully capitalize on market-making platforms and ecosystems' transformative potential.

What does ecosystem leadership look like? There is no singular model, no one way to derive value from a platform and ecosystem. But leaders distinguish themselves by identifying the unique strategies and operational approaches that fit both their enterprises and the environments they operate in.

The IBV identified leading enterprises by assessing their success across 2 principal dimensions: their value capture expectations in an ecosystem and their maturity level within that ecosystem. Leaders demonstrate high ecosystem maturity and operate in a high-potential value capture environment.

These organizations are not passive. With so much on the line, and so much already invested, a successful enterprise continually focuses on protecting and growing its status across both of those vectors.

These ecosystem leaders describe the source of their value as: "We own the customer relationship."<sup>2</sup> More than half of our surveyed leaders cite "strengthening existing strategic relationships" as a top success factor. They also increase investment in innovation that includes new products or services, and look to gain access to new industries, markets, and customers.

We found that successful leadership depends on 4 priorities:<sup>3</sup>

*Openness:* 60% of leading participants report a significant shift from proprietary to open technologies.

*Customer relationship:* 74% point to deeper customer relationships as a key value driver.

*Innovation:* 49% say that innovation will be required to maximize value creation.

*Agility:* 42% identify a lack of organizational agility as one of the biggest impediments to success.

The Virtual Enterprise brings these priorities to life, leveraging platforms and ecosystems. And 3 key insights drive that activation:

— **Connectivity**

— **Partnerships**

— **Technology**

## Connectivity leads to growth and value

Open platforms and ecosystems offer new avenues for growth, efficiency, and innovation.



*The Virtual Enterprise utilizes market-making platforms and ecosystems for practical, tangible reasons: Connectivity drives growth and value.*

Outsized performance is increasingly driven by ecosystem engagement. According to a recent IBV study, technology adopters that invest in ecosystems gained a revenue growth premium of 40%.<sup>4</sup>

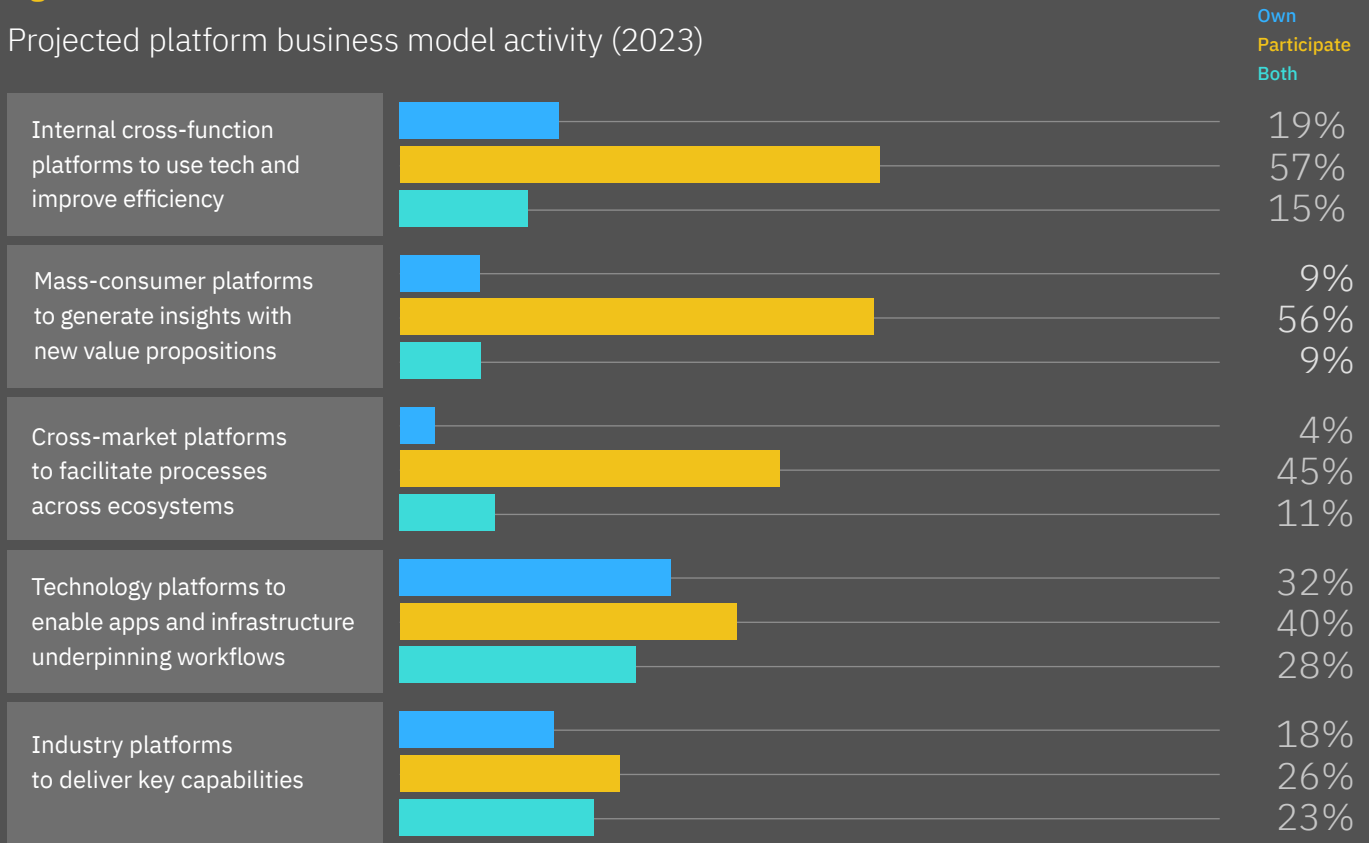
Achieving that success requires a modern, digitally savvy operating model and mindset. By aligning an enterprise with business priorities and optimizing ecosystem engagement, performance impact can be considerable. The Virtual Enterprise puts ecosystems at the heart of strategic efforts to spur innovation, make markets, and massively enhance capabilities.

Connectivity begins with a commitment to platforms, which IBV's proprietary research shows is increasing broadly. In fact, most of the organizations surveyed say they will either own or participate in a business platform over the next 3 years to support their market growth, efficiency, and innovation strategies (see Figure 3). What's more, at least 60% of organizations will own or participate in internal cross-function, mass-consumer, cross-market, and cross-industry platforms. And 72% of organizations will own or participate in technology platforms.

Platforms distribute the supply chain, moving it from inside the enterprise to outside, shifting traditional operations and expenses to a larger network, and enabling accelerated fulfillment and value.

**Figure 3**

Projected platform business model activity (2023)



Source "The Virtual Enterprise: The Cognitive Enterprise in a virtual world." IBM Institute for Business Value. <https://ibm.co/virtual-enterprise>

**Are you prepared to drive growth through connectivity?**

**Q1** How can your organization's business platforms embrace wider ecosystems?

**Q2** Which value-focused strategies and initiatives will your organization adopt to intentionally manage platform and ecosystem value opportunities and associated risks?

**Q3** How can your organization's goals and tactics enhance platform participation and ecosystem maturity to create and capture value?



# SBI YONO

## Spurring growth with a platform and ecosystem

The State Bank of India has been around for more than 200 years. Yet as India's economic ascent gained steam in recent years, the bank found itself losing market share. To attract a younger, more digital-savvy customer base, the bank created a digital bank, online marketplace for third-party offerings, and digital financial superstore under a new brand, SBI YONO ("You Only Need One"). Partnering with more than 100 e-commerce sellers, SBI YONO quickly grew into a mobile platform with more than 10 million daily logins and 64 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. SBI's 2020 annual report mentions YONO no fewer than 96 times, almost on every page. Today, in line with its success in creating and capturing value from the extended ecosystem, SBI's strategy has shifted to expand network presence, as it adds an average of 15 new use cases per month to the platform.



## Deeper partnerships serve as strategic drivers



Partnership has become an imperative for most organizations to find value, focusing on fewer, deeper ecosystem combinations to build out their growth agendas.

***The Virtual Enterprise does not operate in a vacuum. It relies on partnerships to leverage platforms and ecosystems—and, in the best cases, to connect ecosystems of ecosystems.***

Ecosystem leaders are not narrowly focused on short-term transactional gains for their own businesses. They take a broader view of ecosystem value opportunities for all participants. In fact, according to IBV research, 72% of ecosystem leaders stress that competitors within their industries also gain value from ecosystems, and 67% note value to competitors outside their industries.<sup>5</sup>

Rather than provoke competitive anxiety, this leader group embraces ecosystem engagement as a win-win game: When ecosystem value is enhanced for others, it helps their own businesses realize even more opportunity.

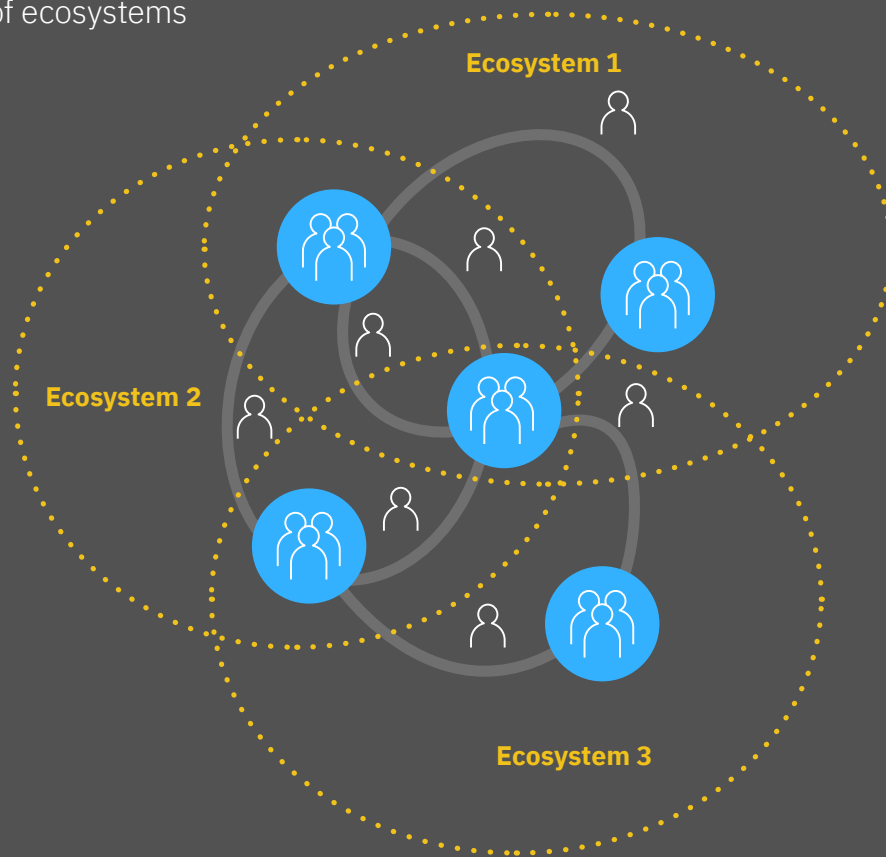
These findings illustrate the importance of generating positive ecosystem dynamics for participants rather than focusing purely on immediate competitive gains. Such positive dynamics could enable the ecosystems to grow within and across industries and even connect to other ecosystems, creating an inclusive ecosystem of ecosystems for value creation and capture.

Partnership is the key strategic tool to build out an ecosystem of ecosystems. As another IBV survey reveals, 54% of executives say drawing ecosystems together is one of the most important drivers for their organizations' digital transformations.<sup>6</sup>

One critical obstacle to keep in mind: As enterprises engage in multiple platforms and ecosystems, they may be pursuing multiple strategies in multiple places at the same time. This can limit value capture if an enterprise's ecosystem priorities—which may be many and wide-ranging—are not appropriately aligned to business-performance priorities and a singular overall strategic vision for the business. In fact, even in single-ecosystem situations, such alignment is critical in optimizing value capture.

**Figure 4**

It's all about dynamics:  
Ecosystem of ecosystems



### Is your organization ready to form deeper, more strategic partnerships?

**Q1** How will you engage all parts of your organization to fulfill the growth potential that comes from creating and fostering strategic ecosystem partnerships?

**Q2** How will your organization enhance the viability and creativity of platforms and ecosystems, including the support of secure and reliable identification of participants and the clarity of transactions' status?

**Q3** What plans have you put in place to build new partnerships and ecosystems of ecosystems, whether to explore new market opportunities, externalize business processes, extend intelligent workflows, access exponential technologies—or all of the above?

# Digital Health Pass

## Tackling pandemic-era challenges through partnerships

The Digital Health Pass helps organizations as they strive to reopen in the wake of COVID-19 and provide individuals with a privacy-preserving way to voluntarily share their COVID-19 test results or vaccination status. It is the outcome of a collaboration across industries and existing ecosystems.

Organizations can make data-driven decisions for configuring a health pass as they look to mitigate risk, take action where needed, and communicate effectively. IBM is invested in collaborating with

COVID-19 testing and vaccination providers, technology companies, and other consortia and alliances around digital health passes.

The solution—based on IBM blockchain technology—provides organizations an efficient way to verify COVID-19 health credentials in order to bring employees back to offices, travelers back to travel, students back to campuses, concert goers back to music venues, and sports fans back to stadiums. It does this while also allowing individuals to maintain control of their personal health information and share it in a way that is secured, verifiable, and trusted.





## Technology and openness underpin value acceleration



New and emerging technologies grounded in principles of openness and standards, like blockchain and hybrid cloud, underpin the acceleration of this opportunity.

***Technology platforms are the backbone of the Virtual Enterprise. The modern business ecosystem is built on technology and the open, trusted, innovative engagement that a digital platform can provide.***

Organizations have begun placing increasing emphasis on tech platforms, allocating 84% more investment there since 2017, according to IBV research. The level of investment continues to accelerate—as does their anticipated return on investment from those efforts. By 2023, executives expect to invest nearly 6% of revenue in technology platforms and to glean almost a 12% return on that investment.<sup>7</sup>

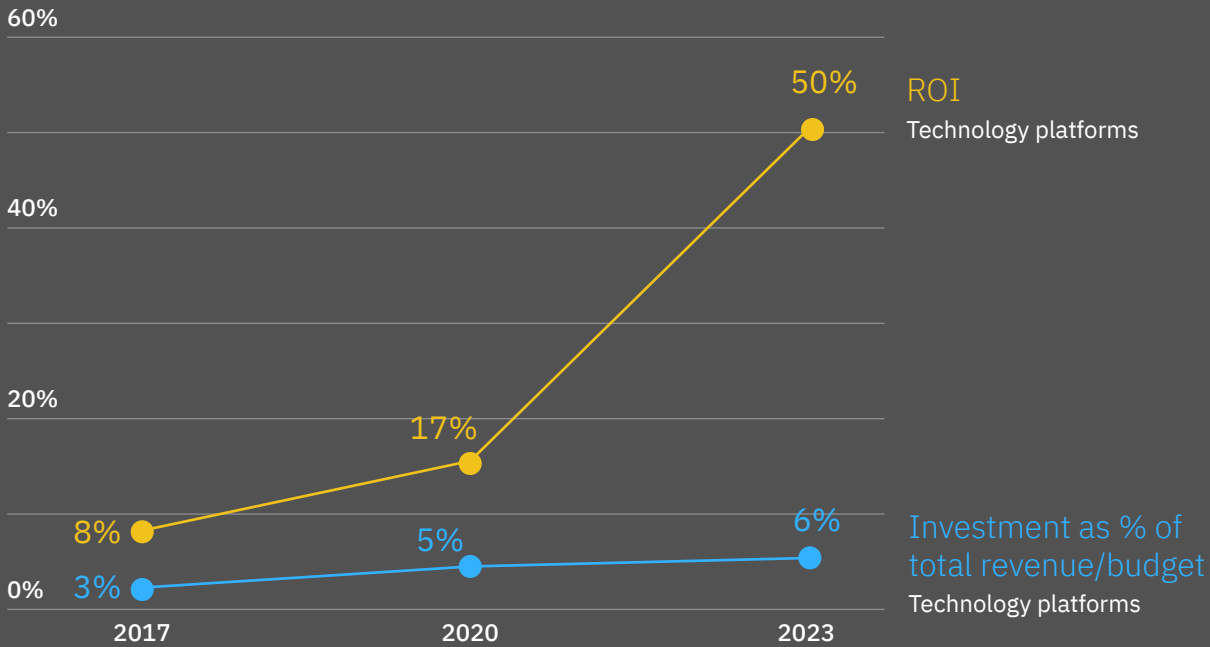
Despite that positive trajectory, and the clear lessons of 2020, tech maturity for many organizations remains lagging. In fact, tech-related impediments to strategy implementation were cited repeatedly by respondents to a recent IBV survey: 44% complained about the existing state of their enterprises' tech infrastructure and the risk of technical difficulties when connecting operations, 43% pointed to inadequate organizational agility, and 39% highlighted inadequate tech investments.<sup>8</sup>

The solution to leapfrogging over these impediments is technology itself. The convergence of exponential technologies such as AI, blockchain, edge computing, and hybrid cloud increasingly enables open, expanded, trusted ecosystems to be integrated and intelligent—providing solutions while limiting, rather than exacerbating, risks. In another recent IBV survey, for instance, 3 out of 4 respondents say that establishing a hybrid cloud can help draw ecosystems closer together, and 39% say they expect hybrid cloud to accelerate innovation by expanding partner solutions.<sup>9</sup>



**Figure 5**

Digital platform growth in investment and returns



Source "The Virtual Enterprise: The Cognitive Enterprise in a virtual world." IBM Institute for Business Value.  
<https://ibm.co/virtual-enterprise>

## What is your capability for embracing open technology platforms?

**Q1** How is your organization actively leveraging technology and openness to create or participate in industry-based and cross-industry ecosystems?

**Q2** In what ways are you investing in platform differentiation, trust, and security to transform your business models, create new opportunities for growth, and identify fresh benchmarks of cost and efficiency?

**Q3** What are your plans for accelerating your organization's objectives and openness through the infusion of exponential technologies such as AI, automation, blockchain, IoT, hybrid cloud, and quantum computing?

# Schlumberger

## **Improving performance with leading-edge technology and openness**

Schlumberger provides leading digital solutions and deploys innovative technologies to enable performance and sustainability for the global energy industry. The organization is accelerating customers' move to the cloud with its DELFI cognitive exploration and production (E&P) environment, where customers' teams can collaborate freely across boundaries—breaking down traditional data silos.

By providing access to the company's cutting-edge E&P solutions and applications, the DELFI environment enables energy companies to create new data-driven workflows and adopt game-changing technologies such as AI, analytics, and automation.

Its “write once, deploy anywhere” approach helps ensure faster development of applications and workflows, and overall platform performance for customer-specific requests, leading to improvement in volume and velocity. The reduction in customers' total cost of ownership (product, service, and operational costs) is expected to be 10 to 20%.

Customers and partners worldwide can integrate their deployment of the DELFI environment with the OSDU™ Data Platform, the industry standard for energy data. Schlumberger intends to expand the global addressable market from under 50% today to potentially almost the entire world.



## Action guide

# Converting platforms and ecosystems into value

The Virtual Enterprise will be the anchor of the future economy. As our IBV research confirms, platforms and ecosystems are more prominent than ever and vital to driving business performance. Tailoring your strategy to your specific situation unlocks business value. And aligning activities and goals captures that value.

The scale of the strategic leap that can come from open, ecosystem, and platform thinking is very considerable and can go to the core of the way an organization looks at itself. Platforms and ecosystems must be at the core of the enterprise, not on the periphery as an additional facet to the business. Virtualization and new connectivity models allow smaller participants, such as SMBs and even individuals, to participate in such extended ecosystem plays as they become more attractive and add higher value.

The cultural implications of being an effective virtual participant in ecosystems are also huge. Ecosystems need to become the primary social system and focal points of interaction and energy of the participating organizations. The persona of an organization and its core competence need to be aligned to this intent. Leadership teams need to develop mutual trust as they make joint commitments and create an open culture, which means letting go of many aspects of proprietary ownership and control.

Here is a 6-step outline for converting the potential of platforms and ecosystems into value:

### Tune your strategy

- Identify value creation and value capture opportunities.
- Prioritize levers aligned with these opportunities to capture value at speed and scale.
- Test and confirm that value capture and value realization meet specific milestones.

### Transform your model

- Assess the implications of any new strategy for your operating model.
- Prepare to adjust the model so all components of the business work together.
- Develop foundational capabilities geared to realize value from the ecosystem.

### Reinforce your culture

- Foster a mindset shift to emphasize collaboration and co-creation.
- Create incentive structures and targets that de-emphasize short-term transactional opportunism in favor of collaboration and co-creation.
- Invest in programs that drive internal and external sharing, partnering, and openness.

### Orchestrate your participation

- Define various partner roles, key rules, and essential collaboration tools.
- Confirm which ecosystem role you have (and which you want), and where new or hidden value might reside; not all participants find value in the same ways or at the same levels.
- Support holistic network development, which aids value creation and capture for all.

### Execute with agility

- Adopt an agile execution structure.
- Leverage co-creation, co-execution, and co-operation to accelerate idea development and value capture (using an end-to-end Garage<sup>10</sup> model).
- Act on experiments and positive opportunities in parallel to fuel real-time progress.

### Enable future progress

- Invest in open and secure technology architecture to feed rapid integration, engagement, and expansion.
- Utilize pre-existing architectures for rapid scale-up.
- Embrace open, extensible hybrid-cloud technology that supports fluid integration of new participants and at scale.



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As General Manager, IBM Global Strategic Partnerships, Jason is responsible for the strategy, organization, and performance of IBM’s strategic alliances, building on his track record in blockchain, AI, IoT, 5G, and other emerging technologies across clients, industries, and network ecosystems. Prior to this role, Jason led IBM Blockchain Services, partnering with organizations and consortia to unleash exponential business value through rapid adoption of blockchain-enabled digital ledgers and digital identity capabilities. Jason has been a successful entrepreneur, as well as a business unit creator for IBM.



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Jamie is Managing Partner and Service Line Leader, GBS, for digital transformation, ecosystem, and platform strategies. He focuses on the healthcare, insurance, and automotive industries, helping clients develop and execute their digital transformation market-making strategies and innovations with the application of exponential technologies. A medicinal chemist, Jamie has developed the world’s largest genomic cancer database, among many other healthcare achievements. For the automotive industry, Jamie established a Silicon Valley innovation hub and acceleration program. And in insurance, he has led the creation of a digital health insurance model and digitization of sales policies.



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Golnar is a partner with IBM Services and leads ecosystem and platform business models for IBM’s Enterprise Strategy practice. For the past two decades, Golnar has been helping enterprises develop and execute growth strategies to capitalize on opportunities in new disruptive technologies, such as cloud, AI, blockchain, and IoT. Most recently, Golnar has helped clients develop their ecosystem strategies and business-model innovation strategies, and build the operating capabilities that support the new business models. Golnar also has extensive experience in structuring and implementing strategic ecosystem partnerships to accelerate growth in new markets.



## Notes and sources

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## IBM Institute for Business Value

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