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Reimagining the role of technology: Fusing business and technology strategies to cocreate exponential value for the company

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AS TECHNOLOGY BECOMES the catalyst for business strategy and transformation, the lines between business and technology

functions are blurring and the expectations of IT are shifting, leading many organizations to reimagine the role of technology and rethink traditional

operating models and organizational structures. This *CIO Insider* presents a new way for unifying business and technology objectives to help enable business and technology functions to more effectively collaborate, innovate, and cocreate new sources of value.

The imperative for change

As the pace, scale, and impact of technological innovation and disruption have exponentially escalated, technology has become a primary influence on business strategy, strategic choices, and value-creation models.

Five technology-driven forces add to the already complex range of decisions facing C-suite and other business leaders:

- **Convergence.** The fusion of physical and digital worlds has blurred industry boundaries, tangled value chains, and disrupted traditional value creation models.
- **Data proliferation.** Mountains of data and applied intelligence can inform decisions that allow businesses to adapt and remain ahead of disruption.
- **Competing horizons.** C-suite leaders often must simultaneously manage today's business while building the company of the future. Strategic choices made today have long-lasting implications and should be made in the context of a broader and fast-moving ecosystem.
- **Customer empowerment.** Technology has created rapidly evolving norms for engaging customers, triggering turnover and fragmentation in customer experience.
- **Speed and volatility.** The cloud and other technologies have lowered barriers to entry, allowing new business models to be developed and launched in weeks and drastically reducing the shelf life of both competitive advantage and existing business models.

Harnessing and managing these five forces—one of today's most pressing business issues—can be incompatible with IT's traditional role of ensuring operational excellence and executing technology-enabled business objectives. Historically, business and technology functions were separate, which often reduced cross-functional collaboration and led to siloed execution, delayed projects, and inflexible processes. Businesses often defined strategic objectives and developed separate supporting technology strategies.

To maximize the value of technology investments, operate with agility, predict and respond to customer and employee needs, remain competitive, and drive shareholder value, companies should fuse together separate business and technology strategies into a single unified strategy. This can require a new approach that enables business and technology functions to partner and cocreate new sources of value, including data, agility, speed, transparency, and digital experiences. With technology as the catalyst, organizations have the opportunity to either disrupt and transform—or fall behind.

Reimagining the role of technology

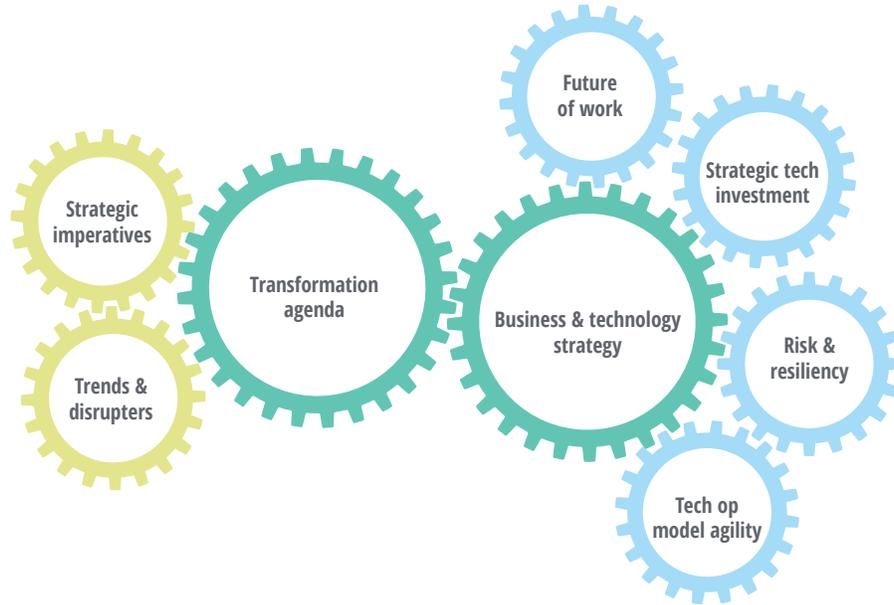
In the approach suggested here, the company is envisioned as an engine with multiple gears, in which every gear moves in unison so that the engine operates efficiently. If a single gear breaks, the entire enterprise grinds to a halt (see figure 1). This approach emphasizes three dimensions: key drivers, strategy, and technology vision.

Most C-suite executives appreciate technology as a force that's mandating immense transformation of customer expectations, the workforce, and the way companies are managed. However, because many leaders lack a macro perspective on the reimagined role of technology, they're less clear on how business and technology functions can cocreate value synergistically.

FIGURE 1

Reimagining the role of technology

■ Key drivers ■ Strategy ■ Technology vision



Source: Deloitte analysis.

For instance, many companies might correctly identify the need for initiatives such as digital transformation, developing new workforce skills, tackling cyber issues, or creating a new technology operating model. Each of these can individually drive value for the business, but without a view of the big picture—the business engine and all its gears—these companies may be missing the opportunity to prioritize and weave together ad hoc technology-driven initiatives to deliver *sustainable* value.

It's worth noting, too, that executives' ideas on how to reimagine technology can sometimes be at odds. For example, the chief information officer (CIO) and chief data officer (CDO) of one Fortune 500 company were at loggerheads because the CDO's emphasis on customer experience was seemingly at odds with the CIO's focus on reducing technical debt through core modernization. In fact, each initiative was a potential entry point for the company's journey toward reimagining technology.

Both executives had identified a critical need, but they were unable to effectively prioritize because neither had considered the bigger strategic picture.

To help eliminate such stalemates, consider the following key dependencies:

- CEO sponsorship and joint leadership by multiple business and technology leaders
- A technology organization that has already ensured operational excellence and is trusted by business leadership to become cocreators of value
- A cohesive enterprise culture and values across all business and technology functions
- Business and technology leaders with the willingness and ability to recognize the big picture beyond specific technology-driven initiatives

Let's take a deeper dive into each component in this approach.

Key drivers of change

Key drivers can shape the future trajectory of business and enable executives to develop an agenda for business transformation.

Strategic imperatives are key business goals and KPIs—such as operational expenses, return on investment, earnings per share, profitability, margins, and revenue—that are set by the business based on their business context and industry and market conditions.

C-suite executives juggle many of these imperatives—sometimes proactively, sometimes in response to evolving and often competing demands from shareholders, investors, or board members. Strategic imperatives help direct and constrain the decisions and choices that business and technology leaders make about how a business operates today and in the future.

Trends and disrupters are external factors such as investor expectations, new technological advances, industry convergence, market shifts, and changes in customer preference.

Consider, for instance, the impact of the gig economy, cloud computing, mobility, scientific breakthroughs, and a multigenerational workforce—and the resulting strategic decisions that might arise as a result. Another example is the growth of innovation ecosystems that provide companies with access to an abundance of technologies, talent, and other capabilities that reside outside of the organization and help reduce risk and accelerate innovation.

Strategic imperatives and trends and disrupters inform and influence the direction of the organization. It's optimal to consider them together, not as separate or sequential drivers. Both are important elements of developing a transformation agenda and a cohesive business–technology strategy.

Strategy-powered, tech-driven cocreation

The transformation agenda first uncovers business opportunities and identifies enabling

technologies; the joint business–technology strategy outlines the best way to pursue these opportunities within the company. A collaborative strategy development process between business and technology leaders can help ensure that technology investments fit into the bigger picture and that business opportunities can be supported by technology capabilities and investments.

Transformation agenda. The transformation agenda defines the technology-enabled aspirations, mission, and vision of the business and serves as the foundation of a joint business–technology strategy. Using Roger Martin's Strategy Choice Cascade¹ as a guide, businesses can create a transformation agenda and business–technology strategy (see figure 2).

Begin with a bold winning aspiration, enabled by technology, which identifies for whom the company creates value, the technology organization's ambition level in creating value and maintaining operational efficiency, and the relationship of technology vision to corporate strategy.

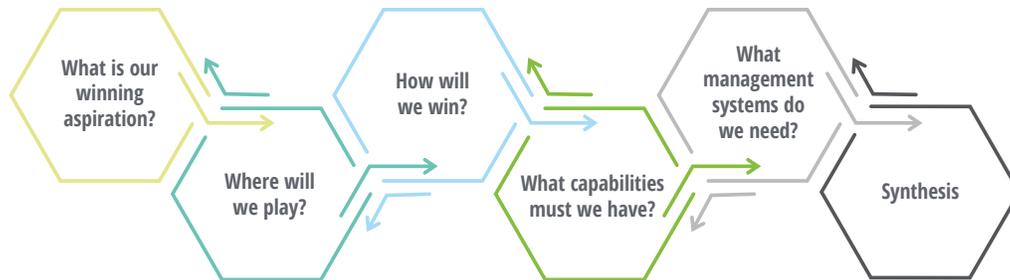
Next, decide where to play. These are business opportunities in which technology can create potential solutions with differentiated and sustainable value. For example, can technology help reinvent the supply chain, create new customer experiences, monetize the data stack, or improve the M&A process? Then, to determine how to win, identify technologies needed to achieve specific opportunities, and finally, identify required capabilities and enabling technology systems.

Joint business–technology strategy. The transformation agenda can unlock many exciting potential opportunities, but leadership may soon recognize the lack of resources or alignment with overarching business goals. Therefore, they can prioritize opportunities based on differentiation and value.

Trust in technology's ability to unlock deeper business value likely must be earned and is usually rooted in sustained operational excellence. For instance, a global holding company's initial strategy was focused on cost, stability, talent, and core operations to build credibility and trust with the business

FIGURE 2

The Strategy Choice Cascade can act as a guide for the transformation agenda and business–technology strategy



01 What is our winning aspiration?

- Who do we create value for (e.g. customers, company, employees, community, etc.)?
- What is the right level of ambition for tech organizations, balancing operational efficiency and value creation?
- How does the tech vision relate to the corporate and business strategy?
- What role does global technology play in the future?

02 Where will we play?

- What business opportunity spaces exist for businesses and IT?
- Where can technology most add value within/across the opportunities?
- How should we sequence opportunity spaces?
- How can business functions and IT partner to unlock opportunity spaces?

03 How will we win?

- What technologies/platforms will we prioritize to unlock these opportunity spaces?
- What infrastructure, tools, and services can be built or acquired?
- What solutions can be deployed across the enterprise to make it a true integrated operating company?
- How will we avoid adding to our bespoke systems and technical debt?

04 What capabilities must we have?

- What capabilities are required to win?
- What is the optimal way to configure these capabilities?
- What are the necessary training and development systems?
- How will we avoid adding to legacy systems and technical debt?

05 What management systems do we need?

- How will we measure success?
- What governance processes are required?
- How will we monitor and adapt?
- What do I need to do to ensure a smooth transition?

Source: Strategy Choice Cascade concept and primary questions courtesy of A. G. Lafley and Roger L. Martin, *Playing to Win: How Strategy Really Works* (HBR Press, 2013). Sub-questions by Deloitte analysis.

and create a future-ready foundation. Once this was achieved, the company set its sights on bolder ambitions: Version two of its strategy identified opportunities in which technology could be leveraged to cocreate differentiated advantage and value in the digital supply chain, smart plant, transportation and logistics, customer experience, data and decision-making, ecosystems, and innovation.²

A combined business–technology strategy can result in a road map for achieving each business opportunity, fully aligned with technology capabilities, systems, and investments. It can limit the proliferation of ad hoc technology-driven initiatives that drain resources without furthering company objectives—and create the groundwork for the organization’s technology vision.

Technology vision: Tools in the toolbox

A cohesive business–technology vision and road map for the execution of this vision requires leaders to shift across four dimensions: the future of work, technology operating model agility, risk and resiliency, and strategic technology investments.

Future of technology work, workforce, and workplace. As the role of technology changes, so will the technology function. Market dynamics



and technological advances are reshaping three major dimensions of work: the work itself, who does the work, and where the work is done. As technology work evolves, the workforce and workplace will likely evolve in tandem.

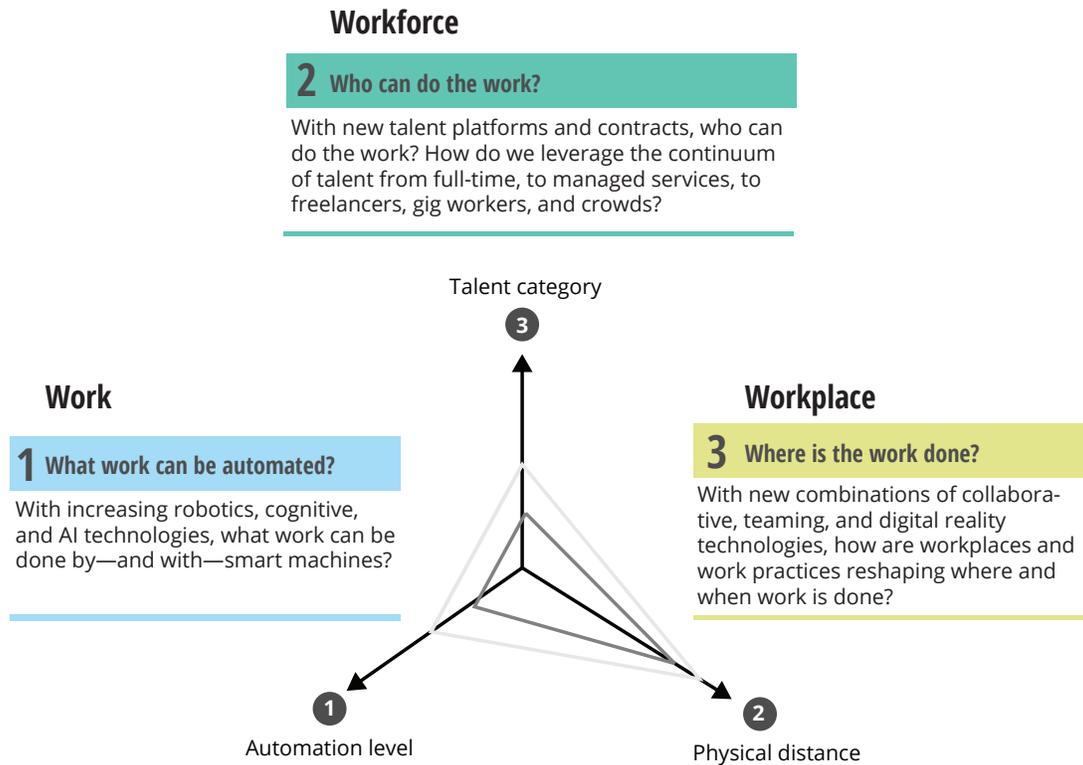
- **Work.** Due to the emergence of cloud, robotics, cognitive, and artificial intelligence (AI), among other technologies, work that was previously the domain of the IT function and primarily performed by humans is now being augmented, distributed, and undertaken by service providers and machines. This opens up a tremendous opportunity for the technology function to shift its time, efforts, and energy from managing technology to delivering creative, significant, and strategic business outcomes.
- **Workforce.** To deliver the new technology work, businesses will likely need fresh skills and capabilities. Leaders are increasingly using the open talent continuum to acquire, retain, and curate these skills. They have at their disposal an array of talent options, from full-time and contract workers to managed services and, increasingly, the gig workforce and crowdsourcing. Over time, the technology workforce will likely become very different.
- **Workplace.** Advances in mobility and connectivity have bolstered the use of collaboration and teaming tools; technologies such as virtual reality (VR) and augmented reality (AR) are emerging as the new frontier in collaboration. Many leaders are realizing that cocreation between business and technology functions can require physical proximity and workspaces conducive to collaboration and innovation. Workspace design can significantly contribute to work practices and cultures that keep the technology workforce engaged, motivated, and incited (see figure 3).

Technology operating model agility. When the technology organization’s sole mandate was to manage technology environment efficiently and effectively with little dependence on other parts of the organization, traditional operating models (such as plan-build-run) served well. Today’s business

FIGURE 3

The future of work encompasses changes in work, the workforce, and the workplace

△ Current work options △ Future work options



Source: Deloitte analysis.

leaders demand speed and agility, require specialized skills, are engaged in the end-to-end customer life cycle, and expect technology to directly influence shareholder value—which may require a fundamental shift from traditional, centralized IT to a distributed “thin IT,” in which technologists are embedded in business areas.

Changing the operating structure can be an important first step; even more critical is the shift from a technology mindset to a product mindset (see figure 4). Many organizations have begun this journey by adopting Agile and DevOps processes and methodologies but are not yet fully cocreating value in partnership with the business function. What’s missing? Joint accountability and seamless

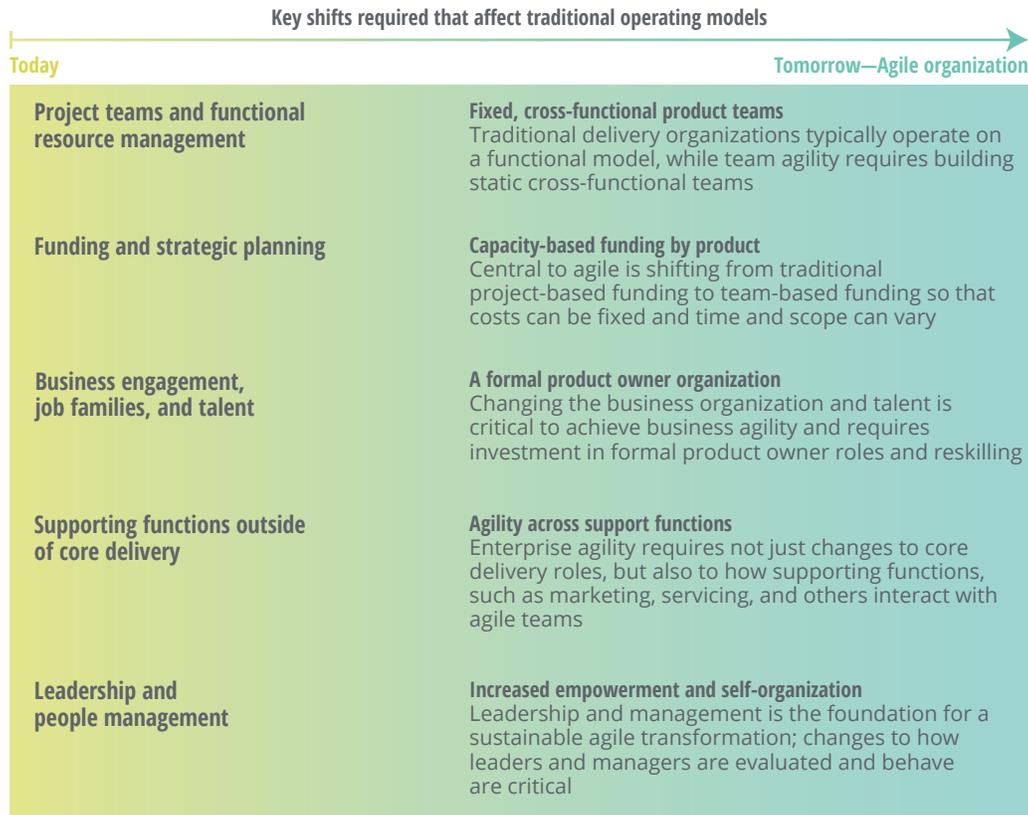
blending of the technology and business operating models and processes.

Strategic technology investments. As organizations reimagine technology, the importance of strategic technology investments grows. Yet 14 percent of technology leaders in Deloitte’s [2018 global CIO survey](#) report they do not measure the impact of technology investments; many of those that did often relied on ad hoc measurements that lacked consistency.³

Business leaders often consider technology investments to be a “black box;” they know how much is being spent on technology but may not have a deep understanding of budget allocation or the value or ROI delivered. Technology should provide

FIGURE 4

Moving toward a product mindset



Source: Deloitte analysis.

a solid foundation for future business growth, with strategic capital allocation and transparent investments that have clear metrics and accountability.

- Foundation-building.** Foundation-building is a key objective for today’s technology leaders, many of whom stake vast budget amounts (not to mention their reputations and careers) on the successful completion of immense undertakings such as ERP implementations. Such legacy and core modernization initiatives are essential and can be the biggest roadblock to building a solid foundation; however, leaders also should seek other “low-hanging fruit”—business applications that can enable them to create reliable, scalable, secure, and agile technology environments. This could mean shifting applications to the cloud, exploring innovative ways to reduce technical

debt, automating or enhancing capabilities for existing systems and tools, or enhancing technology architecture to be more flexible to support current and future business needs.

- Strategic capital allocation.** Today, organizations on average spend 3.5 percent of their revenue on technology, with almost a third (32 percent) reporting budget increases of 10 percent or more.⁴ These percentages are consistent across industries (see figure 5). Survey data also suggests that technology budget allocation is rapidly changing as well: The percentage of technology budget spent on business operations is expected to change from 56 percent today to 47 percent within three years, while the 18 percent spent on innovation today is expected to increase to more than a quarter (26 percent)

during the same time period. Spending on cloud is also predicted to double from 22 percent of the IT budget to 44 percent.⁵ These shifts in budget allocation signal a fundamental change in technology's strategic value and the technology organization's expectations. But these funds could be wasted without alignment on expectations or solid evaluation models, target hurdle rates, and metrics on return and value. Technology leaders should estimate costs of needed talent and capabilities and be prepared to estimate the financial implications of cloud on capex and opex ratios, among other nuances.

- **The big technology bets.** To stay ahead of competition, technology leaders will likely need the confidence to make significant bets on the technology-enabled business future. For instance, one company plans to invest over US\$1 billion on AI over the next three years to achieve its stated business objective of leading its industry in data insights. Other organizations are making large bets on the cloud, Internet of Things (IoT), and blockchain. In fact, almost half (44

percent) of business and technology leaders say emerging technologies will significantly impact their business in the next three years.⁶ With such large bets comes the obligation for more transparency, accountability, and value creation from both business and technology leaders.

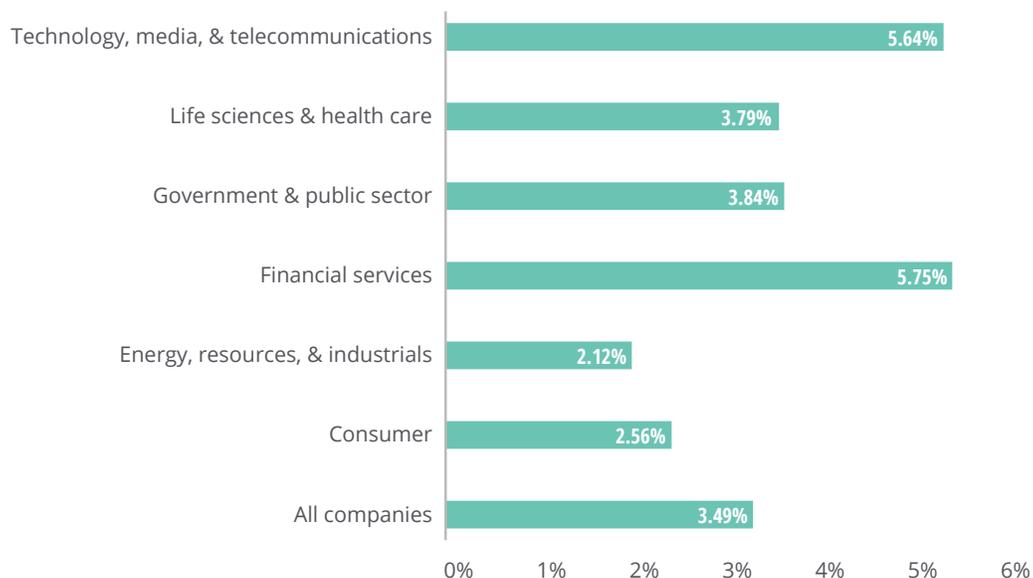
Risk and resiliency. As technology becomes more integrated into the fabric of the business, cyber risks often rapidly increase, moving beyond an organization's walls and IT environments and into its products, factories, other workspaces, and customer locations. Today's attack surface is larger, and the business impact of cyber risk is far greater than in the past.

- **Risk appetite.** Organizations annually spend millions of dollars on cyber risk, security, and compliance—investment choices that are typically made by security experts rather than business leaders. To help ensure these investments are effective, leaders can measure, understand, and articulate the risk appetite of the organization and its individual business

FIGURE 5

Percentage of revenue allocated to technology spending

IT budget as percentage of revenue



Source: Deloitte 2018 global CIO survey.

areas and consistently use these measures to make decisions about allocation of resources.

- **Incident management and resilience.** In the event of a cyber incident, businesses should have a robust capability to detect and respond to threats and ensure operations are minimally affected.
- **Product security.** Technology-related vulnerabilities in products such as medical devices, automobiles, and thermostats—or even in systems such as business applications or the power grid—can lead to product failure or injuries or be exploited to gain access to customer data or systems. Integrating security into product design and development can help minimize unpleasant surprises.

Future implications

As technology and business leaders consider the immense task of creating an ecosystem in which co-creation and innovation thrive, they can begin both by reimagining what technology can do for the business and viewing technology as an opportunity to enable business disruption and create sustainable competitive advantage.

Technology leaders can help identify opportunities where technology can create differentiated *and sustainable* business value and actively engage business functions with ideas and prototypes that help stimulate innovation. Business leaders can help by acknowledging that technology's impact goes beyond the company's IT function and by ensuring that technology is the heart of strategy development and execution.

As organizations reimagine the role of technology, here are a few implications to consider.

Enterprise agility. Enterprise agility is the outcome of a smoothly operating organization in which all its various components are working in unison; it enables organizations to rapidly respond to changing market conditions. The business-technology strategy should drive the entire enterprise to transform; for example, engagement with

functional areas such as HR and marketing or strategic domains such as M&A are critical to achieving the outcomes of reimagining technology. Business and technology functions should blend seamlessly to rally around customer and employee needs.

To achieve enterprise agility, businesses optimize how they organize and structure technology work, and how they operate. At the intersection of these two dimensions is enterprise agility, where businesses behave in a more agile manner (see figure 6).

Human-machine interaction. Machines may be gaining ground in solving structured problems, detecting patterns, and making predictions—consider, for example, AI's defeat of the human champion of the complex game of Go⁷—but AI cannot yet replicate social or general intelligence, creativity, or human judgment. Many technology and business leaders envision the future as one in which robotics and AI augment human intelligence and capabilities, rather than replace it.⁸ Leveraging intelligent interfaces—beginning with touchscreens and voice commands and evolving to images, video feeds, advanced voice capabilities, and human gestures and movement—AI is poised to fundamentally reinvent humans' interactions with technology, information, and their surroundings.⁹

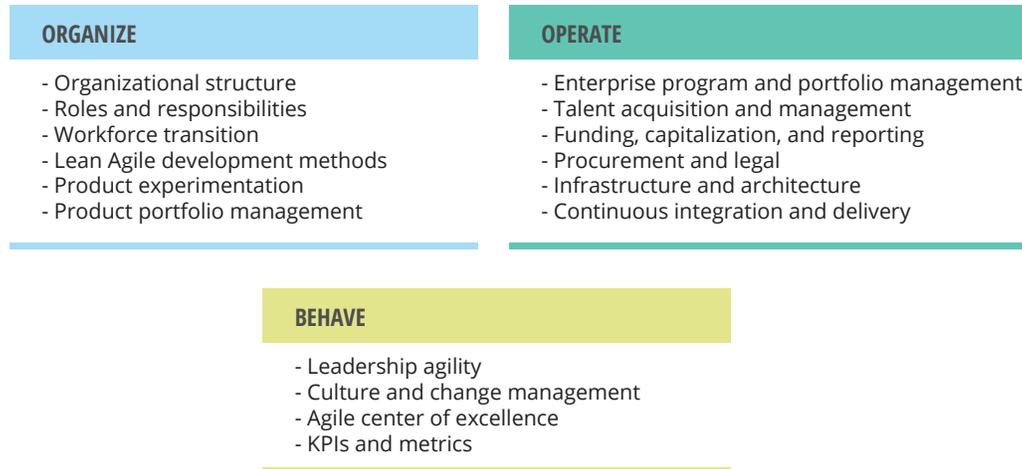
Companies that are currently exploring the intersection of robotics, automation, and intelligent interfaces may already have a competitive advantage as they begin to understand the work best done by humans, work that can be the sole domain of machines, and how humans and machines can collaborate to achieve the best outcomes.

Cocreation workspaces. Although it's widely understood that the work and skills required to operate in this new paradigm will be different than they are now, an often-overlooked aspect is the workplace and how it may need to evolve to support this shift. Cocreation will require physical proximity to a specific location for some, advanced collaboration tools for others, and a culture and leadership that incentivizes desired behaviors and outcomes.

Many organizations are adjusting to work with multigenerational talent pools and blurred

FIGURE 6

Businesses optimize how they organize, operate, and behave to achieve enterprise agility



Source: Deloitte analysis.

boundaries across organizations and ecosystems. Some have designed workspaces that foster spontaneous encounters that can lead to higher levels of innovation and collaboration, and many do not rely on traditional office space but bring together talent virtually or physically as needed.

Tech-enabled innovation. Very few organizations have a systematic technology-enabled innovation process. Instead, many leaders pursue innovation by shotgun, dabbling in emerging technologies without thinking through use cases and scalability, spreading investments across multiple startups without a cohesive strategy, or relying too heavily on a traditional ecosystem of partners and vendors.¹⁰

A methodical technology-enabled innovation process can allow business and technology teams to rapidly explore and experiment with multiple possibilities, leverage needed skills and expertise, and scale up rapidly as needed.

Cultural alignment. Reimagining technology typically requires culture change, which can be difficult when collaboration, iteration, experimentation, and a focus on outcomes are engrained in organizations, especially those that have operated

in the same manner for decades. In fact, technology and business leaders both identify a culture of resistance as the top reason for failure of initiatives.¹¹

For example, when shifting to an agile delivery model, many leaders and employees struggle with the absence of project completion dates, assigned multiyear budgets, and project hand-offs. Business leaders often struggle with accountability and constant product changes. Many businesses face a stark reality: A significant percentage of their workforce may not want or be able to make the change, despite significant investments in retraining and reskilling programs. Some executives interviewed for the CIO survey say that up to a third of the workforce will not be able to make this shift.¹² Culture change requires time and constant reinforcement through incentives, rewards, and visible leadership support and buy-in.

Enterprisewide participation. Reimagining technology is a journey with many possible starting and end points for every company, depending on strategy, industry conditions, and market forces. To help complete the journey, leaders across the business—not only those in the technology organization—should proactively participate in the

process of seamlessly unifying business and technology strategies and functions to enable cocreation of exponential and sustainable value across these blended teams.

Key recommendations

A transformation requires a catalyst. For many technology organizations, the cloud has been this catalyst, freeing up resources and talent to tinker, create, and test products and providing better scalability, agility, and security without a significant capital outlay. Technology leaders estimate that they will spend 44 percent of their technology budgets on cloud and Software as a Service (SaaS) solutions in three years.¹³ Companies are moving hundreds of applications to the cloud, often with self-funding or cofunding models offered by service providers.

Cloud is not the only potential transformation catalyst, however; business leaders may be able to identify many other “low-hanging fruits” that can quickly help business and technology leaders catalyze change and keep costs in check.

Love the one you’re with. Fresh talent can often infuse organizations with the new skills and thinking required to reimagine technology. However, moderation is advisable: Current talent has invaluable business context, history, experience, and relationships that can be leveraged to build trust and credibility. When a wave of external hires is tasked with executing rapid transformation while learning the ropes of a new job, costly mistakes can happen. A mix of internal and external talent is often the right answer; increasingly, companies are looking across the talent continuum for creative ways of accessing talent and skills.

Changes in senior leadership typically have an exponentially larger impact than new entry- or mid-level hires. One CIO who hired three new external direct reports (out of a total of seven) found that the new leaders helped encourage existing staff to be less resistant to change.¹⁴

Nothing is sacred. Complex projects such as ERP implementations can take years to complete, outlasting multiple management changes. Savvy leaders can consider a periodic pause to evaluate technology investments and ensure they’re delivering the maximum value.

One CIO who inherited such a project decided to terminate it, even though the effort was already 18 months in the making. Costs were skyrocketing, and he was confident that the remaining project expense would be better spent on a business application that could dramatically increase operational efficiencies. Although the company lost several million dollars and had to redeploy hundreds of workers, the CIO’s bold gamble ultimately paid off when the new business application enabled the company to gain competitive advantage.¹⁵

Tackle technical debt. Many organizations have taken on technical debt due to inefficient code, systems, or processes—usually caused by resource and time constraints during initial project deployment. Technical debt can lead to complex, fickle, and rigid technology environments; a buildup of technical debt can extend project deadlines, increase costs, and become an obstacle of long-term agility and growth.

Reducing technical debt can be a daunting and expensive task that can take years, a luxury that most CIOs lack. Technology leaders are challenged to maintain smooth operations while keeping technical debt in check and ensuring that it doesn’t impede business growth; this can be, as one CIO noted, like changing tires on a moving car.¹⁶

Have a clear, consistent narrative. Change initiatives typically require enormous amounts of communication and change management, including a clear narrative and messaging, jointly created by the technology and business functions, which describes the purpose and objectives of the reimagining technology initiative. Many organizations change the name of the IT function to suggest that the traditional IT function no longer exists and that the new function is operating under new mandates, operating model, and rules of engagement.

Create a consortium or ecosystem.

Cocreation does not usually occur in a vacuum. Businesses have access to an abundance of technologies and talent via ecosystems of internal and external business partners that can accelerate co-creation and share technical and financial risks and rewards. Joining or creating a consortium or a less formal partner ecosystem can provide access to a pool of resources that can benefit all participants. Before making the leap, consider such ramifications as intellectual property protection, long- and short-term R&D strategies, ownership of operational control, financial resources, talent, and timing.

Redraw the map. The proposed change in the technology operating model typically requires business and technology functions to come together to realign important boundary conditions: culture,

leadership, talent, and incentives. Collectively, these should be realigned to match the unified business–technology strategy.

Accountability breeds responsibility. If the business and technology functions are to jointly co-create solutions and products, every team member is accountable for the success of the product. Roles, responsibilities, and accountabilities should clearly be identified up front and performance consistently measured against accountabilities and outcomes.

It's often more challenging to measure cultural and behavioral changes than it is to assess traditional key performance indicators such as revenue, costs, and customer satisfaction. Identifying and measuring cultural and behavioral goals and rewarding progress can help ensure accountability and deliver business outcomes.

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