SAPPHIRE
VENTURES

CIO Innovation Index:

A Blueprint for Successful Startup Engagement

The 2019 Sapphire Ventures CIO Innovation Index Survey

TABLE OF CONTENTS

1. **EXECUTIVE SUMMARY** 3

2. **WHAT WE FOUND**
The Innovation Interaction Framework 7

3. **INNOVATION LANDSCAPE**
Adoption Levels of Emerging Technologies 9

4. **ORGANIZATIONAL PROCESS**
Innovation Practices Across Enterprise IT 16

5. **PERSONAL LEADERSHIP AND ENGAGEMENT**
The Role of the CIO in Innovation 23

6. **CONCLUSION**
What the Innovation Interaction Framework means for 27

CIOs 27

Startups 29

1 EXECUTIVE SUMMARY

Sapphire Ventures is an active collaborator with the global CIO community, often brokering connections between innovative startups and enterprises looking to solve business problems with emerging technologies. Based on what we've learned from this work, we believe that digital innovation will continue to be a key corporate differentiator, and that today's emerging technologies will have an increasingly important role as they mature.

Over the years, we've watched the relationships between corporate executives — primarily CIOs — and startups, and noted a lack of data assessing the role of startups within the enterprise IT landscape – and in innovation strategies more broadly. In fact, we often hear from CIOs that while they are making efforts to instill innovation into their organizations, **they have no way to accurately benchmark their organization's readiness to ingest digital innovation relative to their peers – particularly when it comes to the adoption of emerging technologies from venture-backed startups.**

To address this blind spot and increase transparency across the innovation ecosystem, Sapphire Ventures initiated the *CIO Innovation Index* to explore how CIOs and IT decision makers are investing in startup and emerging technologies. Our focus was to catalog the key processes, motivations and results CIOs are experiencing with startups and emerging technologies in order to provide actionable takeaways for everyone – CIOs, startups, and more established vendors – with the goal to improve interactions and "success rates" across the digital ecosystem.

WHAT IS A "START-UP?"

There are multiple definitions and perspectives of what constitutes a technology "startup" and what the exact difference is between a new entrant and more established provider. For the purposes of this survey and report, we defined a startup as "privately held technology companies that have raised venture capital and are experiencing rapid growth both in terms of solution functionality and customer base."

Some of the most notable findings from this inaugural *CIO Innovation Index* include:

- Startups are a clear fixture in most enterprise IT landscapes, consuming a median 10% of IT budgets – with the expectation that spending will grow to 15% of budgets over the next 12 months.
- Corporations recognize the need for a different engagement process for startups, with 70% of CIOs dedicating a lead for startup engagement, and 80% have a defined onboarding process for startups.
- Startup maturity matters to CIOs, with over half of respondents stating a clear preference for later-stage startups (Series D in funding and later) – and only 7% citing a preference for earlier-stage (Series A-B) startups.
- Having a corporate strategy is paramount – CIOs who reported having a comprehensive IT strategy for emerging technology showed a greater propensity to successfully implement emerging technologies, and shorter duration Proofs of Concept (POCs).
- POCs are now a standard part of startup evaluation at large enterprises. However, 61% of CIOs stated that less than a third of their POCs convert into productive implementations and purchase of the startup's technology.
- Artificial Intelligence (AI), Machine Learning (ML) and Augmented Analytics are domains where CIOs are engaging far more with startups that established vendors. Beyond AI and ML, the innovation landscape in IT is very much shared between established vendors and startups.
- A majority of CIOs reported that startups, relative to established IT vendors, deliver more modern architecture, faster pace of product delivery, better customer experience and more responsive product roadmaps to the CIOs' organizations – but come with their own challenges in the form of lack of global capabilities and ability to scale their technology.

We believe the findings from the *CIO Innovation Index* outline key guidelines that CIOs should follow: dedicating internal leads for startup engagement, developing a comprehensive strategy for adoption of emerging technologies, and better documenting POC performance and others that we will explore in this report. Likewise, there are actionable takeaways for startups that emerge from the study, such as understanding the role that Proof of Concepts (POCs) play in sales cycles, building presence on the influencer channels that matter to CIOs, and addressing the commonly-cited challenges of working with startups in assessing emerging technologies.

This is the first in a series of reports that will explore the *CIO Innovation Index* data and shed much-needed light on the often opaque interactions between startups and CIOs.

ABOUT THE CIO INNOVATION INDEX STUDY

The CIO Innovation Index is a quantitative survey conducted by **Illuminas**, a global research consultancy, with respondents coming from the Sapphire Ventures' CIO network list and individuals from third-party recruitment databases. The data collection period for both sample sources took place between May and July 2019.

A total of 72 CIOs and VP/SVP-level IT executives were surveyed. To qualify for this survey, respondents needed to:

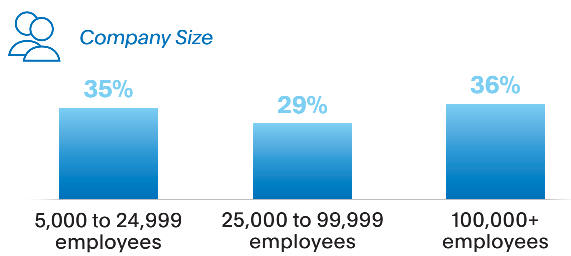
- Hold the title of CIO or report directly to the senior-most IT decision maker in their company
- Have IT purchase decision-making authority across key areas of the enterprise technology stack
- Come from an organization with more than 5,000 employees globally

Interviews were either conducted by phone or over a web survey with an average duration of 25 minutes.

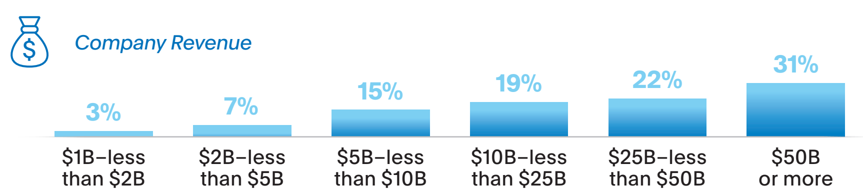
CIO INNOVATION INDEX RESPONDENTS CAME FROM A VARIETY OF INDUSTRIES

Manufacturing (non-technology)	14%
Telecommunications	11%
IT or HighTech	10%
Utilities	10%
Finance / Insurance	8%
Healthcare / Pharmaceuticals	7%
Retail	7%
Media / Entertainment	6%
Professional services	4%
Advertising / Marketing / PR	3%
Agriculture / Mining / Construction	3%
Real estate	3%
Other	15%

… AND FROM SOME OF THE WORLD'S LARGEST COMPANIES



ONE-THIRD OF RESPONDENTS WERE FROM ORGANIZATIONS WITH $50B+ IN REVENUE



RESPONDENTS HAVE BEEN IN THEIR ROLE LONGER THAN THE INDUSTRY AVERAGE FOR CIOS

5.5 YEAR AVERAGE IN THEIR ROLE, AT THEIR COMPANY

2

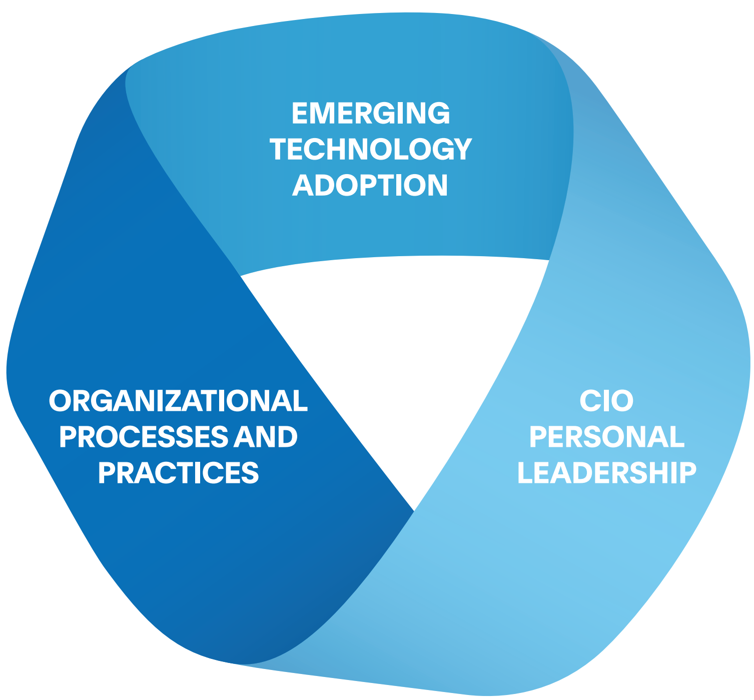
WHAT WE FOUND: THE INNOVATION INTERACTION FRAMEWORK

The *CIO Innovation Index* uncovered a three-way interaction model for how larger companies discover, test, and implement emerging technologies.

This "Innovation Interaction Framework" describes the interplay between:

- The formal, operational processes companies have developed to identify, engage, and scale emerging technologies for their ongoing operations.
- The personal leadership of the CIO in driving both the overarching IT strategy, and engagement with emerging solutions and startups.
- The company's business needs and the resulting adoption of emerging technologies.

THE INNOVATION INTERACTION FRAMEWORK



The Innovation Interaction Framework can help CIOs and IT executives evaluate and benchmark their organizational readiness relative to the *CIO Innovation Index* respondents. By describing how leading CIOs create and leverage the conditions that drive innovation in their organizations, we can begin to outline a set of best practices CIOs can use to optimize the value their organizations can realize from new, emerging technology solutions.

An overarching key finding from the *CIO Innovation Index*, was the significant difference in approach and results between CIOs reporting their organization had a "comprehensive" strategy for adopting emerging technologies (what we'll call **Comprehensives** in this report) versus CIOs with a *limited or no strategy* when it comes to emerging tech (what we'll call **Limiteds**).

While not every aspect of the Innovation Interaction Framework is differentiated between *Comprehensives* and *Limiteds*, in many areas organizations with a comprehensive strategy showed a distinctly greater likelihood to have successful engagements with emerging technologies and startups.

NEARLY HALF OF CIOS REPORT HAVING A COMPREHENSIVE STRATEGY FOR EMERGING TECHNOLOGY

47%	36%	17%
Comprehensive strategy	Limited strategy	No strategy

3

INNOVATION LANDSCAPE: ADOPTION LEVELS OF EMERGING TECHNOLOGIES

The first element explored in the *CIO Innovation Index* was the current and planned adoption level of emerging technologies within the enterprise. Specifically:

- What categories of emerging solutions are enterprises exploring or actively deploying?
- What technologies are being sourced from startups versus more established vendors, and how are budgets being allocated between the different types of providers?
- What are the obstacles and benefits corporations experience in working with startups?
- How do companies identify which startups to work with?

As expected, not all innovation comes from startups and not all deployments of emerging technologies are successful. This makes it important to understand best practices to increase the success rate for emerging technologies and startups.

WHAT IS AN EMERGING TECHNOLOGY?

For the purposes of the *CIO Innovation Index*, we defined emerging technologies as "new technologies that are currently being developed, or will be developed in the next 5-10 years, that are currently in the early stages of widespread adoption within large enterprise."

KEY FINDING:

The innovation landscape for emerging technologies is increasingly shared between startups and established vendors.

Artificial Intelligence/Machine Learning is one technology area CIOs are focused on, with 81% of respondents saying they were making investments in these technologies. The majority (67%) indicated they were investing in AI/ML technology from startups compared with 36% that said they were investing in this area with established vendors — indicating CIOs are nearly 2x more likely to engage startups on AI projects than established vendors.

The market's interest in AI has not gone unnoticed by the venture capital community. In 2018, AI startups raised a record $9.33 billion, or nearly 10% of the year's total VC investments – a 72% increase from the prior year's funding in this category.[1]

While AI is the leading area of investment, it is remarkable that a majority of the surveyed CIOs are actively investing in every area of emerging technology covered by the CIO Innovation Index — with the exception of Quantum Computing — as shown by the table below. Similar to AI, the VC funding in other highly-cited domains (Augmented Analytics, Containers/Kubernetes, Cybersecurity, etc) continue to be robust and growing.

EMERGING TECHNOLOGY AREAS CIOS ARE INVESTING IN

	% of Respondents
Artificial Intelligence (AI) & Machine Learning	81%
Cybersecurity	75%
Next-Gen Data Management	75%
Augmented Analytics	69%
Containers / Kubernetes / Microservices	67%
Public Cloud Infrastructure	63%
Robotic Process Automation (RPA)	61%
Digital Marketing & Sales Technology	61%
Blockchain / Distributed Ledger Technology	60%
Internet of Things (IoT)	58%
Virtual Reality / Augmented Reality / Mixed Reality	56%
Quantum Computing	38%

[1] Source: https://www.pwc.com/us/en/moneytree-report/moneytree-report-q4-2018.pdf

As the table below illustrates, for the other domains of emerging technologies, CIOs are just as likely or more likely to adopt solutions from established vendors as they are from startups.

Of the CIOs saying they were investing in an emerging technology, the table below shows where they are investing with a startup versus an established vendor.

Question: In which of the following emerging technologies is your organization currently investing with startups, or with an established vendor?

CIOS' LIKELIHOOD OF INVESTING WITH A STARTUP OR ESTABLISHED VENDOR DEPENDS ON THE TECHNOLOGY CATEGORY

	Startup	Established Vendor
Artificial Intelligence (AI) & Machine Learning	67%	36%
Augmented Analytics	54%	32%
Blockchain / Distributed Ledger technology	31%	43%
Containers / Kubernetes / Microservices	32%	51%
Cybersecurity	25%	63%
Digital Marketing & Sales Technology	21%	49%
Internet of Things (IoT)	40%	33%
Next-Gen Data Management	44%	53%
Public Cloud Infrastructure	19%	50%
Quantum Computing	22%	21%
Robotic Process Automation (RPA)	28%	46%
Virtual Reality / Augmented Reality / Mixed Reality	39%	31%

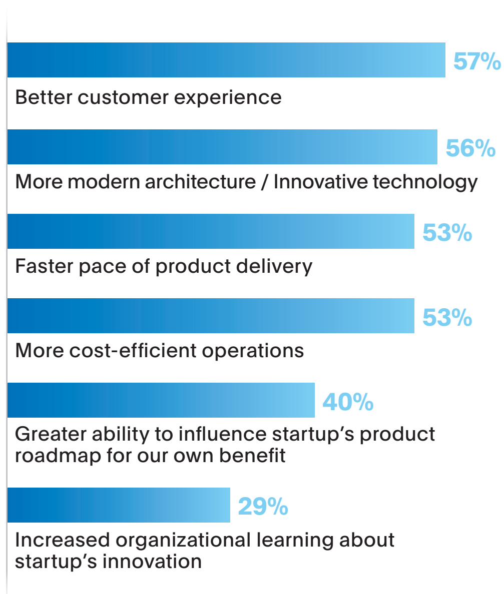
KEY FINDING:

CIOs believe that startups deliver better customer experiences, more modern architecture and agile product roadmaps that are responsive to feedback.

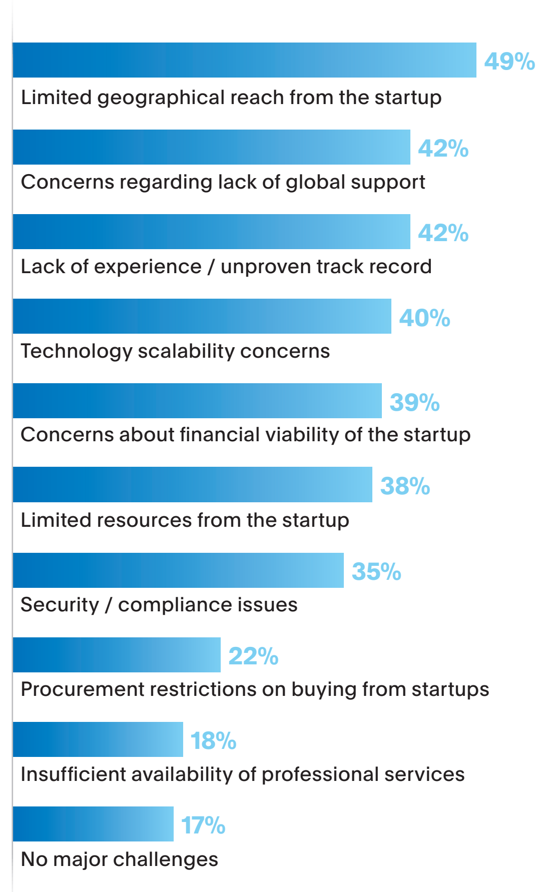
Looking at these reported benefits, our interpretation is they reflect the CIO's desire for speed. In Sapphire's work with CIOs, we have observed that velocity is considered paramount for digital transformation initiatives. Modern technology architecture, cited as an advantage of startups in this study, is typified by paradigms like DevOps and microservices that are generally associated with acceleration in delivery of new products, services, and processes. Likewise, the other reported advantages of working with startups – namely, faster pace of product delivery and agile product roadmaps – are synonymous with acceleration of outcomes.

Nonetheless, commonly cited challenges of working with startups included limited geographical footprint and technology scalability. This is expected based on the respondent base, which skewed heavily toward large, global companies with operations spanning multiple regions. Anecdotally, additional risks cited by CIOs in Sapphire's network were a lack of internal skills to fully leverage startup solutions, and risks from exposing sensitive company data to startups.

CIOS REPORT THE GREATEST VALUE WORKING WITH STARTUPS (RELATIVE TO ESTABLISHED VENDORS) COMES FROM …



… BUT CIOS REPORT THAT STARTUPS CAN ALSO BE CHALLENGING TO WORK WITH BECAUSE OF



KEY FINDING:

Startups consume a median 10% of IT budgets according to the surveyed CIOs. Future budget allocations for startups are expected to rise 50% in the next 12 months.

One of the more notable data points that emerged in this research is that the median percent of IT budget currently allocated for startups was 10%. In addition, respondents expected the future spend on startups to accelerate in the next 12 months, to a median budget of 15%. This represents a 50% increase in startup share of wallet, and could be interpreted as an increased focus on emerging technologies areas best represented by startups (eg AI/ML or Augmented Analytics) OR a shift in spending preference towards startups. This is an area we plan to explore in future studies. Certainly, with thousands of new enterprise startups funded in 2018 alone, there is a steady increase in new entrants calling on CIOs to adopt their new innovations.

To be clear, this budget allocation for startups is a reflection of the estimates that CIOs made in the context of their deployed IT budgets. Many large enterprises have incubators and other programs that engage the startup ecosystem and may have figured into these responses. This robust figure could also be attributed to the role many CIOs see the emerging areas of AI, IoT, and augmented analytics playing in their organizations – and the higher likelihood of CIOs selecting startups for these domains.

KEY FINDING:

Success rates for Proofs of Concept (POCs) are higher for organizations with a comprehensive emerging technologies strategy. A significant majority of CIOs said that less than 30% of their POCs result in productive implementations of the startup technology.

Many corporations have adopted the approach of a limited trial or Proof of Concept as part of their evaluation of emerging technology. Considering the investment of time and resources for both the startup and participating enterprise, understanding what leads to a successful POC is important considering that:

- Only 19% of CIOs report their POCs are successful more than half the time
- 17% have a success rate of 31-50% for their POCs
- 64% have POC success rates below 30%

However, looking at this same data for *Comprehensives* and *Limiteds* shows some important differences. Almost half of *Comprehensives* report that their POCs convert at a rate of 31% to greater than 51%, while only one third of *Limiteds* can make the same claim.

This greater success rate of *Comprehensives* is further evidence that a more defined focus comes with a measurable payoff – either by better identifying what technologies to trial, or clearly identifying what the success factors for those trials are.

Based on this data on POC success rates and timing alone, building a comprehensive startup strategy and aligning the broader organization to that approach is a clear best practice for CIOs.

KEY FINDING:

The IT vendor landscape in most organizations is not expected to consolidate in the next 12 months. CIOs with comprehensive strategies are 3x more likely to expect more diversified vendor portfolios.

An overwhelming majority (75%) of CIOs expect the number of vendors in their emerging technologies portfolio will increase or remain the same over the next 12 months – suggesting that federated, dense vendor landscapes are the new normal in enterprise IT.

This expansion of startups in the IT portfolio is directionally consistent with the finding that, on average, CIOs expect their spending allocated to startups to increase by 50% in the coming year.

Again, it should be noted that CIOs citing a comprehensive strategy for the adoption of emerging technologies were 3x more likely to expect more diversified vendor portfolios. As such, the idea of the CIO focusing on vendor consolidation appears to be a concept that many CIOs are abandoning, at least in the short term, as the results of this study show that diversified and dense vendor portfolios are here to stay.

As enterprise architectures become more federated – and the associated vendor portfolios more diverse – CIOs will need to build the governance and engagement mechanisms necessary to fully harness and leverage their IT portfolios.

4

ORGANIZATIONAL PROCESS: INNOVATION PRACTICES ACROSS ENTERPRISE IT

Understanding how CIOs engage with emerging technologies and startups – and what processes lead to consistently more successful outcomes – was an important goal of this study. From initial discovery to the implementation of new technologies, CIOs in the *CIO Innovation Index* revealed distinct preferences for certain processes and organizational designs.

There are several overarching results to this line of inquiry:

- The more deliberate the strategy for adopting emerging technologies, the greater the chances of success in implementing emerging or startup technology.
- CIOs prefer to engage with more established startups and in particular those that have been recommended to them through known quantities such as venture capitalists and members of their direct network.
- More than 70% of CIOs have a dedicated role responsible for engagement with startups.

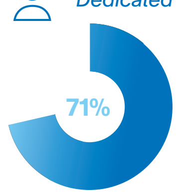
CIOS PREFER WORKING WITH LATER-STAGE STARTUPS

Preferred startup stage

7%	26%	53%	11%
Early-stage (seed stage / Series A)	Mid-to-growth stage (Series B to D)	Late-stage (Series D onwards)	No stage preference

... AND MOST HAVE A DEDICATED PERSON TO ENGAGE WITH STARTUPS

Dedicated role



Of companies with a dedicated role responsible for engagement with startups

KEY FINDING:

Organizations increasingly have a dedicated role and process for engaging startups and their technology.

A significant majority of companies (81%) have a defined process for engaging with startups and a similar majority (70%) said they had a dedicated individual in their organizations whose role was to engage with startups. In Sapphire's, experience these roles are more successful when they are given dedicated budget, authority and staff to advance the innovation agenda for the company.

When it comes to process, there is a distinct divide between *Comprehensives* and *Limiteds*. Those that have a comprehensive strategy for adoption of emerging technologies were much more likely (82% vs. 62%) to have a dedicated person responsible for startup engagement. As the data show a high correlation between a comprehensive strategy and the relative success of engagements with startups, having an individual dedicated to engaging with startups seems to be a key component in that success.

Lines of business, outside of IT, have been driving the adoption of emerging technologies as well. In the *CIO Innovation Index*, CIOs stated that the top business functions driving demand for the adoption of emerging technology included data science and analysis, engineering / manufacturing, and sales and marketing. The interplay between the startup IT scout function and line of business stakeholders is an important area of study that we will explore in future reports.

SV EXPLORER: CONNECTING IT LEADERS WITH STARTUPS AND EMERGING TECHNOLOGIES

Recognizing the challenge CIOs face in identifying specific solutions and startups, Sapphire Ventures launched the SV Explorer platform in 2018. SV Explorer is a free, online platform IT leaders can use to discover, evaluate, and engage with relevant and innovative IT solutions. All of the solutions listed on SV Explorer are curated by a trusted group of venture capitalists.

Sign up for your free SV Explorer account at **www.SVExplorer.com**

SV Explorer

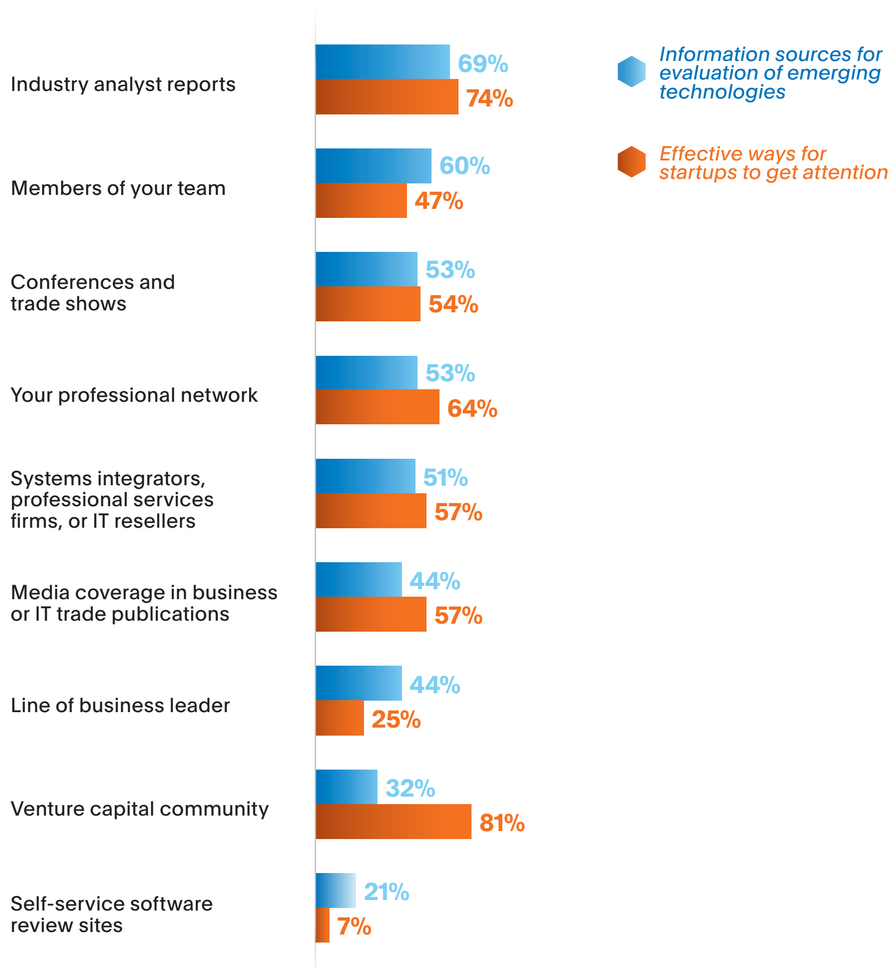
KEY FINDING:

CIOs rely on a similar set of information channels to identify emerging technologies as well as individual startups.

There are a number of channels CIO use to identify emerging technologies and individual startups. Somewhat surprisingly, industry analysts (eg Gartner, Forrester, IDC, etc) still reign supreme when it comes to influencing how CIOs and IT executives educate themselves on new technology trends. The continued primacy of industry analysts has important implications for startups' go-to-market efforts, which we have anecdotally seen shift away from industry analysts to focus on more direct outreach to decision makers.

When it comes to identifying specific startups to work with, 81% of CIOs identified venture capitalists as the most important source for recommendations. One possible explanation for this is that CIOs – particularly those not based in Silicon Valley – do not have the bandwidth to personally evaluate the thousands of new startups and solutions and tend to rely on trusted advisors and channels per the chart below. In just the past five years (2014-2018) over 14,000 enterprise startups were founded[2], increasing the pool of startups targeting IT decision makers and further heightening the qualification and assessment efforts that CIOs and their teams must make to sort through the noise.

> **I've stopped going to most of the standard industry and vendor conferences and I now go to far more VC conferences. It's that important for me and my team to stay up to date on new technologies and look for ways to solve problems that we otherwise would not be exposed to.**
>
> Norm Fjeldheim
> SVP, CIO and Head of Facilities, Illumina



[2] Custom data pull from Pitchbook on Dec 31, 2018

KEY FINDING:

CIOs in general prefer late-stage star (Series D and onwards) to earlier stage startups, but also look at the reputation of the investors, and the number of paying customers to gauge startup maturity.

The preference for late stage startups seems to be consistent with the concerns that CIOs voiced in the *CIO Innovation Index* about the scaling challenges that can come with working with startups. A preference for the relative maturity and experience that is implied in later-stage funding can be seen as a hedge against issues relating to scope, breadth, viability, scalability, and other considerations. Industry data indicates that almost half of enterprise startups receiving seed or Series A funding will either cease to exist or stagnate due to their inability to have an exit or raise further funding. This helps explain some reservations CIOs have around engaging with early-stage startups, while also highlighting the need for CIOs to align themselves with established startup investors with a track record of backing early-stage startups that graduate to being larger, disruptive players.

Closely tracking the fundraising success of early-stage startup vendors is another strategy that Sapphire Ventures recommends to CIOs who want to ensure the ongoing viability of their vendors. For example, early-stage enterprise startups tend to raise funds every 1-2 years. Therefore CIOs who want to closely manage the risk of working with earlier-stage startups should monitor the fund-raising success of their startup partners, which is often a proxy for market success and traction.

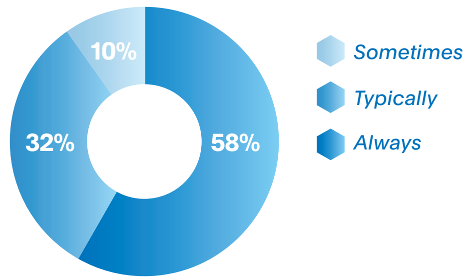
> **Early stage vendors have a hard time scaling for our size and scale and are further challenged by the global compliance and security requirements that large companies need to solve for.**
>
> Anonymous *CIO Innovation Index* respondent

KEY FINDING:

While CIOs utilize a wide range of tactics in their quest for innovation, a Proof of Concept (POC) is used by a large majority of CIOs.

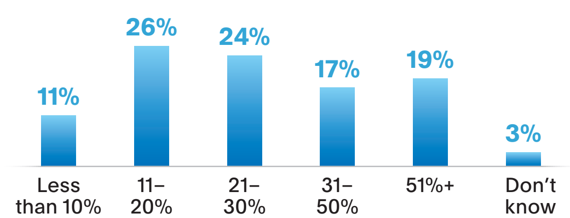
POCs HAVE BECOME A STANDARD APPROACH FOR WORKING WITH STARTUPS

To what extent are POCs part of your evaluation of startups before you move into full implementation?



NOT ALL POCs RESULT IN A PRODUCTION DEPLOYMENT, AND THAT'S OK

What % of your POCs result in productive implementations?



MOST STARTUP POCs TAKE MONTHS TO COMPLETE

Typical startup POC length

40% Less than 3 months

29% 3–6 months

24% 6–12 months

6% 12+ months

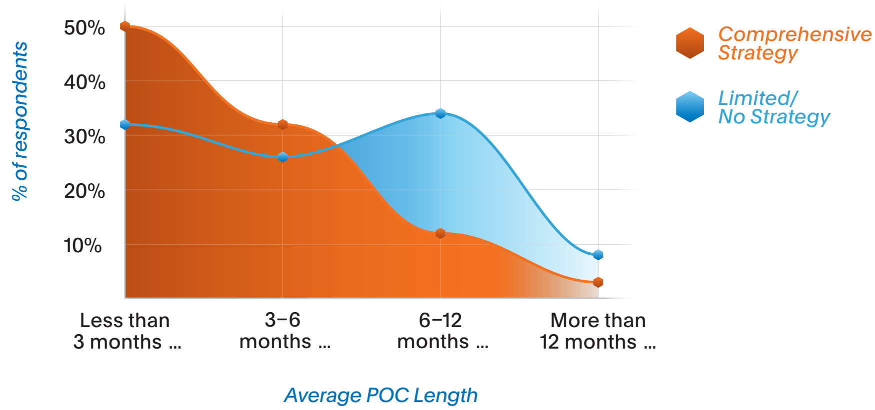
1% Don't Know

NOTE TO CIOS: STARTUPS ARE HISTORICALLY BETTER FUNDED THAN EVER

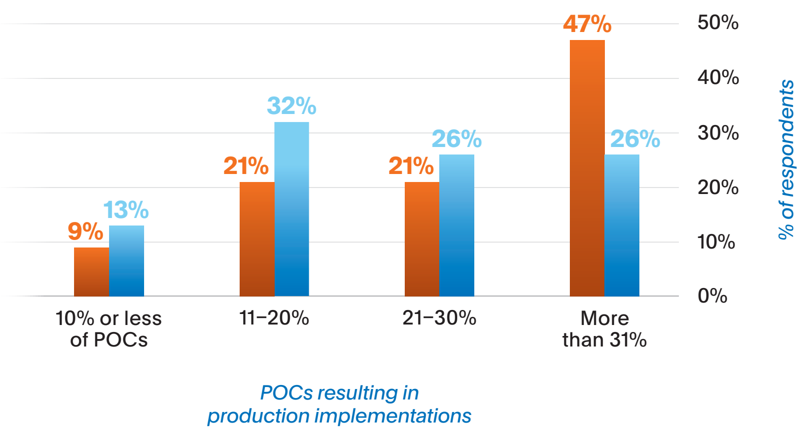
CIOs often use financing stage as a heuristic for company viability and scale. While a startup's investment stage can be a good proxy for its maturity and capitalization, there are other indicators to look for. A trend in the startup universe over the last five to eight years has been that companies are raising larger rounds across all stages. The size of funding rounds has increased by at least 15% annually for the last five years. This means that even earlier-stage companies now have more scale and resources than ever before.

KEY FINDING: Typically, the shorter the POC, the greater the chance that it will convert to a productive implementation, and Comprehensives were more likely to have shorter POCs.

ORGANIZATIONS WITH COMPREHENSIVE STRATEGIES FOR EMERGING TECHNOLOGIES HAVE SHORTER POCs …



… AND HAVE HIGHER RATES OF PRODUCTION IMPLEMENTATIONS



> I actually like the idea of paying for a POC, as a buyer, because it helps me leverage my subject matter experts to actually focus their energy and time in getting the POC done because they are paying for something. If it is just a free exercise, every other distraction in the world might come along and delay the POC.

Mark Settle
Former CIO of Okta and IHS, and
author of "Truth from the Trenches: A Practical Guide to the Art of IT Management"

The *CIO Innovation Index* data reveals a clear correlation between the length of the POC and its chances of converting to a productive implementation. Notably, those CIOs who stated their POCs were less than 3 months in length had an average POC "graduation rate" that was more than triple (34%) that for CIOs who said their POCs were typically lasting 6 months or more. In speaking with CIOs on the interplay between POC duration and completion rate, this correlation was also anecdotally supported. CIOs shared also their individual strategies for keeping their POC processes efficient, which ranged from:

- Insisting on paying a nominal fee for POCs so that the team felt obliged to complete the POC as planned.
- Formally aligning cross-functional teams on goals and use cases ahead of the POC's launch.

One factor that clearly increased chances of a shorter POC with higher completion rates was whether the CIO had a comprehensive IT strategy for the adoption of emerging technologies. Only 15% of *Comprehensives* reported that the duration of their POCs was longer than six months. By contrast, 42% of *Limiteds* had POCs that lasted six months or more.

It seems that having a clear strategy can pay off in terms of POC performance – either by identifying the right technology to trial, or by clearly identifying what constitutes "success" for a POC.

"Customer success with enterprise AI is at the cornerstone of everything we do and that starts with a POC process that is extremely customized and collaborative. We have found that the biggest limiter for POC success is when expectations aren't clearly defined. When we kick off a POC, we work with the customer to clearly outline and align on a shared vision for success. This includes defining and prioritizing use-cases for AI, ensuring infrastructure and data readiness, and estimating ROI. By having a clear vision organizations deepen their understanding of how to apply AI to optimize business processes, gain exposure to our success team from day one, and build a strong business case for deployment – all of which tees up our customers to win with AI."

Seann Gardiner
EVP, Business Development, DataRobot

5

PERSONAL LEADERSHIP AND ENGAGEMENT: THE ROLE OF THE CIO IN INNOVATION

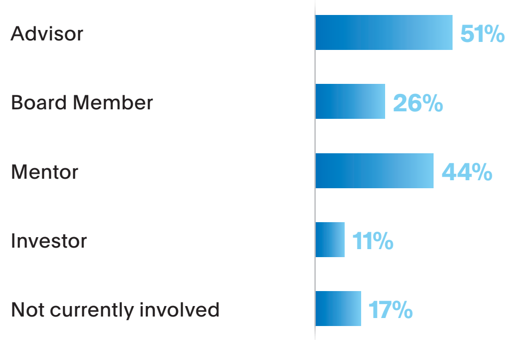
In gauging the level of startup involvement that CIOs have today, the *CIO Innovation Index* reveals a remarkable trend: CIOs and IT executives are taking a number of roles within venture-backed startups. This section seeks to put some data around two parameters of the CIO's individual role in driving innovation. First, we document the extent of CIO participation in startup and venture ecosystems, which could be useful to CIOs in developing their personal strategies for engagement and leadership. Second, this data set also captures the regular cadence of interactions between Boards of Directors at large, global enterprises and their CIOs on the topic of emerging technologies. This can be viewed as another form of CIOs' serving as individual stewards for upleveling the role of technology in corporate strategies and Boardroom decisions.

KEY FINDING:

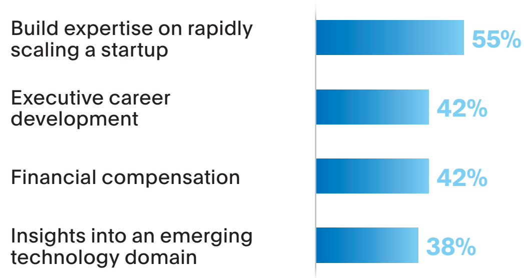
CIOs and senior IT executives have a high degree of personal involvement with startups, as Board Directors, advisors or investors.

In tandem with CIO's exploring startups for the purposes of adopting their technologies, study respondents are also involved with startups on an independent and individual level, per the data below. Remarkably, half of all surveyed IT executives indicated that they are either "Advisors" or "Mentors" to startups today. Certainly, these terms can be interpreted very broadly, and could cover the gamut of activities ranging from sitting on a formal customer advisory body to providing informal advice.
At Sapphire Ventures, we see this trend reflected in our own CIO network, where progressive CIOs are taking an active interest in guiding promising startups that they believe have the potential to substantially impact the industry. The Sapphire Ventures team brokered over 300 introductions between startups and IT leaders in 2018, and anecdotally many of these discussions took the form of startups eventually tapping the CIO not only for commercial but also advisory purposes. CIOs not engaging with startups may not only be missing out on industry trends, but also career development opportunities.

MANY CIOS REPORT ADVISING STARTUPS …



… AND RECEIVE MULTIPLE BENEFITS FORM WORKING WITH STARTUPS



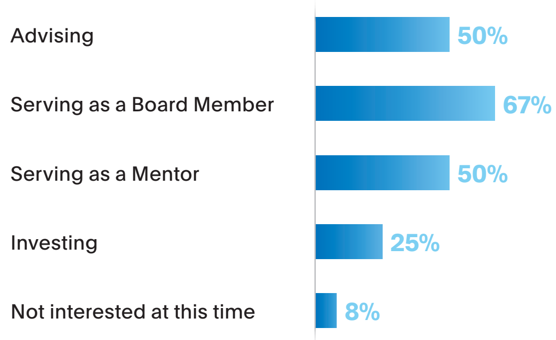
Likewise, we believe it is notable that a quarter of surveyed CIOs indicated that they are currently a "Board Member" at a VC-backed startup today. Similar to the "Advisor" self-identification, it is possible that the term "Board Member" was interpreted to include both formal Board Director seats as well as participation in customer advisory boards that startups sometimes form to regularly secure product and strategy feedback from target customers.

> **I have found that serving as an advisor to startups can be a uniquely rewarding experience. The CIO benefits from the opportunity to help shape emerging technology and business model disruptors as they toil to bring early- stage work to the market; and startup leaders benefit from having a seasoned mentor on not only the market and product roadmaps, but on the people and culture aspects of defining a brand and building an organization as well.**
>
> Ralph Loura
> SVP and CIO, Lumentum,
> and Former CIO, Clorox

KEY FINDING:

Interest in startup engagement is also high, with 67% of CIOs saying they would be interested in serving on the board of a startup and 50% saying they'd be interested in being an advisor.

CIOS SAY THEY'D LIKE TO BE MORE INVOLVED WITH STARTUPS IN THESE ROLES



Clearly, the vast majority of CIOs in this study cited an interest in working with startups in the capacity of a board director. Within Sapphire Ventures' CIO network, we estimate that less than 10% of CIOs are currently engaged as board directors at startups. In addition to monitoring this trend, Sapphire Ventures has launched an initiative to educate and coach CIOs on board service with a goal of driving diversity in public and private companies. With this initiative, Sapphire has observed a keen interest among CIOs to learn more about board service, how to prepare for service, and identifying available board opportunities with startups. We believe both the *CIO Innovation Index* finding, and interest in Sapphire's board readiness initiative, signify CIOs' recognition of the value of staying close to new technology players, both for learning and network development purposes.

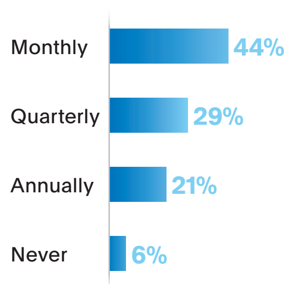
KEY FINDING:

CIOs and IT executives are frequently engaging with their Boards of Directors on the topic of emerging technologies.

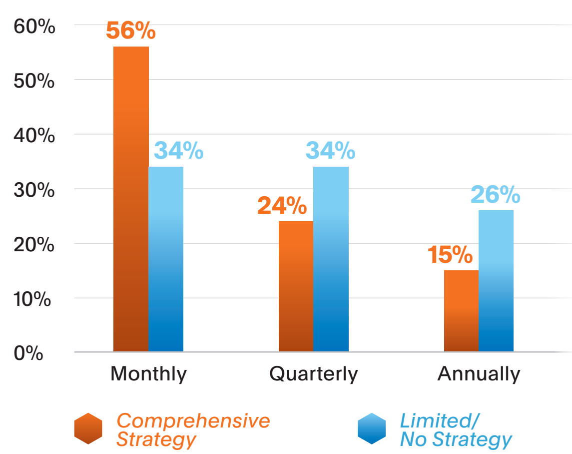
Given the competitive advantage emerging technologies can deliver, it's not surprising that almost three-quarters of CIOs are engaging their company's board on at least a quarterly basis on digital transformation and innovation efforts. *Comprehensives* are almost twice as likely as *Limiteds* to report to their board on a monthly basis suggesting greater oversight, interest or engagement from the board in companies with an overarching, articulated technology strategy.

In recent years, both academic research as well industry studies of corporate boardroom dynamics have been flush with findings around the desire for boards to become more digitally savvy, and positive correlations between corporate performance and the presence of technology-focused experts on boards. With CIOs' increasingly playing the role of digital stewards for their companies, it is no surprise that there is remarkable frequency of interactions between boards and corporate IT leaders.

CIOS ARE FREQUENTLY ENGAGING THEIR BOARD ON THE TOPIC OF EMERGING TECHNOLOGIES



CIOS WITH COMPREHENSIVE STRATEGIES TEND TO ENGAGE THEIR BOARD ABOUT EMERGING TECHNOLOGY MORE FREQUENTLY



> We are seeing a cross-sector trend of public companies adding tech-savvy directors to their boards. A recent **MIT report** shows that companies with three tech-oriented board members financially outperform their peers. Our research shows that companies are seeking a portfolio of skillsets to bring a "front end" and "back end" perspective to tech-driven transformation.

Tuck Rickards
Managing Director, Russell Reynolds

6

CONCLUSION

WHAT THE INNOVATION INTERACTION FRAMEWORK MEANS FOR CIOs

This first Sapphire Ventures *CIO Innovation Index* identifies that startups have become a fixed part of the innovation ecosystem. We believe this data leads to a set of guidelines that CIOs should adopt as they work on their organization's readiness to adopt startup and emerging technologies into their enterprise:

1. **Develop and align on a comprehensive IT strategy for the adoption of emerging technologies, especially when it comes to POCs.**
   Our data suggests consistently better innovation outcomes for CIOs who have a comprehensive strategy for their organization's adoption of emerging technologies. This includes:
   - Developing a shared view across your leadership on adoption of specific new technologies
   - Developing an onboarding process for startups
   - Specifically tasking a leader with startup engagement

2. **Document and manage POC performance.**
   CIOs would benefit from the data in this report to benchmark their own organization's track record in completing and graduating startup POCs. While this study has shown that shorter POCs are more likely to convert to productive implementations, conversion shouldn't be the only criteria for successful startup engagement. Some engagements and POCs will be successful precisely because they didn't convert to a production system: a POC that proves that a particular technology or process isn't appropriate for a specific company can also be seen as a successful engagement if it avoids costly missteps later on.

ADVICE FROM A PEER

"Working with startups is core to the digital innovation agenda at Mohawk. As global CIO, I encourage my team to regularly assess emerging technologies and disruptive startups that can aid our company's transformation and enable us to better serve customers. Some of the keys to our success include forming a comprehensive strategy for adoption of emerging technologies and collaboration with venture capitalists to identify winning startups."

Jana Kanyadan
SVP and CIO, Mohawk Industries

3. **Appoint a leader for startup engagement.**
   If you're in the minority of CIOs who haven't already nominated a leader responsible for identifying and assessing startups on behalf of IT, this report should serve as a catalyst for taking this step now. Given that 70% of surveyed IT executives have such a leader in place, CIOs whose teams lack this position may be at a relative disadvantage when it comes to identifying and absorbing startup innovation.

4. **Cultivate connections in the venture capital community and within your network to help identify startups to engage.**
   With increasing noise in the startup ecosystem and thousands of new startups entering the fray annually, the risk is high for a CIO to bet on a sub-optimal startup. CIOs should engage with VCs that show a track record of backing winning startups in the relevant technology domain. Engaging with trusted advisors or VCs in your network is an important way to ensure that the right startup partners are chosen for a particular innovation challenge.

5. **Know your company's startup budget, both inside and outside of IT.**
   The fact that respondents describe a larger percent of IT budgets is going to startups should be more than just a curiosity. A systematic approach to startup engagement should include auditing the depth and breadth of your company's investments in emerging tech from both the corporate and line of business budgets.

WHAT THE INNOVATION INTERACTION FRAMEWORK MEANS FOR STARTUPS

While the *CIO Innovation Index* was designed to help CIOs assess their organization's readiness, startups can also draw lessons about how to engage potential enterprise customers. Below are some of the most meaningful takeaways for startups seeking to build mindshare and share of wallet with CIOs at large, global enterprises:

1. **Understand the role Proof of Concepts play in your sales pipeline.** Understand what POCs mean to your company, what your chances of success are, and then benchmark your results against the average POC durations and completion rates in this study.

2. **Flex your strengths when going up against established providers.** When competing with established tech vendors, highlight the advantages CIOs say they're looking for when working with startups, such as faster pace of product delivery, newer architecture, and more responsive roadmaps. (Of course, bear in mind that being too responsive to an individual customer can be a trap that could result in a product that is suited only to that customer.)

   By the same token, be ready to acknowledge and address common concerns around customers' global footprints and your ability to scale by showcasing customer proof points and future product development plans.

3. **Embrace CIOs and IT executives in your circles.** CIOs in this study have shown a high degree of interest in serving in some advisory, board-level or mentoring capacity with startups. While not every startup will pique the interest of a CIO, engaging CIOs can be highly beneficial for startups seeking to gain credibility with other CIOs (especially for early stages), secure critical product and technology feedback, and attain a better understanding of corporate IT needs.

4. **Build marketing presence in channels that CIOs care about.** CIOs still rely on a combination of industry analysts, trade conferences, and VC/professional networks to determine which emerging technologies to invest in, and which startups can help them in each category. These aren't always the most cutting-edge marketing channels, but can still be extremely effective when targeting enterprise accounts.

5. **Get to a base of productive, referenceable customers as fast as you can.** If you're an early-stage startup and CIOs are using funding stage as an indicator of how risky it is to work with you, you need to find other ways to convince them that you have momentum and grow. Since paying customers is among the top-three criteria that CIOs use to gauge the maturity of a startup, building an early base of referenceable, productive customers may help you mitigate a CIO's concern that you're not mature enough to work with them yet.

ADVICE FROM CIOs

"In situations where a startup is trying to disrupt an incumbent vendor, they have to deliver a playbook on how a company can execute on piloting, running a production implementation and further removing the dependency on the incumbent. So many startups talk about how they're 50% cheaper than larger vendors while in reality it costs millions of dollars to convert and sunset existing contracts."

"Solve real problems and have proven use cases we can adopt. Tell me what your product or service does and just importantly what it doesn't do. Don't be afraid to be open about your current gaps."

Anonymous CIO Innovation Index respondents

Sapphire Ventures is a venture capital firm focused on helping innovative technology companies become global category leaders. Leveraging nearly two decades of experience and an extensive global enterprise network, Sapphire Ventures invests capital, resources and expertise to enable its portfolio companies to rapidly scale.

Whether entrepreneurs are selling to businesses, consumers or both, Sapphire Ventures offers a powerful platform for business development and operational excellence to help them accelerate growth.

With **$2.5 billion** under management via direct growth investments and early-stage fund investments, Sapphire Ventures is positioned to elevate companies to the global stage. Sapphire Ventures has invested in more than 100 companies. For more information about Sapphire Ventures, visit **www.sapphireventures.com.**