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Maximizing the impact of technology investments in the new normal

By: Khalid Kark, Jagjeet Gill, and Tim Smith

BEFORE THE COVID-19 pandemic struck, CIOs and other technology leaders across industries grew accustomed to steady budget increases as technology transformed business processes, models, and strategies. Enter COVID-19 and businesses' approach to technology and corresponding investments have undergone a massive shift.

In this *CIO Insider*, we explore overarching trends in technology spending based on data from Deloitte's [2020 Global Technology Leadership Study](#). We also examine the short- and long-term impacts of COVID-19 on technology budgets and investments, and investigate the spending habits of *technology vanguards*, companies that are more advanced than their peers. Finally, we reconsider

traditional technology spending practices and capital allocation.

Pandemic recalibrates technology spend

The *2020 Global Technology Leadership Study* tracks the evolution of organizations, their technology functions, and the role of technology leaders. The survey data reveals that between 2016 and 2020, more than half of survey respondents reported year-over-year budget increases, while for others, budgets remained steady.¹ However, we collected our 2020 data *before* COVID-19 sparked an unprecedented humanitarian and economic crisis that made an immediate and far-reaching impact on short- and long-term business strategies.

Many CIOs undoubtedly had to make deep budget cuts, especially in sectors in which stay-at-home mandates limited physical interaction, including travel and hospitality, food services, retail, sports, and entertainment. However, understanding COVID-19's impact on technology spending requires nuance—although organizations made substantial cuts in spending in almost every category, we observed flat or increasing technology budgets in most organizations. In fact, many technology leaders reported that the pandemic brought an opportunity to quickly recalibrate technology investments, and in many cases, hasten existing investment plans. “One of the most interesting aspects of the COVID-19 crisis is that, for many companies, the pandemic was more of an accelerator than an obstacle,” says Sunil Potti, vice president and general manager for Google Cloud. “Whether they were launching digital transformations, new workforce-access models, or updated customer interaction technologies, many proactive companies used the crisis to make things better—to get to a ‘safer and better normal.’”²

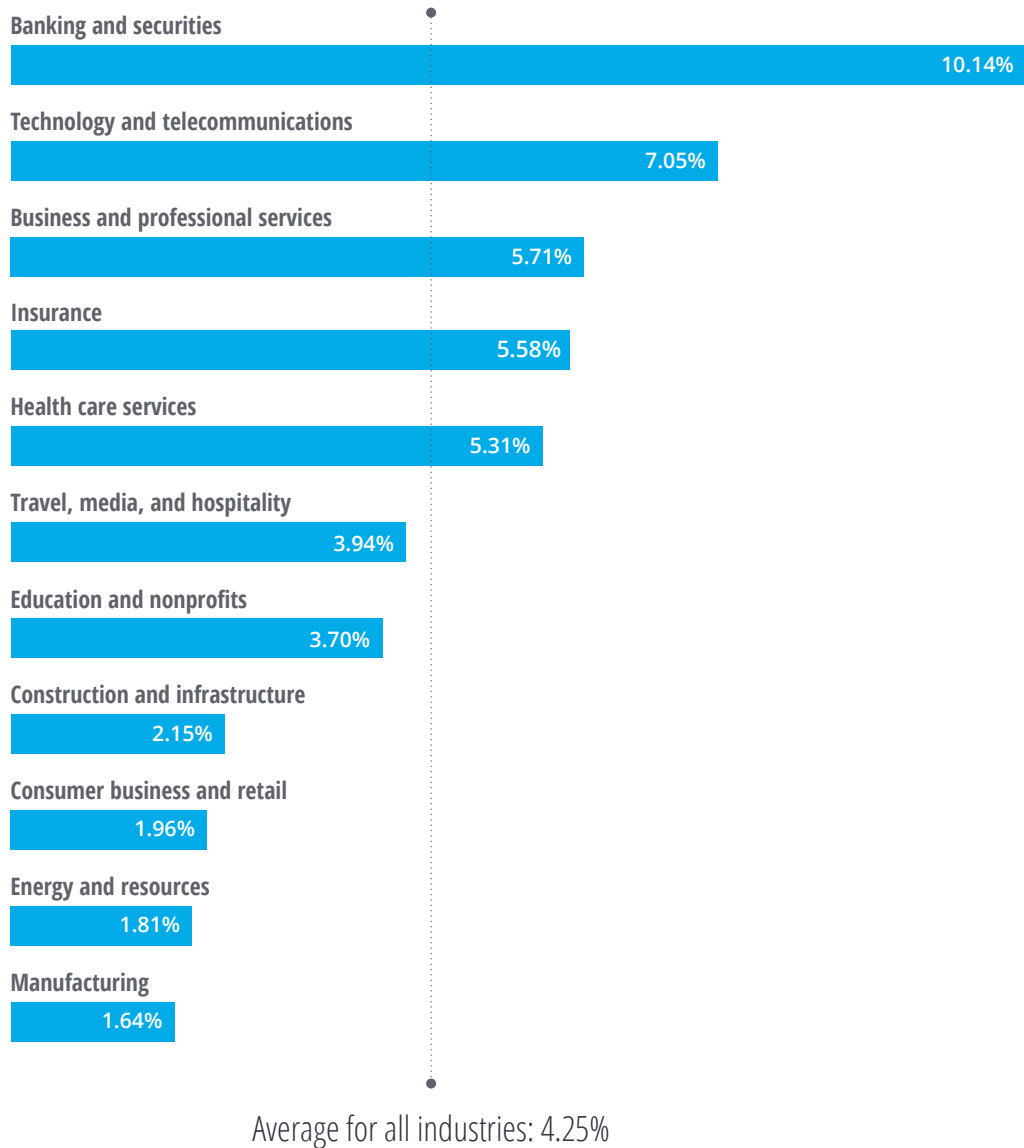
Consider, for example, a few ways that technology spending has changed:

- **Remote work.** To support the rapid transition to a distributed workforce, many technology leaders shored up their technology infrastructures and deployed tools that virtually and securely bring people together and help them collaborate.
- **Digital economy.** In response to changes in consumption patterns driven by stay-at-home orders, many CIOs doubled down on the digital technologies that drive e-commerce, telehealth, online learning, contactless payments, and other online consumer trends.
- **Supply chain enhancements.** COVID-19 exposed major supply chain weaknesses, including demand surges and drops, reduced productivity, raw material shortages, and storage and product handling issues. And so, COVID-19 became a surprise catalyst for the adoption of resilient supply chain analysis and management solutions.³
- **Automation.** Workforce shortages required organizations to look for opportunities to automate processes and reduce human involvement, with automation often taking on tasks that humans didn't want to or couldn't do. Even though many organizations were already working to increase efficiency and improve time to market through significant investments in automation, especially robotic process automation (RPA), the pandemic accelerated these investments.

Technology budget as a percentage of revenue can be a valuable barometer for comparing industry spending propensity. Prior to the pandemic, enterprises had planned to increase technology spending on average to 4.25% of revenue. However, the planned amounts varied widely across industries, from less than 2% to more than 10% (figure 1).

FIGURE 1

Average technology budget as a percentage of revenue



Note: N=374.

Source: 2020 Global Technology Leadership Study.

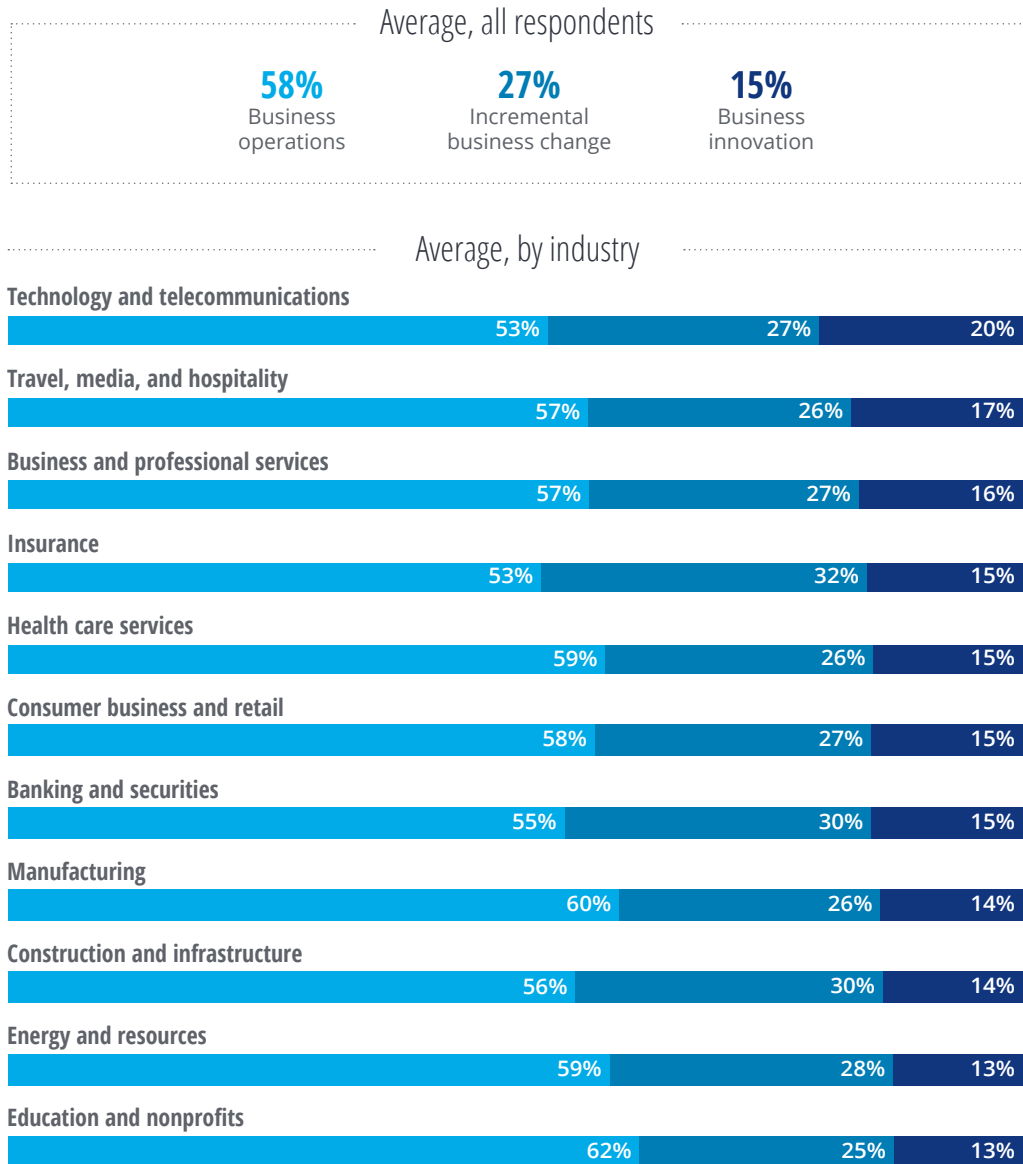
In addition, many CEOs and CFOs expected technology leaders to invest in technologies that create demonstrable business value by delivering growth and innovation. On average, survey respondents reported investing 15% of their budgets on business innovation initiatives, but they spent most budget dollars (59%) in

day-to-day business operations. We observed some notable differences in how industries invested pre-COVID-19 technology dollars, with technology and telecommunications; travel, media, and hospitality; and business and professional services leading the pack in innovation investments (figure 2).

FIGURE 2

Technology budget allocations across industries

■ Business operations ■ Incremental business change ■ Business innovation



Note: N=809.

Source: 2020 Global Technology Leadership Study.

We expect the innovation budgets for hard-hit industries and sectors to be cut substantially through 2021, forcing them to hunker down and weather the storm. For example, in [Aviation after COVID-19: Clean up your contracts for take-off](#), Deloitte expects that airlines will not fully recover from COVID-19's impact for a number of years. Similarly, the short- to medium-term outlook for the oil and gas sectors, which in 2020 experienced a double whammy of COVID-19 and an oil-price drop, likely will remain challenging.⁴ But for the majority of industries, we anticipate investments in innovation and business growth to return to prepandemic levels by 2022.

Spending habits of technology vanguards

The [2020 Global Technology Leadership Study](#) identified a subset of organizations that were more sophisticated than their peers in the areas of vision and strategy, technology function maturity, and market leadership. We found that these advanced organizations, that we call [technology vanguards](#), extend their progressive thinking to technology budgeting and investment strategies.⁵

For example, technology vanguards spend a higher percentage of revenue on technology (4.8%) than *baseline organizations* (4.2%), and they are more than twice as likely (24% compared to 11%) to project substantial increases in their technology budgets over the previous financial year. More spending doesn't always mean more value, but these technology vanguards are certainly allocating their technology budgets differently. It was also interesting to note that technology vanguards were fairly evenly distributed across industries and constituted roughly 10% of the overall population.⁶

In general, while baseline organizations were more inclined to prioritize cost and efficiency initiatives,

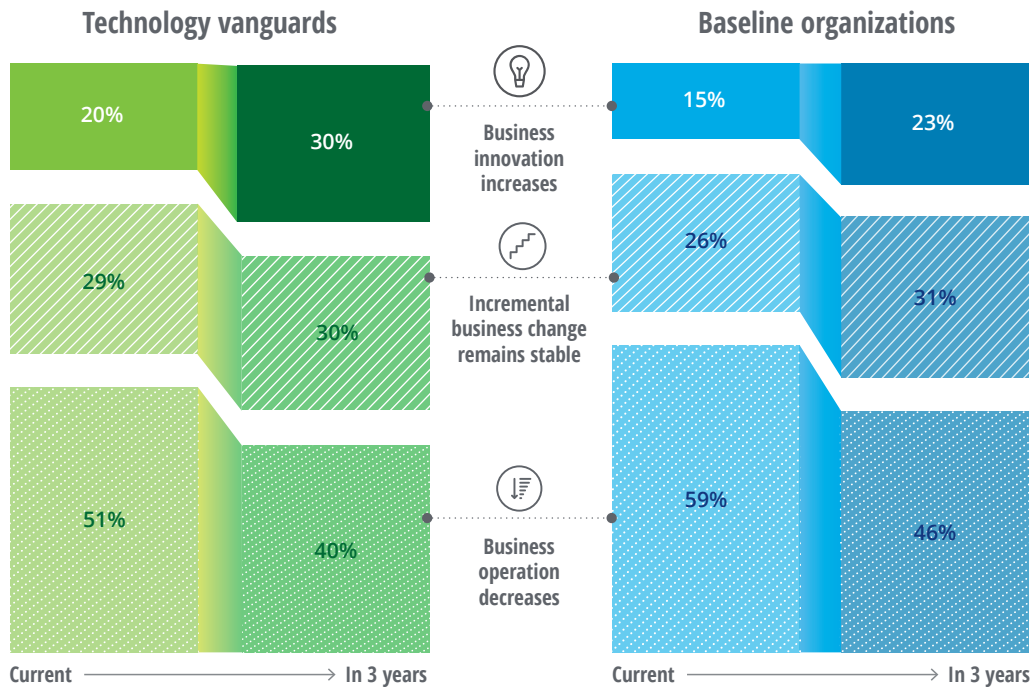


technology vanguards were more likely to prioritize innovation, growth, and customers. Vanguards' growth orientation likely drives them to invest in the future, which we expect to continue as the economy regains its footing.⁷ Because of the strategic importance of innovation and growth to the overall enterprise, technology vanguards on average allocate greater portions of the technology budget (20%) to innovation than do baseline organizations (15%). These leading organizations intend to increase innovation spending significantly during the next three years to 30%, compared to 23% for baseline organizations (figure 3).

While baseline organizations were more inclined to prioritize cost and efficiency initiatives, technology vanguards were more likely to prioritize innovation, growth, and customers.

FIGURE 3

Technology vanguards prioritize innovation and growth



Note: N=809.

Source: 2020 Global Technology Leadership Study.

A previous study indicated that vanguards were also less likely than baseline organizations to spend heavily in enterprise resource planning (ERP) platforms or other foundational technologies, potentially pointing to vanguards’ ability to balance the “innovate” and “operate” parts of technology investments better.⁸

In interviews, we found that technology vanguards are more likely than their peers to focus on organizational agility and business partnership. Forty-two percent of technology vanguards say their organizations are shifting to a product operating model⁹ and are taking an agile approach to both business and technology, compared to only 14% of baseline organizations. This suggests their approaches to technology

budgeting, investing, and measurement are flexible and iterative, enabling them to reallocate investments and pivot quickly while delivering ongoing value.

Traditional technology funding, budgeting, and investment processes—such as function-specific budgets, long-term funding cycles, and traditional procurement and vendor management practices—clash with the concepts of organizational agility, cross-functional teams, iterative sprints, and new ways of working. Short-term, value-based investments and rolling funding models can make it easier to shift technology resources to enable intelligent “fast failures” in innovation and support rapidly changing business and economic environments.

Whether they lead a technology vanguard or baseline organization, CIOs will likely be faced with rapidly changing business, economic, and geopolitical environments and should find ways to quickly pivot, reallocate funds, and reprioritize investments. Because we expect technology investments to grow steadily as the pandemic ebbs, many technology leaders may need to rethink traditional technology investment practices.

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Rethinking technology investment practices

Traditional technology investment practices can sometimes produce investments that are siloed, inflexible, and opaque. To maximize the value of technology investments, practices related to budget planning, accountability, cloud, capital allocation, and benchmarks should be adjusted.

Agile planning and budgeting. Belabored planning efforts, in-depth forecasts, customer preferences, and detailed task lists with strict deadlines—together with requirements gathering, solution development, and testing—can stretch project deployment into months or even years. By the time IT delivers the project, the world has moved on; the business may now face new

headwinds, evolved customer preferences, or shifts in demand. This is where technology vanguards play the field differently.

For many technology vanguards, rapid prototyping, design and testing, and iterative development is becoming the norm. Their delivery teams—including both business and technology stakeholders—aim to minimize the time between the idea and execution, deliver the solution incrementally, and quickly course-correct based on customer feedback and how the solution is being used.

Savvy technology leaders are shifting their investment practices to give more autonomy to cross-functional teams, enabling them to maximize the value delivered from technology investments and holding them accountable for delivering this value. They are also often more engaged in oversight, course corrections, and budget reallocation across multiple competing options.

Joint ownership and accountability.

Historically, the success or failure of technology implementations rested squarely on the shoulders of the CIO and IT team. However, as organizations move from siloed projects with functional ownership to cross-functional business solutions, project success and failure are also jointly owned.

For example, the CIO of a large services company fostered joint accountability and ownership by offering “unlimited capacity” to business leaders. Every solution in development is staffed with a collaborative team of business and technology people who are responsible not only for developing the solution but also for delivering value. Business and technology leaders are jointly responsible for overseeing the investments and the value delivered. Incentives, bonuses, and rewards depend on outcomes, not on staying within budget or meeting certain deadlines. Effective implementation in this scenario required that the organization develop competencies, agility, and a network of ecosystem

partners that can flex based on demand. The CIO is also responsible for a budget category known as “tech for tech,” which are investments in collaboration and productivity tools and other common enterprise infrastructure. As a result of these policies, business leaders are far less likely to build or buy shadow IT solutions.¹⁰

Deliberate cloud investments. The pandemic is accelerating cloud demand, with 59% of enterprises expecting cloud use to exceed plans due to COVID-19.¹¹ Deloitte predicts that cloud revenue growth will be greater than 30% from 2021 through 2025.¹² Cloud adoption can help companies realize significant cost savings, but only if CIOs have visibility into cloud usage across the organization and provide ongoing oversight and adjustments to manage costs, monitor workloads, and ensure value realization.¹³ Merely pushing a cloud-first approach could substantially increase costs, diminish value, and lead to unchecked usage, orphaned resources, oversized infrastructure design, redundant software subscriptions, or complex architectures. On-premise deployments may be better suited for workloads that have high resource utilization and complex integrations that can run up deployment and operational expenses.

Balanced capital allocation. COVID-19 highlighted the need for organizations to be lean and resilient. Many technology leaders were asked to cut significant portions of their budgets and reallocate existing investments to build resilient technology environments and boost security, infrastructure, and collaboration tools. Such defensive investments—related to the protection and preservation of the organization’s business and assets—are critical, but for business leadership, they’re a table-stakes expectation.

Savvy CIOs are also focusing on business innovation and other offensive technology investments—those that create and enable new opportunities, business models, and revenue sources. Research suggests that high-performing companies disproportionately spend discretionary budget dollars on growing the business while others focus primarily on protecting the business.¹⁴

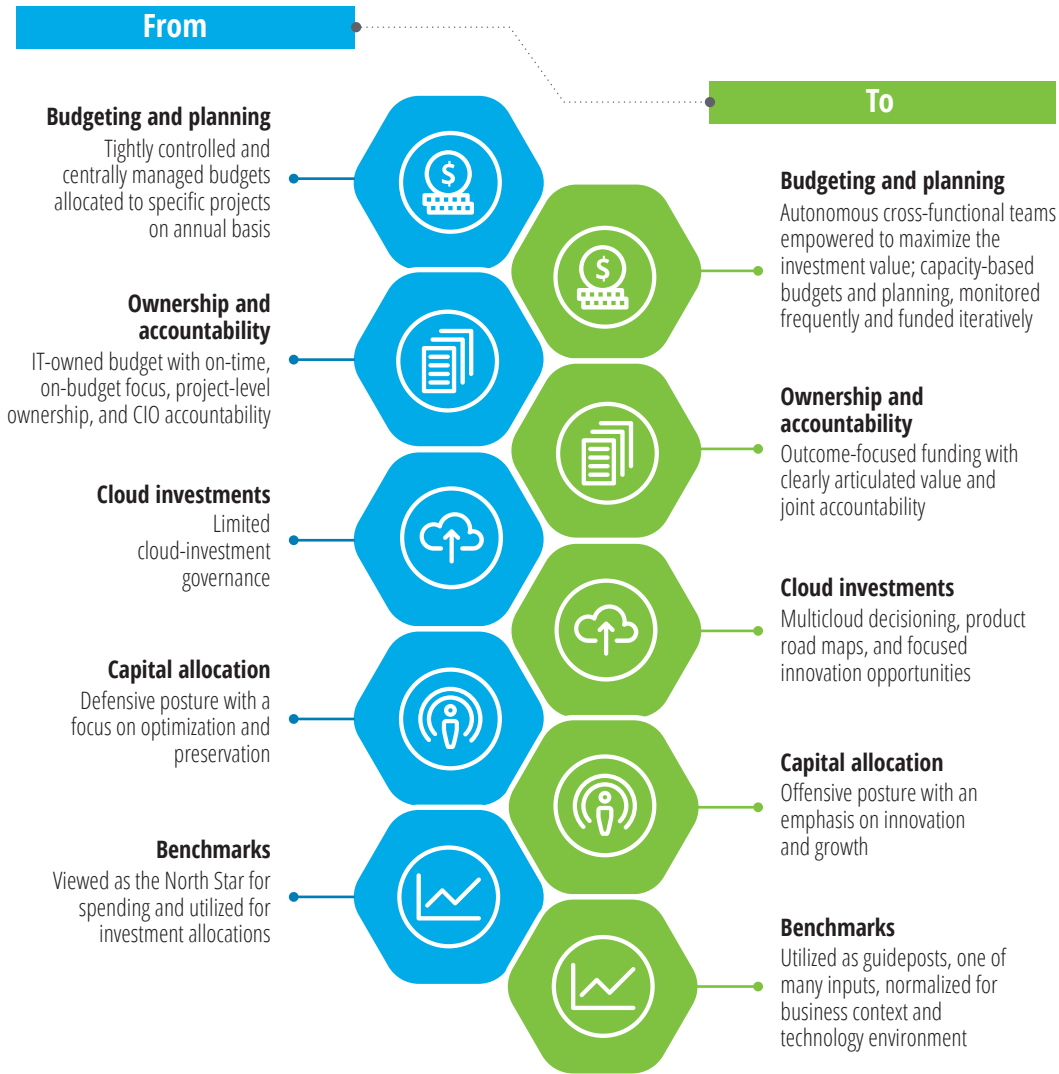
Using benchmarks as guideposts. In calibrating technology spending, some organizations solely rely on industry benchmarks to assess if they are over- or under-spending and to allocate technology budgets. As lines between industries blur, these benchmarks should be used as guideposts, not gospel.



Companies in the same industry can have vastly diverse business strategies and models, leading to very different investment profiles. Using benchmarks without context could be dangerous. It is important to align spending with the organization’s corporate strategy, current and future competitive landscape, and technology ambition (figure 4). Above all, it is imperative to ensure that budget dollars can be reallocated quickly to maximize value. Proper oversight can allow technology leaders to continually monitor technology investments to ensure ongoing value delivery and enable them to ruthlessly reallocate funds if the investment is underperforming.

FIGURE 4

Rethinking technology investment practices



Source: Deloitte analysis.

Looking ahead: 2021 and beyond

In 2020, the impact of the pandemic on technology budgets was not as significant as initially expected. The CFO surveys taken in the second and third quarters of 2020 revealed that while many

financial leaders are pessimistic about how quickly economic activity and company revenue would return to precrisis levels,⁴⁵ they nevertheless expect substantially higher levels of automation and cloud computing, and overwhelmingly expect more remote work,⁴⁶ which may signal an increase in technology spending.

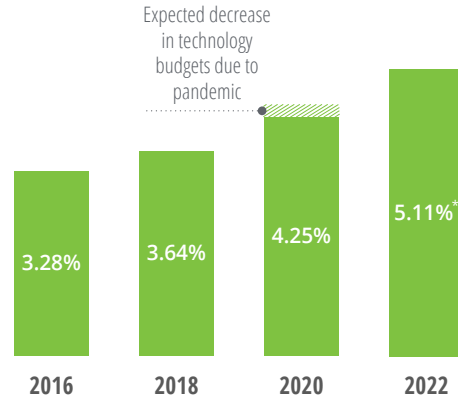
The vast majority (85%) of CEOs who participated in a recent Fortune/Deloitte survey agreed their organizations' digital transformation had significantly accelerated during the crisis. CEOs are more optimistic than their CFO counterparts—most CEOs do not expect the economic downturn to be sustained, with more than half (51%) saying that employment levels never declined or have already returned to prepandemic levels, and 40% saying that revenues never declined or have already return to prepandemic levels.¹⁷

A recent Forrester report projects that there will be an overall decrease in technology budgets of 2.5% in 2020; budgets will largely stay flat in 2021, with only a 0.4% decrease.¹⁸ But technology spending in the next couple of years will likely be a tale of two cities. Some industries, such as health care, technology, and consumer products, are expected to have substantial increases in spending, whereas other industries, such as insurance, banking, professional services, and utilities, may see budgets stay flat or increase only slightly. Travel, hospitality, energy, and resources may see steep declines.

Budget increases may not be as substantial in 2021, especially in industries that suffered heavy losses during the pandemic. However, we anticipate that over the next two years many organizations will use the pandemic as an opportunity to rethink the digital experience, revamp employee engagement, and reassess growth strategies—and leverage technology to drive efficiencies as well as growth. Overall, we expect technology funding to maintain

FIGURE 5

Average technology budget as a percentage of revenue



Notes: *The 2022 data is projected based on Deloitte analysis; 2016 N=747; 2018 N=624; 2020 N=374.
Sources: 2016–2017 Deloitte Global CIO Survey; 2018 Deloitte Global CIO Survey; 2020 Global Technology Leadership Study.

or exceed prepandemic levels in most industries in two years, and project that by 2022, enterprises will spend an average of 5.11% of their revenues on technology (figure 5).

While the 2020 pandemic disrupted technology investment growth for many industries, there is an upside. Leaders now have the opportunity to affect lasting change in how they approach technology investments to increase enterprise agility, making operations nimbler, more efficient, and better prepared to effectively respond to whatever comes next.

THE TECHNOLOGY LEADER'S TOOLBOX FOR INVESTMENT AGILITY

Technology leaders have a bevy of technology management and investment planning tools at their disposal. In our conversations, technology leaders shared some of their tips and tools that allow them to effectively manage their technology investments and maximize the value from these investments.

- 1. Kill list.** CIOs can help combat technology's reputation for being too expensive by identifying and eliminating technology investments that fail to deliver promised value. Maintaining a "kill list" can help technology leaders root out waste, eliminate redundant software and rarely used services and capabilities, and negotiate more favorable vendor contracts, enabling them to build trust and establish a reputation for financial savviness. Good negotiators may keep a portion of the savings to spend on growth initiatives.
- 2. Innovation fund.** With uncertain payoffs, innovation and growth investments are inherently risky. Governance processes for evaluating and analyzing these investments can eliminate many ideas at inception. Compared to baseline companies, technology vanguards are not only more likely to invest in innovation; they're also much more likely to be engaged in the whole innovation life cycle—from sensing and scanning to prototyping and scaling.¹⁹ Setting aside a portion of the budget for growth projects and experiments—an innovation fund—with innovation-friendly governance protocols can give teams the autonomy and flexibility needed to experiment, prototype, and "fail fast." An innovation fund can lead teams to make smaller, incremental investments before spending substantial amounts, which can help reduce risk.
- 3. Technical debt awareness campaign.** Often time-to-market considerations or M&A activities contribute significantly to technical debt. Business leaders are often reluctant to invest in reworking systems to reduce technical debt because there is no apparent value—but the cost of inaction could lead to significantly more investment further down the road. CIOs can address this challenge by investing in building a robust technology architecture and raising the awareness of budget holders to help them understand the implications of "nonpayment." Allocating a portion of resources—for example, 10% or 15%—to pay off technical debt or rearchitect the technology environments can help avoid debt accumulation.
- 4. Objectives and key results (OKRs).** Many CIOs are shifting to quarterly investments reviews and monthly initiative-level assessments to assess and make decisions on future direction of investments based on the value being delivered. For example, many technology leaders are now implementing OKRs to measure not only project costs and timelines but also outcomes. OKRs describe a clearly defined objective and three to five key results that focus on outcomes and people—not process and tools.
- 5. Agility quotient.** Organizations with a high agility quotient—the ability to adapt to changing economic and market environments—are more likely than others to be able to quickly shift their technology focus and corresponding investments.²⁰ Highly agile businesses may be comfortable with having a certain percentage of the budget available for reallocation to a

every quarter. This may reduce the possibility of longer contract terms that deliver better deals, but it provides the ability to quickly pivot or scale to respond to a new or rapidly changing market need that might deliver high value. Looking across vendor contracts, software licensing, and investments in infrastructure and people to maximize the agility quotient can help technology leaders nimbly deliver competitive advantage.

- 6. Real options.** Analyzing new investments using real options theory can guide technology leaders toward the most optimal investment decisions. Real options theory in investment decision-making draws from concepts in financial option valuation.²¹ Real options are choices—in this case, investment choices—that leaders can compare to make more informed business decisions about what projects to fund, expand, abandon, or pause based on current conditions. For example, this might mean acquiring software with architectural flexibility or modular design even though it may initially be more expensive. The option to scale and grow later often has a greater value than the initial difference in acquisition cost.
- 7. Run/grow ratio.** For decades, CIOs have allocated budget dollars to three spending categories depicted in figure 3: run, enhance, and grow. As infrastructure migrates to the cloud, the lines between the run and enhance categories are blurring, with most enhancements provided by cloud service providers. Going forward, the run versus grow ratio could prove to be a more useful tool. Digitally native companies have a clear advantage here, because they have minimal legacy infrastructure and can reallocate their run investments relatively quickly. Understanding the run/grow ratio can help business and technology leaders monitor, assess, and better articulate their contribution to delivering growth and competitive advantage.

Endnotes

1. Khalid Kark et al., *The kinetic leader: Boldly reinventing the enterprise—Findings from the 2020 Global Technology Leadership Study*, Deloitte Insights, May 18, 2020.
2. CIO Journal and Deloitte, “Pandemic accelerates cyber, digital innovation,” September 2, 2020.
3. Khalid Kark et al., *COVID-19: People, technology, and the path to organizational resilience*, Deloitte, 2020.
4. Deloitte, “COVID-19’s impact on oil, gas, and chemical organizations,” 2020.
5. Kark et al., *Findings from the 2020 Global Technology Leadership Study*.
6. Ibid.
7. Ibid.
8. Bill Briggs et al., *Strengthen the core—2018 global CIO survey, chapter 5*, Deloitte Insights, August 8, 2018.
9. Khalid Kark et al., *The product shift: Rewiring the organization to maximize business value—CIO Insider*, Deloitte Insights, November 16, 2020.
10. Anonymous CIO interview, November 9, 2020.
11. David Linthicum et al., *The future of cloud-enabled work infrastructure: Making virtual business infrastructure work*, Deloitte Insights, September 23, 2020.
12. Duncan Stewart et al., *The cloud migration forecast: Cloudy with a chance of clouds—TMT Predictions 2021*, Deloitte Insights, December 7, 2020.
13. Deloitte, *The cloud is here: Embrace the transition*, accessed January 2021.
14. Bill Briggs et al., *Follow the money: 2018 global CIO survey, chapter 3*, Deloitte Insights, August 8, 2018.
15. Deloitte, *CFO Signals™: Q3 2020—Some economic recovery, but growing skepticism about the pace going forward*, 2020.
16. Deloitte, *CFO Signals™: Q2 2020—Reopening for business, but near-normal operating levels not expected until next year*, 2020.
17. Fortune and Deloitte, “Insights on CEO priorities and predictions,” 2020.
18. Andrew Bartels, Matthew Guarini, and Audrey Hecht, “US tech market outlook for 2021: After the election,” Forrester, December 3, 2020.
19. Kark et al., *Findings from the 2020 Global Technology Leadership Study*.
20. Ryan Gottfredson “Agility quotient,” accessed January 2021.
21. This primer from the Corporate Finance Institute has more detailed information about real options theory.

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