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X: -189.13   Y: -168.81

X: -15.89   Y: -41.67

The new decision-making calculus

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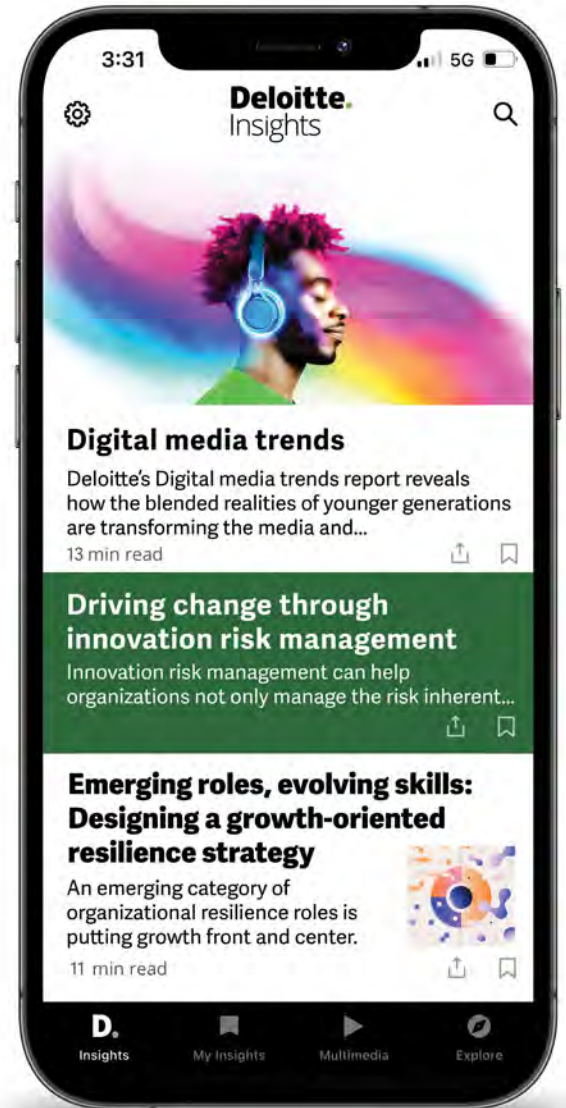
The new decision-making calculus

What does it take to make strategic decisions when the variables are proliferating? What lenses do leaders now need to apply when they're determining the way forward on the given initiative?

Consider the common factors that might go into today's business decisions. Cost effectiveness and profitability. Increasing supply costs and margin pressure. Ever-increasing competition. The difficulty of gaining consensus among more participants in purchase decisions. The challenge of navigating risk and resilience imperatives amid the continuing crush of disruptions. Add to that the many workforce considerations, evolving ESG regulations, and much, much more as the complexity of the business landscape rapidly increases and the impact of each decision ripples outward.

In this issue, we explore this new decision-making calculus, examining a handful of the variables many leaders now contend with.

On page 40, three Deloitte US authors posit that workforce decisions shouldn't over-rely on productivity metrics. They suggest that, while new technology continues to aid and measure workforce productivity, the equation has grown more complex and should encompass both business and human outcomes because, "When organizations prioritize creating shared value for workers ... people are empowered to do their best work and organizational performance can benefit."

On page 68, a Deloitte US analysis of 4,000 global leadership roles found that many organizations have added new variables to their organizational resilience strategies, expanding from survival- and adaptation-oriented considerations to also encompass growth- and longevity-focused imperatives.

And sometimes, when the variables change, a wise strategic decision could be to discontinue the given strategic initiative altogether. So says Annie Duke, a decision science professional, in a Q&A on page 32.

As your consideration sets expand and complexify, factors evolve, and new variables are introduced, we'll be there to offer proprietary data and fresh perspectives to help inform your next strategic decision.

Best,

Elisabeth Sullivan
Editor in chief, Deloitte Insights
insights@deloitte.com

Contributors

Jay Bhatt
jaybhatt@deloitte.com

Dr. Jay Bhatt is a physician executive, primary care physician, and public health innovator. As managing director of the Deloitte Center for Health Solutions and the Deloitte Health Equity Institute, Bhatt directs Deloitte US's research and insights agenda across the life sciences and health care industries. Bhatt also continues to practice medicine in the Chicago area.

Yasmine Chahed
ychahed@deloitte.co.uk

Yasmine Chahed is an independent senior advisor and research consultant delivering strategic initiatives, technical policy, and thought leadership across corporate reporting, governance, auditing, and corporate sustainability and ESG. She leverages advanced analytical and hands-on experience in academic research and teaching at the university level.

Corrie Commisso
ccommisso@deloitte.com

Corrie Commisso is a senior editor at Deloitte Insights leading global content strategy for human capital and the future of work. She has more than 20 years of experience in writing, editing, and creative direction, and holds degrees in journalism and library and information science—a combination she credits for her ability to tell deep and engaging stories.

Amy Fields
amfields@deloitte.com

Amy Fields is the chief of staff and communications strategist for human sustainability at Deloitte US.

Susan Cantrell
scantrell@deloitte.com

Susan Cantrell is vice president of products and workforce strategies at Deloitte Consulting LLP, and a frequent speaker on human capital and the future of work. She is coauthor of the Harvard Business Press book *Workforce of One* and has also been published widely in publications including *Harvard Business Review*, *The Wall Street Journal*, and *MIT Sloan Management Review.*

Simon Cleveland
scleveland@deloitte.co.uk

Simon Cleveland is global head of public policy at Deloitte. He has provided audit and assurance services to financial services and infrastructure clients, worked across multiple regulatory and compliance projects, and taken on a number of interim chief financial officer roles. Cleveland is a chartered accountant with a degree in manufacturing, engineering, and economics.

Stuart Crainer
stuart.crainer@thinkers50.com

Stuart Crainer is an author, editor, advisor, and entrepreneur. He is cofounder of Thinkers50, a global platform for management ideas based in the United Kingdom. Crainer is a former columnist for *The (London) Times* and his book credits include *The Financial Times Handbook of Management*, *The Management Century*, and a biography of the management guru Tom Peters.

Jen Fisher
workwell@deloitte.com

Jen Fisher is Deloitte US's human sustainability leader. Previously, Fisher served as Deloitte's first-ever chief well-being officer. She's also a TEDx speaker, coauthor of the book *Work Better Together: How to Cultivate Strong Relationships to Maximize Well-Being and Boost Bottom Lines*, editor-at-large for Thrive Global, and host of the "WorkWell" podcast series.

Steven Goldbach
sgoldbach@deloitte.com

Steven Goldbach leads Deloitte US's sustainability practice and previously served as the firm's chief strategy officer, led Monitor Group's New York office, and led strategy for *Forbes*. He has coauthored two books including *Detonate: Why—and How—Corporations Must Blow Up Best Practices (and Bring a Beginner's Mind) to Survive* and *Provoke: How Leaders Shape the Future by Overcoming Fatal Human Flaws*.

Rachel Hossack
rhossack@deloitte.co.uk

Rachel Hossack is a corporate lawyer advising Deloitte UK clients on group reorganizations, including cross-border mergers, European companies, supply chain and other business transformation projects, intra-group share and business/asset sales, distributions and dividends, loan rationalizations and assignments, and capital reductions.

Michelle Khoo
mikhoo@deloitte.com

Michelle Khoo is director of Deloitte's Center for the Edge in Southeast Asia. She explores the edges of business, technology, and society; develops insights on how these edges will change the world; and helps leaders personally experience disruptive technologies and chart pathways into the future.

Alison Lobb
alobb@deloitte.co.uk

Alison Lobb is a Deloitte partner in London specializing in transfer pricing, tax policy, and international tax. As well as transfer pricing analysis, documentation, audits, and advance pricing agreements, Lobb covers all areas of international taxation and business models, including questions of residence, permanent establishment, withholding tax, diverted profits tax, EU directives, and base erosion and profit shifting initiatives.

Steve Hatfield
sthatfield@deloitte.com

Steve Hatfield is a principal with Deloitte Consulting and serves as the global leader for future of work for the firm. He has more than 20 years of experience advising global organizations on issues of strategy, innovation, organization, people, culture, and change.

Chad Hungerford
chungerford@deloitte.com

Chad Hungerford is a partner in Deloitte's international tax practice as well as Deloitte's US Pillar Two leader, IT ASC 740 leader, and Silicon Valley IT practice leader. He has two decades of experience advising US-based multinational companies on the tax planning, tax accounting, and tax reporting obligations associated with their global footprint.

Duleesha Kulasooriya
duleeshak@deloitte.com

Duleesha Kulasooriya is executive director of Deloitte's Center for the Edge in Asia Pacific, part of a global management research institute exploring the edges of business and technology. Kulasooriya's research focuses on emerging business landscapes, the future of work, the sustainability transformation, and the relevance of "edges" such as the sharing economy and transformative technology.

Bill Marquard
bmarquard@deloitte.com

Bill Marquard is a managing director in Deloitte US's strategy and analytics practice. He leads Deloitte's market efforts on resilient leadership, and previously served as a C-level executive for a Fortune 200 retailer and wholesaler, and as an adjunct professor at Northwestern University's Kellogg School of Management.

Timothy Murphy
timurphy@deloitte.com

Tim Murphy is a senior manager in Deloitte's Center for Integrated Research. As a researcher and analytical scientist, he focuses on understanding how organizations undergo large-scale transformations that grow the business, bolster operations, and make the enterprise more resilient against external shocks and disruptions.

Chris Roberge
chrisroberge@deloitte.com

Chris Roberge is Deloitte's global energy, resources, and industrials tax and legal leader, as well as the oil, gas, and chemicals leader for Deloitte China. With more than 20 years of experience, Roberge acts as the key global tax advisor to many of the world's largest international and national oil companies, providing mergers and acquisition strategies, treasury strategies, and group reorganization solutions to achieve business and tax savings.

Bob Stack
bstack@deloitte.com

Bob Stack is a managing director in Deloitte's US tax practice and international tax group. He advises US companies on a full range of international tax issues and collaborates with Deloitte's global member firms on international tax developments and initiatives, including those from the OECD. He is a member of the executive committee of the USA Branch of the International Fiscal Association.

Michelle Tan
michelltan@deloitte.com

Michelle Tan is the futurist at Deloitte's Center for the Edge in Southeast Asia. Drawing on her experience across public, private, and nonprofit sectors, she actively explores the edges of business, technology, and society. Through building robust ecosystems, she cultivates the "edge" community.

Veronica Poole
vepoole@deloitte.co.uk

Veronica Poole is a vice chair of Deloitte UK, a leader in global international financial reporting standards and corporate reporting, and Deloitte's North and South Europe head of accounting and corporate reporting. She leads Deloitte's contributions to the World Economic Forum's International Business Council Stakeholder Capitalism Metrics and has facilitated leading sustainability standard-setters in developing a prototype climate standard.

Charles Slack
charliews123@gmail.com

Charles Slack is an award-winning business and financial journalist, and the author of four books, most recently *Liberty's First Crisis: Adams, Jefferson, and the Misfits Who Saved Free Speech*. He is coauthor, with Reed Phillips, of the business book *Quick Value*. His mainstream journalism has appeared in many national publications.

Kristen Sullivan
ksullivan@deloitte.com

Kristen Sullivan is a Deloitte partner leading sustainability and ESG services. She also serves as Deloitte's global audit and assurance sustainability and climate services leader, and the integrated reporting community of practice leader. Sullivan brings extensive experience in delivering sustainability risk assessments, governance, strategy alignment, measurement, reporting, and assurance services.

Amanda Tickel
ajtickel@deloitte.co.uk

Amanda Tickel is a global leader of tax, legal, and regulatory policy at Deloitte. She leads a team undertaking analysis and preparing insights across the spectrum of tax and trade matters including budgets, technical consultations, and trade negotiations.

Artists

Sylvia Chang

Sylvia Chang is Deloitte Insights' creative director. She is a hunter and collector of trends, and serves as a repository of inspiration for the creative team. In a world full of noise and detritus, she's able to see patterns. She treasures her Sundays jumping on the trampoline with her daughters at her home in Connecticut.

Matt Lennert

Matt Lennert leads creative for Deloitte Insights and is the art director for *Deloitte Insights Magazine*. He works with artists and data visualization designers to visually bring the stories to life. This issue marks the 32nd issue he has produced. He makes his home in the Seattle area.

Jim Slatton

Jim Slatton is a Deloitte Insights designer and illustrator from Asheville, N.C. His graphic style is rooted in decades of branding work and a love of mid-century minimalism. He works with custom iconography and typography, photo collage, and data to distill complex information to simple visual stories.
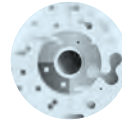
Manya Kuzemchenko

Manya Kuzemchenko is an art director, visual designer, and Deloitte Insights contributor residing in the foothills of Los Angeles. She's a pixel-pushing perfectionist with an eclectic style and a passion for motion graphics, true crime podcasts, and 3D printers.

Molly Piersol

Molly Piersol leads data visualization design at Deloitte Insights. She believes raw data creates beautiful art and works to further expand the stories that live between the lines of figures. Piersol is a Virginia transplant to the Seattle area and her roots have grown deep enough that she'll never go back.

Harry Wedel

Harry Wedel is a senior data visualization designer at Deloitte Insights. With a background in scientific research, he loves to find innovative ways to display complex data through engaging information design. Based in New York, he credits his interests in music and photography for his passion to use emotion in art to bring people together.

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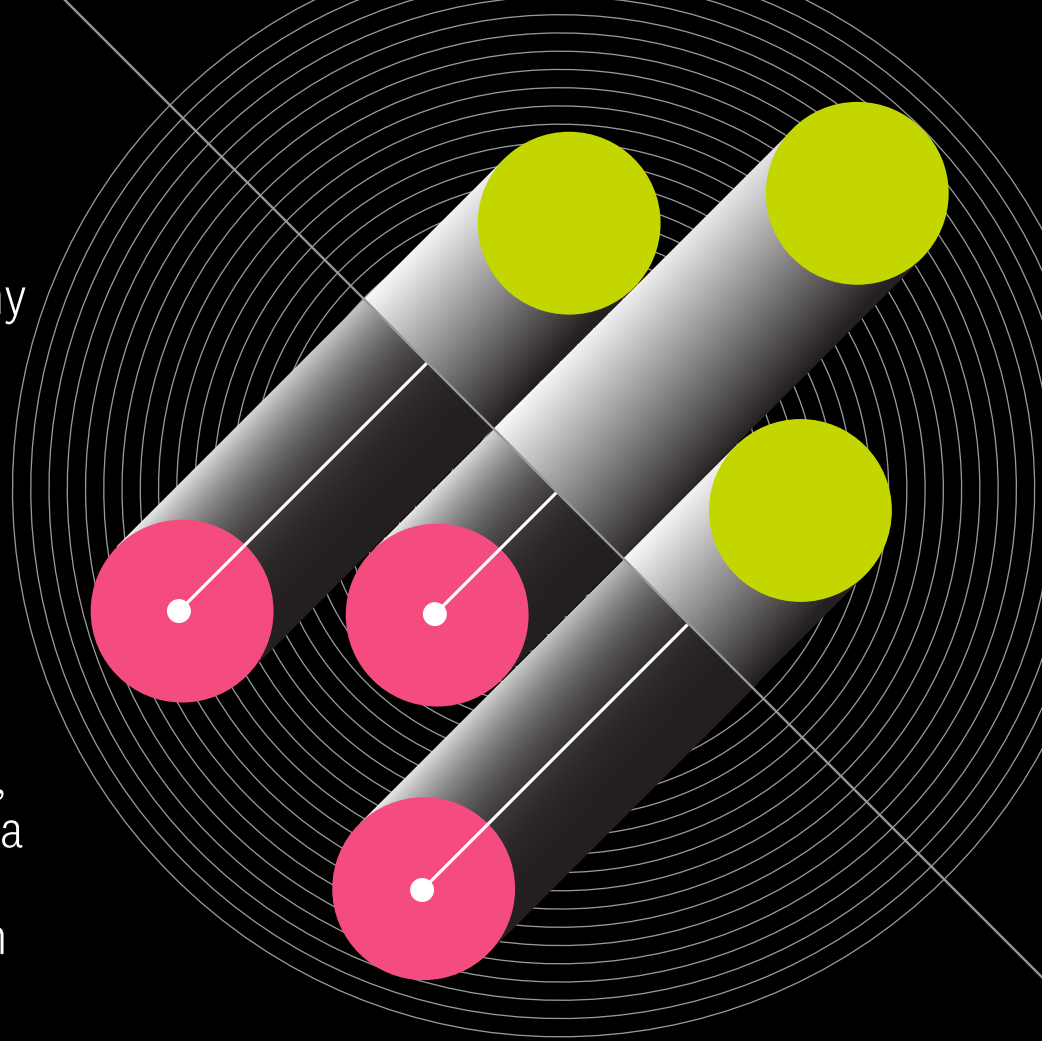
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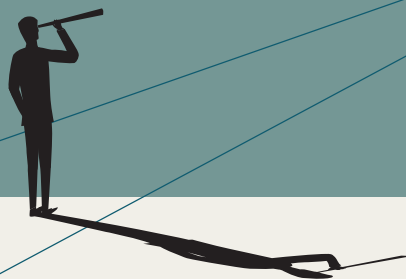
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1

Fortune 500 boards are getting more inclusive, but parity still eludes most organizations

New research on diversity at the helm of some of the largest US companies shows significant yet uneven progress.

If diversity on boards and in C-suites breeds creativity, holistic thinking, and resilience, then the top revenue-generating companies in the United States could benefit from picking up the pace of their diversity, equity, and inclusion efforts. Recent research shows that underrepresented racial and ethnic groups held a record number of Fortune 500 board seats in 2022, but parity could still be decades away.[1]

According to the latest *Missing Pieces* report, a multiyear study organized by the Alliance for Board Diversity in collaboration with Deloitte US's Center for Board Effectiveness to assess gender, racial, and ethnic diversity on Fortune 500 boards, board seats held by individuals from underrepresented racial and ethnic groups increased to 22.2% in 2022, up from 17.5% in 2020.[2]

While this data shows a marked improvement in Fortune 500 boards' representation levels, there's still a ways to go. The US Census Bureau's latest data shows that 40.6% of the nation's population is from underrepresented racial and ethnic groups.[3] At the current pace, it potentially could take Fortune 500 companies overall nearly four more decades for their boards' diversity to be representative of the US population, according to the study.[4]

Based on an analysis of the US Census Bureau's population projection, some racial and ethnic groups could hold a representative number of Fortune 500 board seats by 2030. However, without continued focus on improving board diversity, Fortune 500 boards likely wouldn't reach overall population parity until at least 2060, according to the *Missing Pieces* report.[5]

Of particular concern is the stagnating share of board members who identify as Hispanic/Latinx, one of the fastest-growing ethnic groups in the United States.[6] According to Census survey data, 18.4% of the US population is Hispanic or Latinx.[7] By 2060, Census projections estimate that the Hispanic/Latinx community will increase to 28% of the nation's population.[8] Yet only 4.7% of Fortune 500 companies' board seats are currently held by people who identify as Hispanic/Latinx—a gap that will likely grow if organizations fail to prioritize recruiting and retaining these leaders.

"Progress toward increasing board diversity is something to be celebrated, but there is much more work to do," Lara Abrash, chair of the board at Deloitte US, explains in the report. "Inclusion is critical to business success, and we shouldn't feel satisfied until the faces in our boardrooms match those in our communities and across our nation."

Read the full report at www.deloitte.com/us/missing-pieces

Fortune 500 boards' representation still has a ways to go to reflect US population diversity
Percentage of Fortune 500 board seats by race and ethnicity

● 2020   ● 2022   — 2022 US population (est.)

Asian/Pacific Islander
4.6%
5.4%
6.3%

African American/Black
8.7%
11.9%
13.6%

Other/Multiracial
0.1%
0.2%
4.3%

Hispanic/Latinx
4.1%
4.7%
19.1%

White
82.5%
77.8%
58.9%

BY 2060, THE US HISPANIC/LATINX POPULATION IS PROJECTED TO INCREASE TO 28%

Note: Percentages may not equal 100% due to rounding.
Sources: Alliance for Board Diversity and Deloitte US's Center for Board Effectiveness, *Missing Pieces* report, June 2023; US Census Bureau.

Infographic by Harry Wedel

Female survey respondents seek flexible work arrangements but are concerned about career repercussions

In a Deloitte Global study of women at work, most respondents believe taking advantage of flexibility options would put them at a disadvantage.

Many employees want employers to offer flexibility in where—and when—work gets done. But as more employers offer such flexibility, many women around the world are increasingly concerned that taking advantage of it could harm their careers.

In Deloitte Global's *2023 Women @ Work* survey, which collected responses from 5,000 women across 10 countries between October 2022 and January 2023, researchers found a correlation between the amount of flexibility that women experience and how long they plan to stay with their employer. Those experiencing high levels of flexibility are more likely to stay longer: 66% of respondents with high work flexibility say they plan to stay with their current organization for more than three years, compared with 19% of women with no flexibility who plan to stay in their jobs that long. Women with a lot of flexibility around where and when they work also report higher levels of productivity and loyalty to their employer than women with no flexibility.

Yet 97% of respondents to the 2023 survey believe that using or asking for more flexible working arrangements could adversely affect their chances of promotion at work, up 3 percentage points from 2022. And 95% believe that if they do gain more flexibility, their workloads will not be adjusted accordingly, up 5 percentage points from the year prior.

However, the 2023 data shows some signs of progress regarding interactions that could affect women's success at work or lead to career advancement opportunities—evidence that employers may be figuring out how to better engage with hybrid and remote workers. Fewer respondents say they have been excluded from meetings, decisions, and informal interactions when working in a hybrid or remote way—with 37% of hybrid or remote respondents in 2023 feeling left out, down from 58% in 2022. And fewer respondents report not having enough exposure to leaders when working in a hybrid or remote arrangement—30% in 2023, down from 45% in 2022.

Read the full report at www.deloitte.com/women-at-work

Women believe having more flexibility could harm their careers
Percentage of women who agree with the following statements

36% | 46%
I do not feel supported by my employer in my efforts to balance my work responsibilities with other commitments

90% | 95%
I am not comfortable that if I request flexible working options, my workload will be adjusted accordingly

94% | 97%
Requesting or taking advantage of flexible working opportunities does **affect the likelihood of promotion** in my organization

2022 | 2023
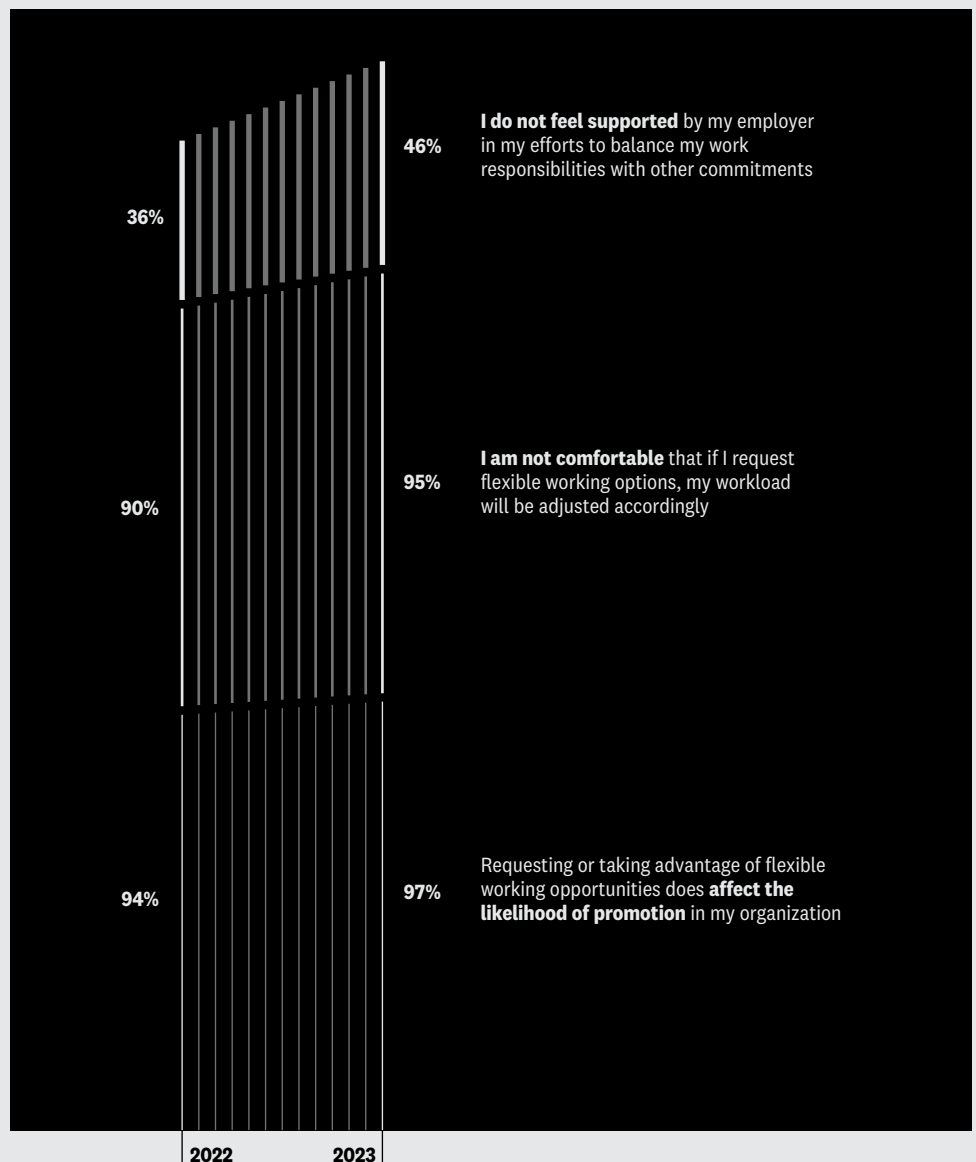
Note: N = 500.
Source: Deloitte Global, *Women @ Work: A Global Outlook,* 2023.

Tech budgets are increasing—along with scrutiny of tech's impact

Tech leaders who participated in a recent Deloitte survey say hard metrics aren't enough to capture the value gained from tech investments, but soft metrics are difficult to capture and communicate.

Businesses are spending more on technology. The average tech budget as a percentage of revenue was 5.49% in 2022, up from 4.25% in 2020, according to Deloitte's 2023 *Global Technology Leadership Study.* And based on interviews with tech leaders, macroeconomic projections, and industry-specific trends in tech spending, we anticipate that percentage will increase to 5.85% by 2024.

But along with higher budgets comes some scrutiny. In Deloitte's survey of 1,179 technology leaders, 54% say technology project performance metrics and the impact of tech programs are key discussion topics in boardrooms.

It can be challenging to measure and articulate the value of technology investments. Sixty-seven percent of the executives who were surveyed rely on return on investment as their key measure of value, while 24% of respondents use net present value. However, the authors of the Deloitte report argue that both are crude metrics: ROI doesn't account for the long-term impact tech investments could have; and although net present value calculations do take time into account, there are plenty of projects and initiatives that may have nonmonetary value associated with them—for example, a faster speed to market or better customer experience.

In fact, when it comes to measuring impact, 61% of the executives surveyed say the biggest challenge they face is quantifying the softer, less tangible benefits of technology investments.

These findings underscore the need to focus less on a hard metric like ROI and more on a wider spectrum of measures. Imagine a dashboard of quantitative and qualitative gauges, including people-focused indicators alongside more traditional financial and operational metrics.

That's how Marc Berson, senior vice president and chief information officer of Gilead Sciences, explained his company's approach in an interview for Deloitte's study. "We publish a monthly dashboard, which shows detailed metrics for IT transformation-initiative performance and operational security and reliability," he said. "In addition, we look at how we are doing with our organizational health and culture, including employee engagement, skills growth, and development. While looking at these metrics is helpful, it may seem transactional if we don't balance it with a strong, parallel focus on people."

Research and analysis by Deloitte's CIO Program

Read the full report at www.deloitte.com/insights/maximizing-tech-value

Quantifying the soft benefits of tech investments is the biggest challenge with measuring technology's impact

What are the top challenges CxOs face when assessing and understanding the return on investment derived from technology investments?

61% Hard to quantify soft benefits of individual technology investments that generate value

55% Too much of a focus on short-term business case ROI versus long-term value measures

49% Difficulty in being able to measure and understand the enterprise value of mitigated risk and improved security

37% Inappropriate existing models for understanding the value of technology

47% Fragmented reporting across business and technology functions with separate key performance indicators/metrics

50% Inability to demonstrate a cause/effect relationship between technology investments and financial growth

Note: N = 401. This is a multiselect question, so percentages will not add up to 100%.
Source: Deloitte 2023 *Global Technology Leadership Study.*

Infographic by Molly Piersol

Fewer US consumers trust companies to protect their data

Respondents to Deloitte US's fourth annual Connected Consumer Survey reported feeling less able to protect their online data and having less clarity on how their data is used.

Fewer consumers trust online services to protect their data than two years ago, and they're less likely to say that the benefits outweigh privacy concerns
Percent of respondents who agree with the following statements

2021 — 2023

- 59% → 50% — The benefits I get from online services I use outweigh my data privacy concerns
- 54% → 41% — It has become easier to protect my data online in the past year
- 49% → 38% — I trust online services I use to protect my data more now than I did a year ago
- 48% → 34% — Companies are clear about how they use data they collect from the online services I use
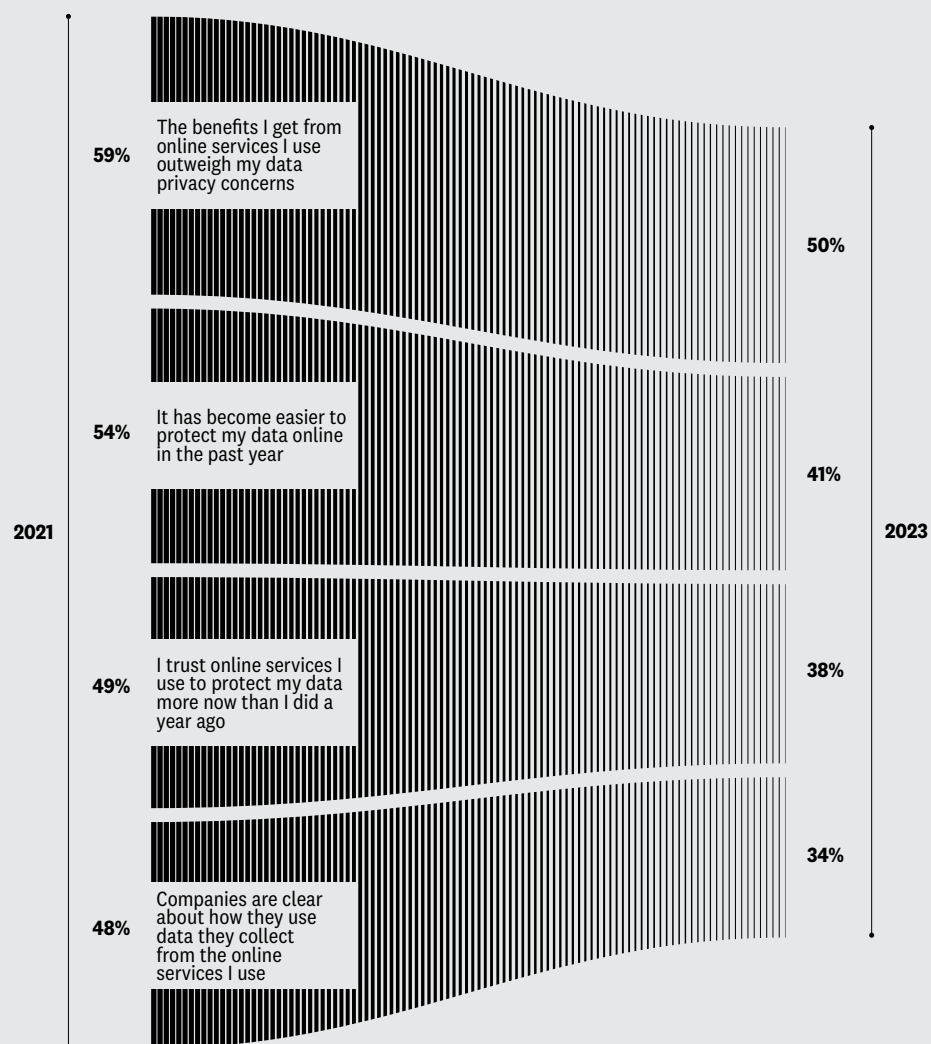
Notes: N (US consumers) = 2,018 (2023); 2,009 (2021).
Sources: Deloitte Center for Technology, Media & Telecommunications, *Connected Consumer Survey*, 2023; *Connectivity and Mobile Trends Survey*, 2021.

Consumers' trust in device and online services companies is wavering, according to the Deloitte Center for Technology, Media & Telecommunications' *Connected Consumer Survey* 2023, which surveyed 2,018 US consumers in the second quarter of 2023 to understand consumer attitudes toward devices, connectivity, virtual experiences and wearables, and the challenges of managing it all.

Fifty percent of respondents believe that the benefits they get from online services outweigh their data privacy concerns, down 9 percentage points from 2021. And 41% think it has become easier to protect their online data in the past year, down from 54% in 2021.

Only 34% of respondents believe companies are clear about how they use the data they collect from online services, down from 48% in 2021.

And, notably, while they're still very much in the minority, 9% of US consumers surveyed bought a device in the past year that doesn't track them—up 4% from 2022.

The vast majority of respondents want more protection and control over how their data is used: 89% agree they should be able to view and delete the data that companies collect about them and 80% think they deserve to be paid by companies that profit from their data.

Eighty-five percent of respondents think device makers should do more to protect data privacy and security on the devices they sell, and 77% want the government to do more to regulate the way companies collect and use that data.

Companies could gain a competitive advantage by making consumer data protection part of their mission—and by more clearly communicating the data usage and protection policies they have in place.

Research and analysis by the Deloitte Center for Technology, Media & Telecommunications

Read the full report at www.deloitte.com/insights/connected-consumer

Designing digital government services for the people they serve

Poor user experience is the biggest impediment to the adoption of governments' digital services, a global Deloitte US survey finds.

So many of life's services are accessed online, but for many people around the world, government services remain an in-person affair.

The availability of digital government services isn't the problem, nor is people's interest in accessing them, according to Deloitte US research. It's the typical culprits in the digital world: poor user experience coupled with privacy and security concerns. And interestingly, trust is less of an issue than the accessibility of and people's satisfaction with the digital experience that government channels offer.

According to Deloitte US's *Digital Citizen Survey* of 5,800 individuals from 13 countries, 56% of respondents say they'd like to interact with federal or central government services via a website, with other digital channels (for example, web chats and mobile applications) also attracting respondents' interest. Yet only 25% of respondents "often" or "always" interact with their government through digital channels, while 37% say they "rarely" do.

The primary challenge is the difficulty of navigating government websites, which 38% of respondents listed as a top concern. Web user experience varies considerably across the countries represented in the survey. For example, 56% of respondents in South Africa say that navigating their government websites is a big challenge, compared with 37% of respondents in Singapore who report the same challenge.

Respondents' perceived difficulty with navigating government websites likely contributes to their satisfaction level with online government services. According to the survey, 45% of respondents in South Africa are satisfied with their governments' online services, compared with 73% of respondents in Singapore. (Singapore has a relatively high satisfaction rate with digital

government services, which could be attributed to the Life SG app that consolidates a wide range of government programs—up to 70 services—on a single platform.)

And the more satisfied respondents are, the more they appear to trust their governments to protect their personal data. For instance, 67% of respondents in the Netherlands are satisfied with their governments' online services and 79% agree or strongly agree that they trust their governments to protect their data. Overall, a majority of respondents across the globe (72%) have faith in their governments to safeguard their data.

In other words, while privacy and security concerns were listed among the top three impediments for respondents when accessing digital government services, this survey's data indicates that improving the user experience—the ease with which an individual can navigate the digital environment and find and do what they need—could be the key to getting more government services users online.

Research and analysis by the Deloitte Center for Government Insights

Read the full report at www.deloitte.com/insights/digital-citizen

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Most respondents trust their government to protect their data, but there's still a gap in using online tools

● Percentage of respondents who agree/strongly agree that they trust government to protect their data   ● Percentage of respondents who often and always interact with government through digital channels

AMONG NEW ZEALAND RESPONDENTS, WHILE 77% TRUST THEIR GOVERNMENT'S DATA PROTECTION, ONLY 17% ARE ACTUALLY INTERACTING THROUGH DIGITAL CHANNELS

Challenges for respondents while accessing digital government services

38% Difficult to navigate government websites

36% Concerns about privacy of my data

34% Concerns about security of my data

28% Do not face any challenges

14% Not enough knowledge of the internet to access digital services

12% Limited or no access to the internet

Source: Deloitte Center for Government Insights, *Digital Citizen Survey*, 2023.

Infographic by Molly Piersol

Are European supply chains enabled for resilience?

European respondents to a Deloitte Global survey report adopting fewer measures to improve their supply chains' resilience than respondents in other regions.

Percentage of organizations that ...

● Europe   ● Rest of world

40%

52%

... have a fully deployed digital thread

53%

43%

... have visibility into Scope 3 emissions

... use predictive algorithms to forecast demand

58%

45%

Notes: Percentages are sum of "strongly agree" and "agree" for each question.
"Rest of world" includes all responses apart from Europe.
Source: 2023 Deloitte Global Supply Chain Executive Trust Survey.

Around the world, executives' trust in supply chains was hit hard at the start of the COVID-19 pandemic and continues to be weighed down by geopolitical tensions, the effects of climate change, and social unrest. To understand how the current environment has affected trust in suppliers worldwide and identify what actions organizations are taking to cope with the pressures on supply chains, Deloitte Global surveyed more than 1,000 executives from leading organizations who operate in large, complex supply chains.[1] The results show that European executives perceive their supply chains to be less resilient relative to organizations in other regions, and European organizations that participated in the survey report adopting fewer measures designed to shore them up.

While supply chain disruptions have become ubiquitous across the globe, a slightly higher percentage of European organizations (81%) report having experienced these adverse events in the past 12 months than organizations in the rest of the world (75%).[2] Yet fewer European executives Deloitte surveyed believe that their supply chains have the necessary resilience to these shocks than respondents in the rest of the world—with 57% of European respondents reporting that their supply chains are resilient, compared with 65% of respondents from the rest of the world.

In addition, European organizations in the survey report have fewer "leading suppliers" than respondents in the rest of the world—those suppliers that have a fully developed digital thread, use predictive algorithms to forecast demand, and have achieved visibility into Scope 3 emissions.[3] European respondents say that 35% of their suppliers are leading suppliers, compared with 44% of Asia-Pacific organizations' suppliers and 43% of North American organizations' suppliers.[4]

These results are consistent with a previous Deloitte US study on C-suite priorities, which found that surveyed executives in Europe are less likely to prioritize a shift from efficiency to resilience in their supply chain, plan for disruption, or drive innovation.[5] (It should be noted that the more limited adoption of these actions may be related to challenges specific to the region—such as Brexit or the Russia-Ukraine war—which have affected European suppliers to a greater extent than those in regions such as North America and Asia Pacific.[6])

Further investment can be worthwhile. Digital transformation in the supply chain could not only help organizations maintain their operational consistency in times of crisis but also can result in an accelerated time to market, a reduction in downtime, and a move toward sustainability.[7]

Research and analysis by the Deloitte Center for Integrated Research

Read the full report at www.deloitte.com/insights/supply-chain-trust

Green hydrogen could help pave the way to a low-carbon future—and global economic progress

Deloitte Global's modeling shows that the green hydrogen market could reach US$1.4 trillion by 2050—and emerging economies stand to benefit.

The world needs to rapidly restructure its energy system to curb carbon emissions and bring them to zero by 2050. Green hydrogen could be one of the key contributors to this net-zero pathway,[1] and it could also benefit emerging economies, according to a June 2023 analysis by the Deloitte Economics Institute and the Deloitte Center for Sustainable Progress.[2]

Unlike traditional hydrogen, which is generated from carbon-intensive raw materials like natural gas or coal,[3] green hydrogen is a cleaner energy source because it's generated through electrolysis of water using renewable energy sources.[4] It's easy to transport and scale, and could be a viable way to decarbonize sectors such as heavy industry, shipping, and aviation.

Deloitte Global's research shows that green hydrogen could first replace existing uses of hydrogen (for example, fertilizer production) while hard-to-abate industries prepare to make the switch. By mid-century, its full integration could drive significant carbon abatement—up to 85 billion metric tons of carbon dioxide equivalent in cumulative abated greenhouse gas emissions—or more than twice the amount of global carbon dioxide emissions in 2021.[5]

Deloitte Global's analysis shows that demand could grow steadily through 2050. With targeted policy support and more than US$9 trillion of investment over the next 25 years, the green hydrogen market could grow to US$1.4 trillion in annual revenue by 2050 and eventually comprise about 85% of the total hydrogen supply.[6] By comparison, low-emission hydrogen production was less than 1% of total hydrogen production in 2022, according to the International Energy Agency.[7]

Moreover, projections from Deloitte's Hydrogen Pathway Explorer (HyPE) model estimate that about 20% of the green hydrogen supply would be traded as a commodity, potentially generating more than US$280 billion in annual export revenues by 2050.

In addition to producing hydrogen for export, developing economies in South America, Eurasia, and Africa could benefit from the growth of the global hydrogen supply chain, thanks to the demand for critical materials for electrolyzers, solar panels, and wind turbines. Hydrogen processing and conversion plants and hydrogen transportation could also spur development.

North Africa, in particular, could be among the main beneficiaries of a free and diversified global hydrogen trade, thanks to its available land, potential for renewable energy generation, and access to the European market through existing natural gas pipelines that can be repurposed for hydrogen exports. Exports from this region alone could grow from US$23 billion in 2030 to US$110 billion by mid-century, Deloitte's HyPE model estimates.

Export revenues from green hydrogen could also help today's fossil fuel exporters in the Middle East and along the US Gulf Coast offset declining revenues from the shrinking oil, natural gas, and coal markets.

However, building a resilient global green hydrogen market comes with challenges at each level of the value chain, beginning with the need for significant investments. According to the analysis, creating a global green hydrogen system would require investments from China (US$2 trillion), Europe (US$1.2 trillion), and North America (US$1 trillion)—the main consuming regions, which account for more than half of production. Additional funding, potentially through foreign investment, also would be necessary in developing and emerging economies, including about US$900 billion in North Africa, US$400 billion in South America, and US$300 billion each in Sub-Saharan Africa and Central America.

Another complication is that green hydrogen is currently more expensive to produce and transport than fossil fuels, and technologies such as electrolyzers and storage are still in their infancy.

But if green hydrogen follows the cost-reduction path that renewables did between 2000 and 2020, it will be competitive with its fossil fuel counterparts by no later than 2035, according to Deloitte Global's analysis—which envisions a ramping up of technological development, manufacturing capabilities, and infrastructure that, together, could scale the market to cover the expected demand in a decarbonizing world.

Research and analysis by the Deloitte Economics Institute and the Deloitte Center for Sustainable Progress

Read the full report at www.deloitte.com/green-hydrogen

The opportunity of the green hydrogen pathway
US$ billion, per year

Hydrogen consumers

Africa
$23
$39
$46

Asia Pacific
$54
$80
$91

China
$255
$217
$265

Eurasia
$27
$52
$63

Europe
$86
$166
$194

Latin America
$14
$26
$37

Middle East
$26
$61
$125

North America
$61
$152
$199

South Asia
$46
$110
$247

Southeast Asia
$51
$79
$141

Clean hydrogen market size: $642B $908B $1,408B

2030 **2040** **2050**

Hydrogen exporters

Annual export revenues: $174B $210B $280B

Australia
$51
$38
$39

Eurasia
$0.5
$1
$19

Europe
$1

Middle East
$83
$61
$20

North Africa
$23
$50
$110

North America
$10
$49
$63

South America
$1
$3
$14

South/Southeast Asia
$3
$2
$1

Sub-Saharan Africa
$3
$6
$13

Note: The regional segmentation in this chart was designed to align with the International Energy Agency's categorization.
Source: Deloitte Global's Hydrogen Pathway Explorer model.

Infographic by Molly Piersol

US$23 billion by 2030

· One dot = US$143,750

As identity fraud increases, banks and fintechs can fight fire with fire

Identity theft is getting more sophisticated—and more costly. Financial services firms can better manage this risk with stronger biometrics systems.

● Synthetic identity fraud—when new identities are created with stolen or fabricated data—is the fastest-growing financial crime in the United States[1] and it shows no sign of abating. Not only can bad actors buy personally identifiable information on the dark web for a pittance,[2] but advancements in generative AI are making it easier to produce images and videos in someone else's likeness—whether they may be real or imaginary.

In its *FSI Predictions 2023* report, the Deloitte Center for Financial Services estimates that synthetic identity fraud could generate at least US$23 billion in losses by 2030.[3] These projections incorporate historical data on the rate of synthetic fraud and expectations of growth in noncash payments in the United States until 2030.[4] The researchers used the Federal Reserve Payments Survey to find this expected payment volume—excluding prepaid debit cards—and assumed that synthetic identity fraud would grow incrementally each year.

Synthetic identity fraud is increasing with the rise of digital interactions and becoming more complex as generative AI and other technologies advance. Many fraudsters concoct entire personas using a mix of real and fabricated information, and these personas are often pinned to social security numbers taken from children or the recently deceased. These bad actors may spend months or years nurturing their synthetic identities, and more than half have a credit score over 650,[5] just shy of what agencies consider "good."[6] The average payoff is estimated to be between US$81,000 and US$98,000,[7] but a single attack can sometimes result in the theft of several millions.[8] And 85% of synthetic identities in the emerging consumer sector elude third-party risk models, according to LexisNexis Risk Solutions.[9]

In response to rising synthetic fraud, many banks and financial technology companies are developing more advanced biometric security systems to weed out would-be perpetrators. Both physical and behavioral biometrics systems can add overlapping lines of defense. They can work together to catch opportunistic hoaxers who would have fallen through the cracks of traditional security checks. Unlike passwords or PINs, physical biometric technology can analyze traits that are unique to each consumer's makeup, such as their palm vein patterns, retina details, vocal pitch, and ear canal shapes.

These biometric security tools can improve outcomes for ID verification and authentication, but many emerging solutions are susceptible to low-cost, creative workarounds. Researchers, for example, recently hacked facial identification technology by placing glasses with tape where eyes should be over smartphone owners' faces while they slept.[10] Smartphone users have also found a myriad of ways to dupe fingerprint sensors, including with gummy bears,[11] wood glue,[12] and cheap printed circuit boards.[13] These "deepfakes" have passed through some banks' "know your customer" protocols.[14]

To help counteract these fraudulent actions, new and powerful biometric tools can provide more layers of defense by evaluating whether users are human, testing the veracity of visual artifacts and manipulated recordings, and identifying anomalies that may be atypical of online consumer behavior. These loopholes may create more demand for biometrics capabilities that can assess "liveness"—another authentication step to learn the humanness of the customer on the other end of a bank's or financial technology firm's digital transaction.

Research and analysis by the Deloitte Center for Financial Services

Infographic by Molly Piersol

To help bolster aging economies, boost workforce participation

Deloitte Germany's analysis found that, while digital competitiveness and innovation can help, a better way to counter the economic effects of a shrinking workforce could be to get more—and better skilled—people working.

Germany lags other OECD member countries across seven labor market and skills dimensions

● Germany   ● Front-runner

Dimension	Front-runner	Germany rank
Women employment rate	1st Switzerland	6th
Ages 55–64 employment rate	1st Sweden	9th
Lifelong learning	1st Finland	13th
Education spending	1st Norway	16th
Foreign-born population employment rate	1st Portugal	17th
Ages 65+ employment rate	1st South Korea	19th
Weekly working hours of women	1st Lithuania	23rd

1st out of 38 OECD countries

Note: Lifelong learning refers to the percentage of employees taking part in in-company training programs. Education spending as a share of GDP. Deloitte Germany analysis of labor market and skills benchmarking data for OECD's 38 member countries.
Sources: Organization for Economic Cooperation and Development; Deloitte Germany.

● How can countries counter the economic drag from an aging population and a shrinking workforce? According to an analysis by Deloitte Germany, the most impactful way to stimulate economic growth could be to address those labor issues head-on.

Economic growth generally depends on either an expanding workforce or increasing productivity, which can present challenges for countries with aging populations. In Germany, which is experiencing demographic change driven by a population that's skewing older, annual GDP growth in the 2020s is projected to average 1.2%, with growth rates potentially as low as 0.4% toward the end of the decade.[1]

Germany's economic conditions can be improved by making the country more digitally competitive and by nurturing an innovation-friendly environment that's more conducive to startups. But Deloitte Germany's economic modeling found that an effective way to spur economic activity could be to incentivize more people to participate in the labor market—and to keep working—and invest in more education and continued skills training for the existing workforce. This work could help boost Germany's economy by as much as an additional 0.5% to 1.1% per year, compared with the potential 0.3% to 0.6% annual lift from focusing on digital competitiveness or the 0.3% to 0.5% annual lift from innovation and startups.

According to Deloitte Germany's projections based on a comparison of OECD data, if Germany focuses on narrowing the gaps between its workforce and the countries with the highest labor force participation by 2030—recruiting more older workers, women, and foreign-born workers—roughly 2.5 million more workers could be available.

And increasing investment in education also could help strengthen the country's engine for future productivity. Germany's public spending on education (4.9% of GDP) lags behind countries like the top-spending Norway (7.9% of GDP) as well as Denmark and Sweden, according to Deloitte Germany's analysis of OECD data.

The study shows that although an aging population can be an obstacle to economic growth, demography need not be destiny. If the right gaps are closed to shore up the workforce, aging societies can help protect their economic prosperity.

🌐 Read the full report at www.deloitte.com/de/catalyst-2030

Infographic by Molly Piersol

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2

The game-changing magic of knowing when to quit

It's not always best to value grit or follow-through, says Annie Duke, a former professional poker player who knows a thing or two about when to fold her cards. She's on a mission to help you get better at quitting.

By **Stuart Crainer** *and* **Steven Goldbach**

Quit

In a world that champions hard work and perseverance as the keys to success, quitting is hard. Sometimes it feels downright shameful, especially when you've invested time, energy, or money into a decision.

However, to become a smarter decision-maker, you need to master the art of quitting, argues Annie Duke. Before becoming one of the top poker players in the world, Duke studied cognitive science and decision-making, and she currently works as a special partner for decision science at First Round Capital, a US-based venture fund focused on the seed stage. She's the author of *Quit: The Power of Knowing When to Walk Away* and *Thinking in Bets: Making Smarter Decisions When You Don't Have All the Facts*.

We recently spoke with Duke to understand how business leaders can become stronger decision-makers—and the common biases that stand in their way.

Q: Annie, you draw lessons about decision-making from your days as a professional poker player, as well as your background studying cognitive and behavioral science. How does losing make us weaker decision-makers?

A: So in the simplest sense, [let's say I decide] to climb Mount Everest. When I set out, maybe it's a beautiful, clear day and the weather forecast is really good. Then, when I'm halfway up to the summit, a blizzard hits me. Well, isn't it good that I have the option to turn around so I can get out of the blizzard? ... We have the intuition that, when we get [bad] news—when that blizzard comes upon us—we will actually turn around, we will actually quit.

When you're thinking about it in the abstract, if you buy a stock and it starts to tank in a way that completely disproves your thesis for buying the stock in the first place, obviously you would sell it. If you take a job because you think it's going to be your dream job and it turns out that you don't like the culture of the company, obviously you're going to walk away from it. If you develop a product and you can't find the product market fit, obviously you're going to stop developing the product. These things

seem super obvious to us in the abstract, but it turns out that our intuition is bonkers because we don't actually walk away from some things—not once we've started them, not enough.

The reason has to do with what we would call [in poker] "being in the losses." It can mean that we've sunk resources into something—time, money, effort, attention—and if we walk away, we're going to have to abandon them. Those resources will have been wasted. ... And it turns out that when we're in the losses in this way, we don't want to quit things because we want to get our money back.

Q: In business, leaders sometimes make the irrational decision to double down on a strategy that isn't working only because they feel they have a leg in the concept. As decision-makers, how can we overcome that trap?

A: [Here, we can look to Astro Teller for inspiration.] He is the CEO, otherwise known as the "captain of moon shots," of X, which is Google's in-house innovation hub. Their charter is to take projects from initial idea to commercialization in five to 10 years. And they want [these projects to make] a 10x change to the world, so these are really big swings. These are moon shots.

He's developed a mental model called "monkeys and pedestals" that helps X think about this.[1] It goes like this: Imagine that you've decided that you're going to create an act to make a lot of money, and the act is that you're going to train a monkey to juggle flaming torches while standing on a pedestal in the town square. People will obviously throw a lot of money in the hat for that.

So my question for you is, if you're going to do that, what part of the problem should you tackle first? Should you figure out if you can train the monkey to juggle the flaming torches first? Or should you build the pedestal first?

Q: Well, the monkey's the problem, isn't it?

A: Exactly. The monkey is the unknown. It's the bottleneck. We don't want to build the pedestal first for three reasons. Reason No. 1 is if you can't train the monkey, what's the point? Then you just have a useless pedestal lying around.

Reason No. 2 is that the pedestal actually represents false progress. It creates the illusion of progress. … You already know that you can build it, so you have learned nothing if you build that pedestal.

And then the third reason, which I think is probably Astro Teller's biggest insight, is that building the pedestal first is going to stop you from quitting the project when it turns out the monkey's really hard to train. … You're going to say, "But I can't quit now because I put in all this effort, and look at this pedestal I built." So his whole thing at X is you [first] have to identify: What are the monkeys? What are the unknowns? The bottlenecks? The things that we're not sure if we can solve for? And then you've got to go at those first before you build any pedestals.

Now I know that, in the abstract, this seems really obvious, but I'll put it to you: How many meetings have you ever been in where people say something like: "What's the low-hanging fruit here? Where are the easy wins?" What they're really saying is, "What are the pedestals?" And then they're telling you to go do those first so that people feel like they're making progress. That feeling of making progress is actually really bad because that's what causes us to not abandon [a bad decision]. We're accumulating sunk costs; we're getting endowed to the project. Our identity is getting tied up in what we're doing. We become afraid of failure because we've invested so much already.

What we want to say, instead, is: "What's the hard part of the problem? What are the things that are going to really trip us up? Let's figure out if we can do those first."

Q: In your work, you also talk about how the hardest thing to quit is your identity. How so?

A: Let's talk about Sears [as an example]. We all know Sears, the retail company founded in the late 1800s with the "Book of Bargains."[2]

You could buy anything in there—socks or a house, pretty much anything you could imagine—and the idea was that mail routes had just opened up. There were people who lived in rural America. Remember, this was before cars, so people couldn't get to cities to buy things that were available to people in the cities, and the Sears catalog was the way that people would be able to buy goods. Very, very, very successful company. …

In the 1930s, cars started to become ubiquitous … and the catalog business was starting to dip because people could actually drive now to places where they could get these goods. [Sears] had the idea to open up retail locations, actual physical stores, to play off of the brand that they had already developed with the Sears Roebuck catalog. That was a very successful pivot. By the 1950s, Sears represented 1% of US gross national product, so it was a very big company. The problem for Sears was that the Targets and the Walmarts and the Kmarts started to come along throughout the '60s, '70s, '80s, and '90s, and the retail business started to falter. By the '90s, [Sears was] actually no longer the No. 1 retailer.[3] … It eventually went bankrupt. We all know the story of the rise and fall of Sears in that way, but there's another story of Sears that most people don't know. And that's of Sears, the financial services company.

As you recall, in the 1930s, I said they opened these retail locations because people started to have cars, and that was hurting their catalog business. And they said: Well, everybody has these new cars. They may need insurance for them. So they founded a company called Allstate Insurance, [which originally had desks inside of Sears stores where they would sell insurance].[4] … That became the largest insurer of personal liability.[5] … [Later,] in the ['80s,] Sears [acquired] Dean Witter, which was a big stock brokerage firm.[6] They also founded the Discover [credit] card[7] … and they acquired Coldwell Banker, which is a real estate company.[8] …

So the question then becomes if they owned this thriving financial services company, how on earth did they go bankrupt?

Stuart Crainer
stuart.crainer@
thinkers50.com

Stuart Crainer is cofounder of Thinkers50, a global platform for management ideas based in the United Kingdom.

Steven Goldbach
sgoldbach@deloitte.com

Steven Goldbach leads Deloitte US's sustainability practice. He has coauthored two books including *Provoke: How Leaders Shape the Future by Overcoming Fatal Human Flaws*.

And it turns out it has to do with the problem we have with quitting things that are associated with our identity.

In the '90s, it went to the board: ... The retail locations are losing money, so what are we going to do? And the board came out of that saying, our decision is that we have to get back to our retailing roots.

So they spun off all of the financial services in an IPO in order to raise money to be able to save the retail business, which obviously did not go well. ... [The retail business] was wholly part of their identity. And when they were faced with the choice, from the outside looking in, [the decision should have been] completely obvious: Save the thriving business and get rid of the faltering business. But they saved the faltering business because that is who they were.

And what is true for Sears is also true for us as individuals, not surprisingly, because companies are collections of individuals making decisions. This is one of the biggest problems of quitting. The things that we do become part of our identity. And once it's integral to our identity, it's incredibly hard to walk away from them because what does that mean for who you are? Are you a consistent human being? Were the decisions that you made mistakes? And we will protect our identity to our own demise.

Q: As human beings, we value grit and perceive quitting as something to avoid. How would you change the way we think about that as a society?

A: This is part of the problem. ... People think about quitting as this negative thing to do. A failure. A character flaw. Grit, [on the other hand, is seen as] a way that you build character. It's the hero of the story. ...

I tell the story of Siobhan O'Keeffe, who was running the 2019 London Marathon, and then, on mile eight, she broke her leg.[9] Her fibula snapped. The medical personnel obviously advised her that she ought to stop running. But we can see this idea of "being in the losses." From her perspective, she's 18.2 miles short. ... She kept running and she finished the race.

That seems bizarre, except three other people in the same race did the same thing.[10] And in every single marathon, people do this. They break things, whether it's their ankle or their leg, or they pull something horrible or they tear something, and they keep running until they get to the finish line.

But here's the interesting thing: As much as we can say, "Oh, that's so ridiculous; of course, I would walk away in that situation," I'm betting there's also part of you that's saying: "I wish I were that tough. I wish I had that kind of grit." ... Because we do admire it. ... What we really need to do, though, is recognize the value of walking away from things. ...

Now, I'm not dissing grit here. I think that Angela Duckworth, her work is brilliant.[11] I think people should read her book *Grit* because when things are hard, you still have to have a view of whether it's worthwhile and be willing to stick to it, even though it's tough. I agree with that. But the problem with grit is that that turns us into Siobhan O'Keeffe. It gets us to stick to hard things that are not worthwhile, that are actually going to cost us in the long run. ...

When we discover, say, a monkey that we can't tackle, when we discover that something isn't worthwhile, then it behooves us to quit that so we can switch to something that is worthwhile. ... When you quit in those situations, that actually takes courage because now you're going to have to walk away from your identity. You're going to have to walk into the unknown and you may take a lot of flak for it. The ability to do that is actually the courageous act.

We need to start to get into that mindset. ... The road to success is actually paved with a lot of quitting. ●

Global tax reform is coming— and CEOs need to be ready

For multinational corporations and their leaders, the introduction of new Pillar Two global minimum tax rules requires a new approach to data gathering, compliance, and fundamental business strategy.

By **Charles Slack**

Sweeping international tax reform is set to go into effect in 2024, and for multinational corporations, it's about to get complicated.

To understand the global tax reform's scope and impact, how organizations can prepare, and why C-suite executives well beyond the CFO should be engaged in their organizations' response, Deloitte Insights spoke with six Deloitte tax and legal professionals who weighed in from around the world.

Why Pillar Two tax reform is a C-suite priority

The agreement, known in tax circles as Pillar Two, is extensive in its scope: It was signed by 138 countries representing 90% of global economic activity.[1] And at its heart, it pursues a clear-cut and consequential goal: End the world's "race to the bottom" in corporate tax rates, as US Treasury Secretary Janet Yellen described it in 2021.[2]

The reforms aim to level the playing field between countries by discouraging them from reducing their corporate income taxes to attract foreign business investment. Pillar Two's remedy is to compel multinational enterprises with €750 million or more in annual revenue to pay a global minimum tax of 15% on income received in each country in which they operate. The work is being undertaken by the Organization for Economic Cooperation and Development's Inclusive Framework (a wide-reaching network of more than 140 countries) and organized by the OECD's Centre for Tax Policy and Administration.[3] Estimates from the OECD suggest that Pillar Two could raise corporate taxes globally by US$220 billion per year, about 9% of global corporate income tax revenues.[4]

In a Deloitte Global survey of 300 senior tax and finance leaders at companies across a range of industries, sizes, and regions, 43% said complying with evolving tax laws and regulations around the world was their top challenge. Pillar Two, in particular, was top of mind.

But Pillar Two compliance is far more than just a task for tax departments to worry about. Boards, chief executives, and C-level leaders need to ensure that tax, accounting, and legal teams have the support they need to meet Pillar Two's complex and far-reaching data collection and reporting mandates in a timely manner. At a more strategic level, they need to consider and plan for Pillar Two's potential impact on everything from where the organization operates, to mergers and acquisitions strategy, to its supply chains. "The complexity is not to be underestimated," says Amanda Tickel, global tax policy leader for Deloitte. "Leadership needs to be modeling what the impact is, what their response plan is, how they're going to comply, and whether they have got enough resources."

Preparing for imminent deadlines

For any organization that operates across borders, Pillar Two tax reform very much deserves a spot on the C-suite's strategic agenda. It's complex to implement, and financial reporting will be the first order of business. Pillar Two requires multinational enterprises to potentially provide more than 100 separate data points for each entity in the organization (some of which will not be collected for any other purpose currently). Varying start dates in different countries will add to the complexity in the early years, as a result of the interconnectedness of the rules.

With the first reforms in the first countries kicking in at the start of 2024, there's no time to waste. "This means a lot of expense and a lot of hustling to get ready," says Bob Stack, a managing director in Deloitte's US tax practice and international tax group. "For a large organization, 2024 might as well be yesterday." Yet according to Deloitte's 2023 Global Tax Survey of multinational enterprises, 44% of respondents said their organizations have only done rudimentary modeling—at most—of the impact of Pillar Two on their tax profiles.[5] Companies will also need to think about their financial reporting timelines for both year-end and interim periods (for quarterly reports, for example, by the end of the first fiscal or calendar quarter of 2024). "You're going to have to quantify your Pillar Two taxes on a global basis," says Chad Hungerford, Deloitte's global Pillar Two leader. "For most companies, this isn't a couple of weeks' exercise to get ready. This is a several-month exercise."

To help multinational organizations adapt to Pillar Two's complexities, 2024 returns won't be due until 18 months after the end of that year. Yet if mid-2026 feels like a long way off, organizations would be well advised to immediately begin "building the systems and infrastructure that allow you to capture the compliance data," Hungerford says. "One of the truisms of financial data is if you don't capture it in real time, oftentimes you don't ever capture it." To ease the compliance burden on companies, the OECD agreed to develop a set of temporary "safe harbors," short-term measures that would effectively exclude some company operations in lower-risk jurisdictions from the scope of Pillar Two rules in the initial years.[6] That said, businesses will still need to assess whether these rules apply, collect the necessary safe harbor data, and have a contingency plan for those countries where the safe harbor conditions aren't met.

For CEOs, CFOs, and the board members that provide oversight, it's not too early to start gauging Pillar Two's impact on first quarter 2024 earnings, says Chris Roberge, the Hong Kong–based global leader for Deloitte's integrated business solutions in tax and legal. "Be prepared for your upcoming earnings call," he says. Multinational companies will be liable for so-called "top-up" taxes to bring their level up to the 15% threshold in every country where their effective rate is lower. "For some, there could be an earnings hit and a question the analysts ask," Roberge says. "You need to engage with your financial statement auditor right now and ask: 'Where are we in understanding the earnings impact of these rules? How are we going to disclose in our financial statements? And what is my response when analysts ask about the impact of Pillar Two on our business?'"

Moreover, political opposition to Pillar Two in some countries won't offer immunity from its consequences to the companies based there, Hungerford says. Regardless of their home base, multinational enterprises will need to conform to the laws in every Pillar Two country in which they operate.

Managing data across the enterprise

A lion's share of the compliance responsibility will, of course, fall on a multinational enterprise's tax specialists. "Tax departments are going to have to apply a Pillar Two lens to everything they do," says Alison Lobb, a London-based partner and international tax policy lead at Deloitte.

Yet given the magnitude of the changes, Pillar Two also requires deep involvement of other departments across the organization, as well as a heightened level of cross-business communication and cooperation, Lobb says. For example, accounting departments should be ready to provide detailed trial balance accounts, ownership-based data, transaction analysis, industry-specific information and more. Deloitte's Global Tax Survey highlights the challenge: 68% of multinational enterprises surveyed are at least "somewhat confident" they'll have the necessary tax and accounting data necessary to comply, which means nearly a third (32%) are not.[7]

Tax and legal departments need to provide detailed information on where individual entities are based, their legal form (for example, publicly traded entities, real estate investment trusts, or limited liability companies), what their assets and employment look like, and who their shareholders are. This information can be surprisingly elusive at the corporate level, says Rachel Hossack, partner and head of legal corporate reorganizations at Deloitte UK. "The French team knows what they have in France, the Spanish team knows what they've got in Spain, but headquarters may not have that data in one centralized place," Hossack says. And even when they do collect the

For any organization that operates across borders, Pillar Two tax reform very much deserves a spot on the C-suite's strategic agenda.

information, transferring it from one department to another may create significant hurdles.

Indeed, information technology departments should play a central role in automating and upgrading software, and ensure that data can travel seamlessly and in readily usable formats throughout the company. "A lot of tax departments are very spreadsheet-centric," Hungerford says. With Pillar Two, "the calculations, and the data to support them, are at such a scale that companies aren't going to look to do this manually."

Initiatives that touch on so many different departments suggest the need for oversight, involvement, and guidance at the board and CEO level, Roberge says. Companies are busy reviewing their enterprise resource planning and other systems, and creating data inventories to gauge the level of the challenge ahead. "Maybe they're fortunate, and with the way they're set up, it's not too bad," Roberge says. "Others may have eight or nine different finance systems and non-finance systems from acquisitions of companies, and it's going to be more difficult to pull all this together."

Rethinking global strategies

There's nothing new about countries offering favorable tax terms as a way of attracting international investment, of course. Yet an increasingly digitized global economy has made it easier for some organizations to serve one country from another, according to the OECD.

Pillar Two won't affect all multinationals to the same degree, Stack says. For those whose operations are principally confined to higher-tax countries where they're already paying above the new 15% global minimum tax, Pillar Two will amount mainly to a significant, new compliance lift. They'll still have to document that they're over 15% wherever they operate, using either the temporary safe harbor or the complex, new rules.

For multinationals with operations in low-tax countries, Pillar Two will have other consequences. "The tax rate is one of the considerations that may affect where and how a business chooses to operate," Stack says. "It may be less desirable to set up operations in countries that were previously low-tax once Pillar Two is in place."

The tax implications of M&A strategy is another area that might have to be reconsidered with Pillar Two in mind. At a basic level, consider a multinational enterprise currently exempt from Pillar Two because its revenue falls short of the €750 million threshold. If a significant acquisition might push revenue over

the limit, the buyer will have to consider whether the strategic benefits of the acquisition justify the additional tax burden and compliance costs.

A company already over the threshold, meanwhile, will have to consider the impact that a target company's tax profile may have on its own tax profile in each and every country where the acquired company operates. "If I'm acquiring a company that has low-taxed operations, from a Pillar Two perspective, that's going to change my mix," Hungerford says. Buying that low-tax company could put the buyer below the 15% minimum in certain countries, thus generating a significant top-up tax obligation. Post-acquisition decisions involving restructuring, divestiture, consolidation, and layoffs should likewise be carefully considered for Pillar Two tax implications, he says.

Adjusting to a Pillar Two world

Even with the first deadlines fast approaching, Pillar Two remains very much a work in progress. Companies, countries, and those who advise them are still coming to grips with evolving updates, requirements, and implications. Yet one thing seems clear: As the reforms mature, they could fundamentally alter the relationship between governments and multinational companies.

Countries that have traditionally used the carrot of low income taxes may have to rethink their development strategies to some extent. While Pillar Two prohibits incentives that simply mirror previous types of incentives they were offering, "there are lots of other levers that governments can pull," Tickel notes. "They're not going to stop trying to attract investment."

In a larger sense, though, Pillar Two compels multinationals and their leadership to take a more strategic approach to taxes. Stack foresees more companies globally publishing formal tax strategies, a practice that's already increasingly common in Europe, "so that everybody knows how you think about tax."

According to Tickel, the reform underlines the need for recognition, at a board and CEO level, of the strategic role that tax departments play and, potentially, "a new and different response to tax structuring, compliance, accounting, and data gathering" across the organization. This isn't just about tax reform, she says. "This requires a new way of thinking." ●

Charles Slack
charliews123@gmail.com

Charles Slack is an award-winning business and financial journalist, and the author of four books.

Access Deloitte's *Tax Transformation Trends* report at www.deloitte.com/taxtrends

Outcomes over outputs: Why productivity is no longer the metric that matters most

Data shows we're not as productive as we should be, despite rapid advances in technology. Maybe that's because we're measuring the wrong things.

By **Steve Hatfield, Sue Cantrell,** *and* **Corrie Commisso**
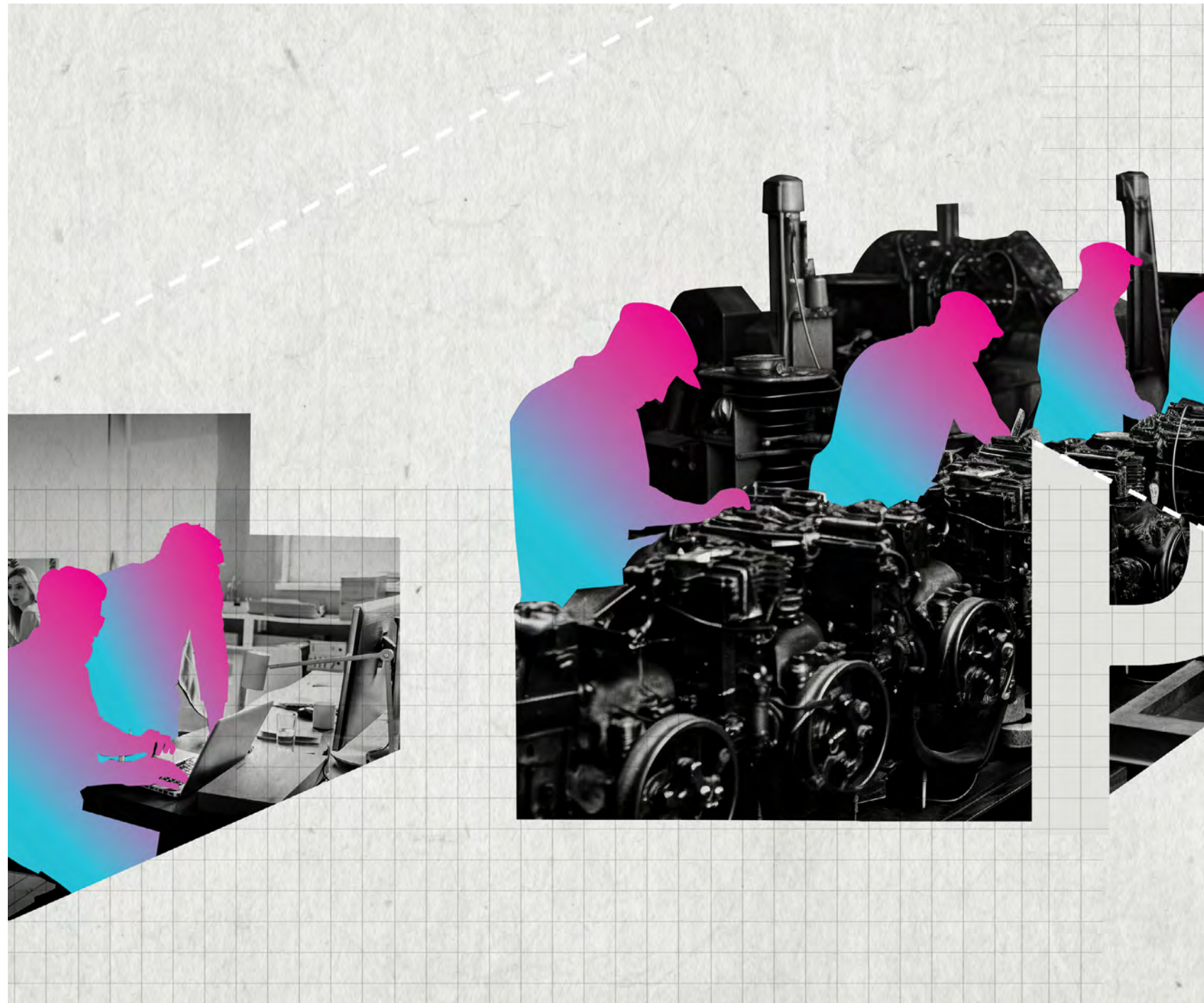
Illustration by Jim Slatton

Hours worked. Time on task. Product produced. Revenue per employee.

For more than a century, organizations have relied on productivity metrics like these since they emerged during the Industrial Revolution as leading practices to improve and measure organizational productivity. It was a good system for the working culture of the era, when mass production and automation made work a commodity and drove the creation of standardized processes.

But the workplace has evolved. We're entering what the World Economic Forum calls the Fourth Industrial Revolution, a period of technological innovation that increasingly relies on systems of smart, interconnected technologies to augment (and even replace) human decision-making.[1] Hardly a day goes by without reports of technological breakthroughs in any number of industries, fueled by augmented and virtual reality, quantum computing, or advances in biotechnology.

Historically, new technologies have led to greater productivity, so why are some of our current technological transformations failing to deliver on the promise of improved productivity? In fact, productivity data shows the opposite is happening: Productivity is not only stagnant; it's declining (figure 1).[2]

In 2022, US labor productivity dropped 1.6%, a historically low rate. (Prior to that year, it had grown an average of 2.2% per year since the Bureau of Labor Statistics started tracking the data in 1948.)[3]

FIG 1: Growing technology, declining productivity

● **China** ● **United States** ● **United Kingdom** ● **Continental Europe**

Labor productivity growth, 1871–2021, percentage

United States taking innovation and productivity leadership

Post–World War II technology catch-up in Europe

China joins the world economy and improves productivity

Slowdown in Europe, short revival in the United States due to revolution in information technology and communications

Source: World Intellectual Property Organization, "Global Innovation Index 2022."

The situation doesn't appear to make much sense on the surface, and economists have ventured numerous theories.[4] But underscoring these theories, one important insight may highlight why organizations are seemingly less productive today, despite the explosion of technologies that promised to deliver marked improvements.

Productivity metrics no longer matter the most

Productivity metrics mattered when global economic engines centered primarily on the making of goods. They can be useful for measuring the impact and output of machines. But as the drivers of innovation are becoming more human-centric and values-based, organizations that continue to rely on the "do more with less" productivity metrics invented a hundred years ago as their primary measure of organizational performance could be missing the bigger picture.

It's time for a fundamental rethinking of our approach to productivity: a new mindset and new metrics for a new way of working built around human performance and outcomes.

How traditional productivity metrics fall short

With high inflation, shrinking profit margins, and the looming threat of economic recession, it's no surprise that corporate leaders are feeling a renewed push to double down on efficiency and productivity. According to a new global survey on the state of work conducted by Slack Technologies, a US-based

productivity platform provider, a majority of leaders (71%) say they face increasing pressure to squeeze more out of their teams, reduce waste, and boost productivity.[5] Layoffs and cost-cutting measures seem to be the go-to tactics: Mark Zuckerberg, founder of Meta, for example, declared 2023 a "year of efficiency" for his company, paving the way for substantial workforce reductions.[6]

The result is often a standoff between leaders and workers as they clash over what it means to be productive in today's work environment. Traditional productivity math tends to focus on reducing input and increasing output, but more output may not necessarily translate to better (or more efficient) results. Instead, organizations may find that relying on an input/output equation to measure organizational performance falls short in many ways.

Productivity tracking can be deceptive

In their drive to improve efficiency and productivity by tracking the activities of their workforce, organizations often make the mistake of measuring the wrong activities.[7]

In the Slack survey, 27% of executives say they track visibility and activity metrics like hours worked and the number of emails sent as a measure of how productive their employees are. But those indicators can be misleading because a significant portion of those activities are performative. For example, 63% of workers say they make an effort to keep their status active online, even if they aren't working at the moment. On average, employees report spending 32% of their time on performative work that gives the appearance of productivity.

Productivity metrics may exclude important contributors

The composition of today's workforce is becoming more complex, and these workforce ecosystems—organizational structures that encompass contributors from both inside and outside the organization who work together to pursue individual and collective goals—often include contributors who may not be directly controlled or influenced by the organization (freelancers, long-term contractors, and service providers, for example). In fact, in some organizations, 30% to 50% of the overall workforce is made up of contingent workers.[8] According to joint research by Deloitte and *MIT Sloan Management Review*, 80% of leaders surveyed agree that the overall success of their organization is dependent on the contributions of external workers, and 88% say it's critical to understand the value created by their extended workforce.[9] But less than half (49%) say they do.[10] Productivity metrics that can't be applied across an entire workforce ecosystem don't provide an accurate picture of organizational performance.

Productivity metrics may not account for knowledge and 'invisible' work

Technology in the Fourth Industrial Revolution is enabling more knowledge work than ever before. Even in front-line, supply chain, and manufacturing workforces, where productivity metrics may seem most applicable, advances in data and connectivity, analytics, human/machine interaction, and robotics are automating more tasks and freeing the workforce to tackle more complex problem-solving work. Many organizations are already making this shift, with 70% of workers in Deloitte's global skills-based organization study agreeing or strongly agreeing that their organization is already structuring roles and responsibilities around problems to solve rather than around a set of repeatable tasks.[11] As production becomes increasingly digitized, the creative and problem-solving skills needed to manage and work with new technologies can't be as easily measured with existing productivity metrics.

In addition, productivity metrics likely aren't accounting for the increase in "invisible" work that many workers are experiencing as organizations shift to more open-ended work models, and where more work is performed beyond the formal scope of one's job. A majority of human resources leaders (79%) in the skills-based organization study say that worker roles are evolving to become broader and more integrated, often embracing adjacent job functions, and workers agree: Seventy-one percent say they are already performing work outside of their stated scope of job responsibility.[12]

If not productivity, then what?

Productivity may be a good measure for the output and impact of machines, but it's a metric that fails to measure the true impact of human efforts in a workforce being transformed by rapid advances in technology and shifting priorities. Focusing on traditional measures of productivity often leads to increased organizational activity. But it doesn't tell us whether the work being done is the right work—the kind that helps organizations

and individuals move closer to their objectives and goals. If we want to realize the human potential in our organizations and enable innovation, our focus needs to shift from productivity to performance, from productivity outputs to human outcomes.

Business outcomes are about capturing the value, quality, or desired result of work. For example, a web marketing team operating under a productivity metric may focus on the number of clicks, number of downloads, or number of social media posts published. An outcomes-based metric such as "increase web traffic by X%" frees the team to innovate how that goal is achieved. Other potential business outcomes might include quality rates, customer retention, or growth through new services or products. As artificial intelligence technologies continue to evolve, business outcomes may also be increasingly dependent on successful AI/human collaborations.

But business outcomes alone aren't enough to create measurable impact. Human outcomes should be part of the equation: the goals and objectives that help an organization's people thrive physically, emotionally, financially, and professionally. Deloitte's skills-based organization study revealed that while 79% of leaders agree that their organization has a responsibility to create this kind of value for workers as human beings—and 66% say they're under pressure to demonstrate results—only 27% of workers strongly agree that their employer is making progress in this area, indicating that measuring human outcomes is still a largely untapped opportunity.[13]

The growth in passive workforce data—combined with other sources of information, analytics, and AI—is surfacing new opportunities for organizations to prioritize both human and business outcomes together and measure their impact. When organizations prioritize creating shared value for workers and measure human outcomes instead of productivity metrics, people are empowered to do their best work and organizational performance can benefit.

Consider worker happiness as an example. In addition to the individual benefits of being happier at work, such as improved wellness and performance, worker happiness could also improve teamwork and social encounters at the group level.[14] It has been linked to improved engagement, productivity, and culture, and reduced attrition risks at the enterprise level.

Japan-based technology firm Hitachi experimented with improving the happiness levels of its employees using wearables and an accompanying mobile app that offered employees suggestions for increasing feelings of happiness.[15] During testing, the psychological capital of workers rose by 33% and profits increased by 10%. Sales per hour increased by 34% at call centers and retail sales increased by 15%, demonstrating how a focus on human outcome metrics can have far-reaching organizational impact.[16]

Quantitative productivity metrics may still have a specific role to play in the workplace, but more meaningful measurements should be considered when it comes to evaluating and prioritizing how we perform as humans. Organizations that can untether themselves from the productivity metrics of the last century could discover new opportunities to measure what matters and create a more inclusive, human-centered future. ●

Steve Hatfield
sthatfield@deloitte.com

Steve Hatfield is a principal with Deloitte Consulting and serves as the firm's global leader for the future of work.

Sue Cantrell
scantrell@deloitte.com

Susan Cantrell is vice president of products and workforce strategies at Deloitte Consulting LLP and a frequent speaker on human capital and the future of work.

Corrie Commisso
ccommisso@deloitte.com

Corrie Commisso is a senior editor at Deloitte Insights leading global content strategy for the future of work and human capital.

For more on work and workforce data, visit www.deloitte.com/quantified-organization

Overcoming the hurdles to integrating sustainability into business strategy

Transforming to meet the demands of decarbonization takes more than ESG metrics. It takes governance—and guts.

By **Simon Cleveland, Kristen Sullivan, Veronica Poole,** *and* **Yasmine Chahed**
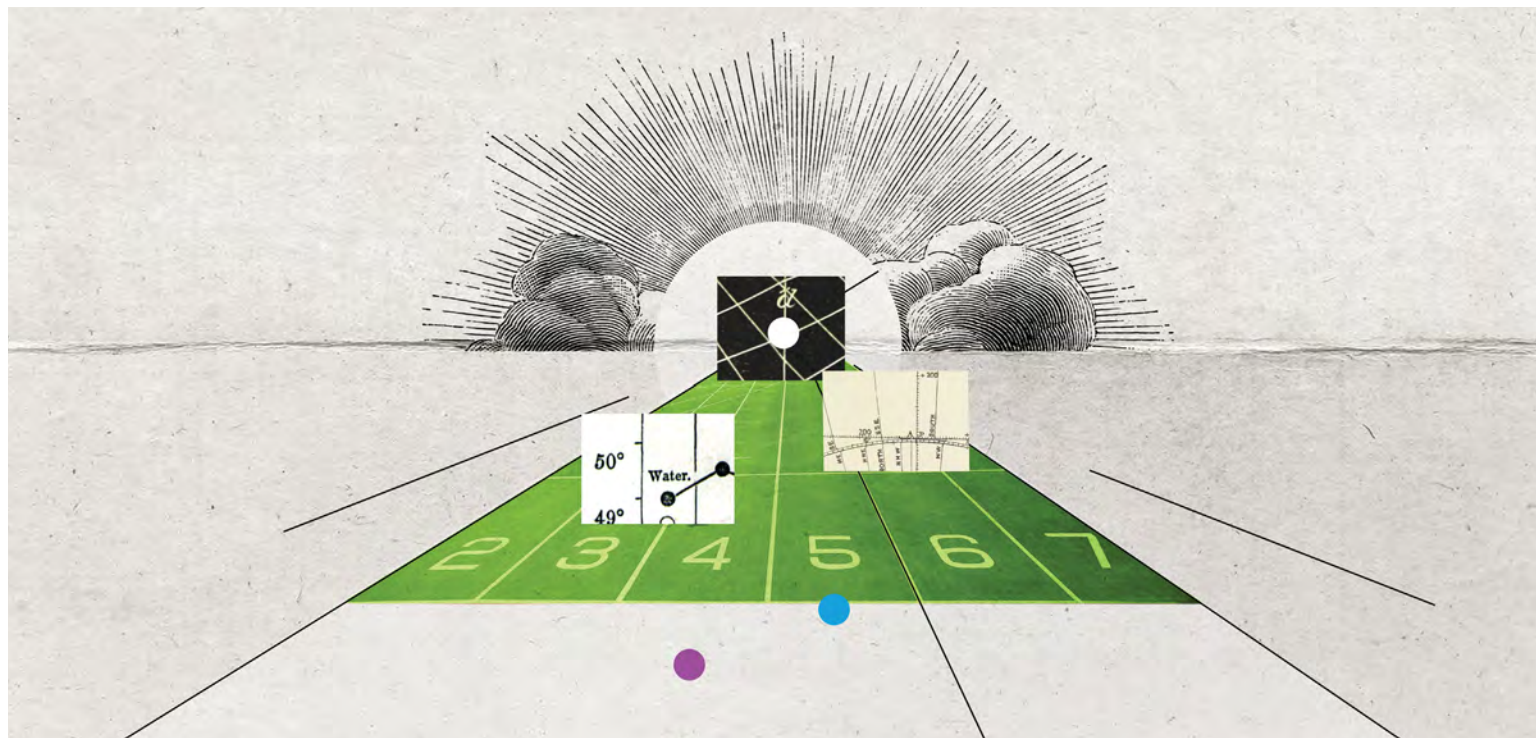
It's clear from the latest climate science that society isn't doing enough, fast enough to decarbonize.[1] If the world doesn't curb greenhouse gas emissions, the global economy could lose US$178 trillion in net present value by 2070 due to the escalating costs of dealing with climate-related events, according to modeling by the Deloitte Economics Institute.[2] Under such a scenario, the toll on human health and well-being, biodiversity, and the world's ecosystems would be immeasurable.

The business community is alert to the crisis and has started to make progress in foundational ways: They're working to understand what regulators and standard-setters expect, gathering data to help measure their impact in society, and responding to their stakeholders through dialogue and disclosure. Importantly, they're also embracing a broader concept of sustainability as a critical strategy for business resilience and long-term success. Spending priorities seem to reflect this too. According to a recent Deloitte survey of C-level executives about their sustainability priorities,[3] 75% of the executives surveyed said their organizations have increased their sustainability investments over the past year, nearly 20% of whom have increased investments significantly.[4]

Still, there continues to be a worrying gap between most corporate actions to date and the deeper changes required to achieve net-zero emissions and the United Nations' sustainable development goals. While most corporate leaders say they have taken actions to use more sustainable materials (59%) and increase the efficiency of energy use (59%), Deloitte research also shows that organizations are slower to implement the "needle-moving" actions that embed sustainability into the core of their strategies, operations, and cultures. For example, only 33% of C-level executives indicate their organizations are tying senior leader compensation to environmental sustainability performance, and 32% incorporate climate considerations into lobbying and political donations.[5]

If the business community is aware that every moment counts, and companies are starting to align themselves to a more sustainable world, then why hasn't more progress been made to help address climate change? To learn more about some of the key barriers preventing deeper sustainability integration, Deloitte Global interviewed 25 leaders in the investment community, business world, academia, and nonprofit sector. The interviews revealed that, across the globe, even seasoned leaders are having trouble keeping up with the changes to the operating landscape over the last few years. There are now economic, social, ethical, and regulatory reasons for companies to change, but they face integration challenges at all levels. Complex stakeholder environments, conflicting expectations, risks of litigation and political backlash, and ambiguity over their role as corporate citizens all complicate sustainability-related decisions.

Leaders are facing integration hurdles on all levels

Integrating sustainability into the fabric of an organization can require fundamental shifts in how leaders think and make decisions. While the early movers had the benefit of time to experiment with solutions and to align their governance to the requirements of building an agile organization, for those embarking on this journey now, these changes are taking place all at once. And as Deloitte's interviews reflected, sustainability integration is a process often fraught with complex questions, unclear expectations, and business risks.

Perceived lack of clear direction

For a long time, the absence of a framework for a global shift from voluntary to mandatory sustainability reporting left leaders feeling like they didn't have a sense of what "good" looks like, especially when the emerging expectations are not consistently supported by incentives and rewards from the financial system. The June 2023 release of the International Sustainability Standards Board standards now provides the framework, but many companies remain concerned about how these overarching standards will be interpreted in local jurisdictions.

Deloitte research suggests that some companies have held back on making investments because they were waiting to see where climate policies and regulation would ultimately land, or whether governments will follow through on climate action: Only 28% of the executive leaders surveyed by Deloitte believe that governments around the world are "very serious" about it.[6]

Feeling stuck between conflicting expectations

The intense external interest in a company's environmental, social, and governance performance often results in overlapping information requests, which compete for limited resources, and raise questions about how to prioritize efforts when the audience and benefits are not always clear. "Many companies want to be responsive to all requests and, as a result, publish a lot of information," one interviewee said. "But is this investment resulting in better decision-making by anyone?"

Those who open themselves up to scrutiny can also face litigation and political backlash. In the United States, for example, the rhetoric from conservative politicians has already had a chilling effect on how companies are communicating with investors on environmental sustainability and diversity, equity, and inclusion programs.[7] As one interviewee explained: "Politics is the main issue. It is not the difficulty of calculating and communicating the value of impact."

Lack of clarity on who owns what, and what should go first

Even companies that are willing to embrace an element of risk and uncertainty may find that they encounter too many "chicken and egg" situations, and are uncertain about where to start. The sustainability specialists we surveyed also reported a lack of clarity on who should be leading sustainability efforts, with organizations experiencing "a lot of finger-pointing and disparate activities resulting in confusion and lack of process and ownership," one interviewee said.

Five ways to start integrating sustainability into your business strategy

Companies face many challenges in integrating sustainability into business strategy, but there are five effective approaches leaders can use to clear the hurdles along the way.

1. Invest in quality data and identify material risks

Integrating sustainability into the core of the business begins with taking a 360-degree view of a company's operational relationships with people and the planet. Done correctly, this process can often turn into a meaningful conversation about the overlooked risks, operational inefficiencies, and broader business realities that could affect business performance going forward.

For many companies, getting this level of insight may require deep investments. This could include introducing new data-collection tools, improving data sharing with suppliers and customers, developing a data quality assurance process, and establishing internal governance for tracking the firm's progress against stated goals and identified risks. Organizations that are doing this well build connectivity. They pull together strands of data from various systems and make it easily digestible for different audiences.

The key is to have data that reflects the sustainability risks and opportunities that are material to the business. By understanding the ESG matters that are relevant to the business, organizations can create a new rubric for evaluating and monitoring enterprise risks, prioritizing spending, and making decisions that integrate sustainability aspects into the company's DNA. "The definition of corporate success is changing, as is the role of business in society and corporate measurement systems (for example, impact thinking, double materiality)," one interviewee said. "To be successful in the new business reality, companies need to understand … how they manage trade-offs between financial and nonfinancial targets."

2. Root goals in strong governance

Regardless of the industry or the sustainability matters a company faces, good governance should be an essential part of the internal business transformation. "If you don't have governance, you can't talk about having environmental or social disclosures," one interviewee said. "To be transparent, you need governance. It's the foundation."

Some companies are assigning responsibility for sustainability integration to the senior leaders of the organization. "This is a major challenge for boards," one interviewee said. "The focus of the board has typically been company strategy, reporting, investor engagement. Now you're folding in a new suite of information that will require a diverse set of skills not traditionally required."

To help drive governance over sustainability data and accounting, some companies are assigning sustainability information disclosure to the chief financial officer. "The finance teams have the capabilities to put strong controls in place and build systems that capture data once and reuse it for multiple purposes," one interviewee explained. "They are also the teams responsible for management reporting and the information systems that support internal strategy and business decision-making. Thus, they are uniquely positioned to ensure that sustainability information is integrated into management and board decision-making."

3. Be honest about your transformation journey

Because each company has a unique business model, structure, and culture, no two sustainability transformations are alike. Even within the same organization, the integration process might require different strategies for different business units, depending on factors such as the industry segment, workforce composition, geography, and management structure. That's why it's important to be honest about where your business is on the sustainability transformation journey. "Quality of dialogue is critical here," one interviewee said. "We are at a tipping point where investors, auditors, business, and others need to collaborate to find solutions and address challenges. It is OK to disagree, but we need to have dialogue."

Directly engaging with stakeholders can be a chance to understand their needs and improve connections that can support the business transformation in important ways. Some companies formally incorporate stakeholder dialogue into the goal-setting process, and others find that these dialogues can open the aperture for bigger shifts in the business.

As companies learn more about their sustainability impacts, risks, and opportunities, they might become fearful of backlash from making related disclosures. It's helpful to remember that most companies are still in the early phases of building their programs, and stakeholders seem to understand that perfection shouldn't hold companies back from moving toward good practice.

4. Adopt a new metrics mindset

Business leaders seek out concrete data to drive their decision-making, but sustainability data tends to be softer, and financial reporting isn't a proper parallel to ESG reporting. "The differences with financial reporting are not trivial," one interviewee said. "The fact that ESG reporting will be forward-looking is quite an important distinction. There is also the timeframe, [which] is significantly longer than for traditional financial reporting. ... You are more likely to get qualitative than quantitative information."

For sustainability programs, it's more accurate to present information in terms of ranges, scenarios and confidence intervals, and with explanatory narrative if the pace or direction of change may shift over time.

And although fiduciary duties sometimes keep business leaders and investors focused on the short term, it's important to begin socializing with stakeholders the idea of making legacy sustainability investments in long-term risk reduction, resiliency, and business continuity. "It will take time, effort, and investment for these systems to develop and mature, and ensure reliable data. By allowing for a greater period of maturity, we will also likely see better alignment between financial and nonfinancial reporting, and account for potential implications between the two," one interviewee said.

5. Commit together to a better future

If the goal is to create a new economic system that operates within the planetary boundaries and enables a decent quality of life for all members of society, then every organization is called to do its part—in partnership. This last (and often overlooked) goal in the UN's list of 17 sustainable development goals recognizes the importance of building multistakeholder partnerships and voluntary commitments to mobilize resources, build capabilities, and drive innovation.

"What's missing is key players (financial market, regulators, corporates) working together," one interviewee said. "It is still occurring too much in silos. We are seeing more collaboration, but the question is if it's happening fast enough."

It's time for concrete actions. Embracing transformation means investing in the capabilities, capacity, infrastructure, technology, and enabling mechanisms that can help drive integration throughout the organization. It can also mean supporting experimentation for those who want to lead and help reduce costs and uncertainties for those who follow.

Although the scope of the challenges can be daunting, business leaders are in a position to make a significant impact by focusing on the matters they affect and committing themselves to continuous improvement. Each internal change becomes another ripple that cascades outward, reshaping business ecosystems in the broader effort to curb climate change. ●

Simon Cleveland
scleveland@deloitte.co.uk

Simon Cleveland is global head of public policy at Deloitte.

Kristen Sullivan
ksullivan@deloitte.com

Kristen Sullivan serves as Deloitte Touche Tohmatsu Limited's global audit and assurance sustainability and climate services leader.

Veronica Poole
vepoole@deloitte.co.uk

Veronica Poole is Deloitte's global international financial reporting standards and corporate reporting leader.

Yasmine Chahed
ychahed@deloitte.co.uk

Yasmine Chahed is an independent senior advisor and research consultant specializing in corporate reporting, governance, auditing, and ESG.

SUSTAINABILITY STAKEHOLDERS SEE COMMON CHALLENGES

In our quest to identify best practices for integrating sustainability into business strategy, we interviewed a group of stakeholders who are advocating for ESG as a foundational operating principle in the business world. The following contributors shared insights on current practices based on their own experiences and what they've learned from working closely with private sector leaders. The conversations took place in October 2022.

- Mark Babington, executive director of regulatory standards at the United Kingdom's Financial Reporting Council, which promotes transparency and integrity in business by regulating auditors, accountants and actuaries, and sets voluntary corporate governance and stewardship codes

- Claire Berthier, chief executive officer at Trusteam Finance, an independent French management company specializing in asset and portfolio management

- Caroline Bryant-Bosa, global manager of the Purposeful Business Challenge at Porticus, a philanthropy based in the Netherlands that works with civic actors, financiers, and key regulators to promote ethical, values-driven finance

- Mahendra Chouhan, vice chair of the global advisory board at the Asian Centre for Corporate Governance and Sustainability, a nonprofit that aims to improve corporate governance sustainability practices within companies in the Asia-Pacific region

- Sir Ronald Cohen, chair of the Global Steering Group for Impact Investment, an independent organization that brings together leaders from finance, business, and philanthropy to solve some of the world's most pressing social and environmental challenges

- Grégoire de Montchalin, chief accounting officer at AXA Group, where he oversees both financial and sustainability reporting for the French insurance and investment management firm, and a member of the European Financial Reporting Advisory Group's Sustainability Reporting Board

- Paul Druckman, chair of the World Benchmarking Alliance, a public benefits corporation based in the Netherlands that benchmarks progress on the

seven systems changes required to achieve the United Nation's sustainable development goals

- Robert Eccles, author and professor at the Saïd Business School at the University of Oxford, where he focuses on how companies and investors can create sustainable strategies, and a founding member of the Sustainable Accounting Standards Board

- Julia Felmeri, strategic director for global ESG at Multiplex, an international construction company based in Australia

- Grace Goh, managing director at Temasek, a global investment company headquartered in Singapore

- Janine Guillot, a former strategic advisor at the International Sustainability Standards Board and former chief executive officer of the Sustainability Accounting Standards Board

- Alan Haywood, senior vice president for ESG at BP, where he led the development of the company's net-zero ambition, which includes transforming into an integrated energy company

- Christian Heller, chief executive officer of the Value Balancing Alliance, a group of multinational companies that are collaborating to create a way of measuring and comparing the value of contributions made by businesses to society, the economy, and the environment

- Ma Jun, founder and president of the Institute of Finance and Sustainability based in Beijing, chair of the Green Finance Committee of the China Society for Finance and Banking, and cochair of the G20 Sustainable Finance Study Group

- Mervyn King, a senior counsel and professor at the University of South Africa on corporate citizenship and former chair emeritus at the International Integrated Reporting Council, an advisory coalition that informed the international integrated reporting framework, which was designed to advance transparency about corporate value creation, preservation, and erosion

- Shireen Muhiudeen, former chair of the Malaysian Stock Exchange, founder of Corston-Smith Asset

Management, and former chief executive officer of AIG Investment Corp., Malaysia

- Sunya Norman, vice president of ESG strategy and engagement at Salesforce Inc., where she leads ESG reporting, impact communications, and stakeholder engagement initiatives

- Amisha Parekh, global head of ESG at Blackstone, where she leads ESG diligence, policy development, strategy, and reporting for the investment firm's private equity group

- Dominique Radal, vice president of sustainable performance and transformation at Michelin Group, and a member of the committee on sustainability information at the French accounting standards authority, L'Autorité des normes comptables

- Rick Samans, director of research at the International Labour Organization, former chair of the Climate Disclosure Standards Board, which advocated for the harmonization of reporting standards, former managing director of the World Economic Forum, and former director-general of the Global Green Growth Institute

- Auden Schendler, senior vice president at Aspen Skiing Co., where he works on scaling solutions to climate change, including clean energy development, policy, advocacy, and activism, and has helped pioneer clean energy projects in solar and hydroelectricity

- Tajinder Singh, deputy secretary general at the International Organization of Securities Commissions, an association of organizations that regulate the world's securities and futures markets, and previously an adviser to the chair of the Securities and Exchange Board of India

- Eelco van der Enden, chief executive officer of the Global Reporting Initiative, a nonprofit that developed and manages some of the most widely used sustainability reporting standards

- Tensie Whelan, professor of business and society, and director of the Center for Sustainable Business at New York University, where she works with businesses to integrate sustainability practices

Six leader/worker disconnects affecting workplace well-being

Workplace well-being remains a top organizational priority, but leaders' well-being strategies are hindered by critical gaps between perception and reality.

By **Jen Fisher, Jay Bhatt,** *and* **Amy Fields**

Amplified by the COVID-19 pandemic, the widespread adoption of new and hybrid ways of working, and the shifting priorities of new generations of workers, the conversation around workplace well-being continues to be top of mind for C-suite leaders and workers alike. In Deloitte's 2023 *Well-being at Work* survey, which included 3,150 workers, managers, and C-suite executives across Australia, Canada, the United Kingdom, and the United States, 84% of respondents say that improving their well-being is a top priority this year—with 74% saying it's even more important than advancing their career.

Leaders are quick to recognize the benefits of helping their employees thrive and be there for the people who depend on them, and this is often the driving factor behind the implementation of strategies like flexible work arrangements. What's more, leaders are beginning to recognize that work is a critical determinant of well-being and are shifting toward a more holistic approach to human sustainability: the degree to which an organization creates value for current and future workers as human beings and, more broadly, society as a whole. Organizations that embrace this concept can help their employees become healthier, more skilled,

and more connected to a sense of purpose and belonging.

Despite these intentions, many organizations' worker well-being initiatives are still struggling to gain traction and don't have clear measurements or accountability. Over the past year, employee well-being has worsened across dimensions, including physical, mental, social, and financial well-being, according to our survey. And recent developments like return-to-office mandates seem to be furthering that trend.[1]

Our *Well-being at Work* survey revealed six significant disconnects between C-suite leaders' perceptions of worker well-being and the realities workers are experiencing. These gaps may be at the heart of the well-being paradox—a fundamental reason why worker well-being continues to deteriorate despite organizations' strategic investments—because they could be creating blind spots for leaders who are responsible for making strategic decisions about how to advance their organizations' well-being and human sustainability agendas.

To make informed decisions that move the needle on employee well-being, leaders need to acknowledge these critical gaps and take action to close them.

1. The perception gap

Although last year's survey respondents reported a high level of motivation to improve their well-being, it's clear that they've struggled to make progress. Most employees in this year's survey said their well-being either worsened or stayed the same as last year, and only around one-third say their health—a key indicator of well-being—improved. But the C-suite appears to have an inaccurate perception of how their employees are actually faring (figure 1).

FIG 1: Most workers say their health worsened or stayed the same last year, but more than three out of four executives believe their workforce's health improved

Worker perspective on how their well-being changed

C-suite perspective on how worker well-being changed

	Physical well-being	Mental well-being	Financial well-being	Social well-being
Improved				
No change				
Worsened				

Physical well-being: 36%, 41%, 23% | 80%, 17%, 3%
Mental well-being: 33%, 42%, 25% | 77%, 20%, 3%
Financial well-being: 30%, 33%, 37% | 76%, 19%, 5%
Social well-being: 27%, 55%, 17% | 77%, 20%, 3%

Improved / No change / Worsened

Source: Deloitte 2023 *Well-being at Work* survey.

2. The care gap

Many employees look to their workplace leaders—managers in particular—to support their well-being, and 96% of managers agree that they should have at least some responsibility for employee well-being. But while a majority of employees (71%) feel their coworkers care about their well-being (and 81% say they care about their coworkers), they're less convinced that organizational leadership is concerned about their well-being (figure 2).

FIG 2: The care gap: Workers aren't convinced leadership is concerned about their well-being

95%
Executives believe workers would say the C-suite cares about their well-being

92%
Managers believe workers would say management cares about employee well-being

50%
Workers believe executive leadership cares about their well-being

68%
Workers believe managers care about their well-being

Source: Deloitte 2023 *Well-being at Work* survey.
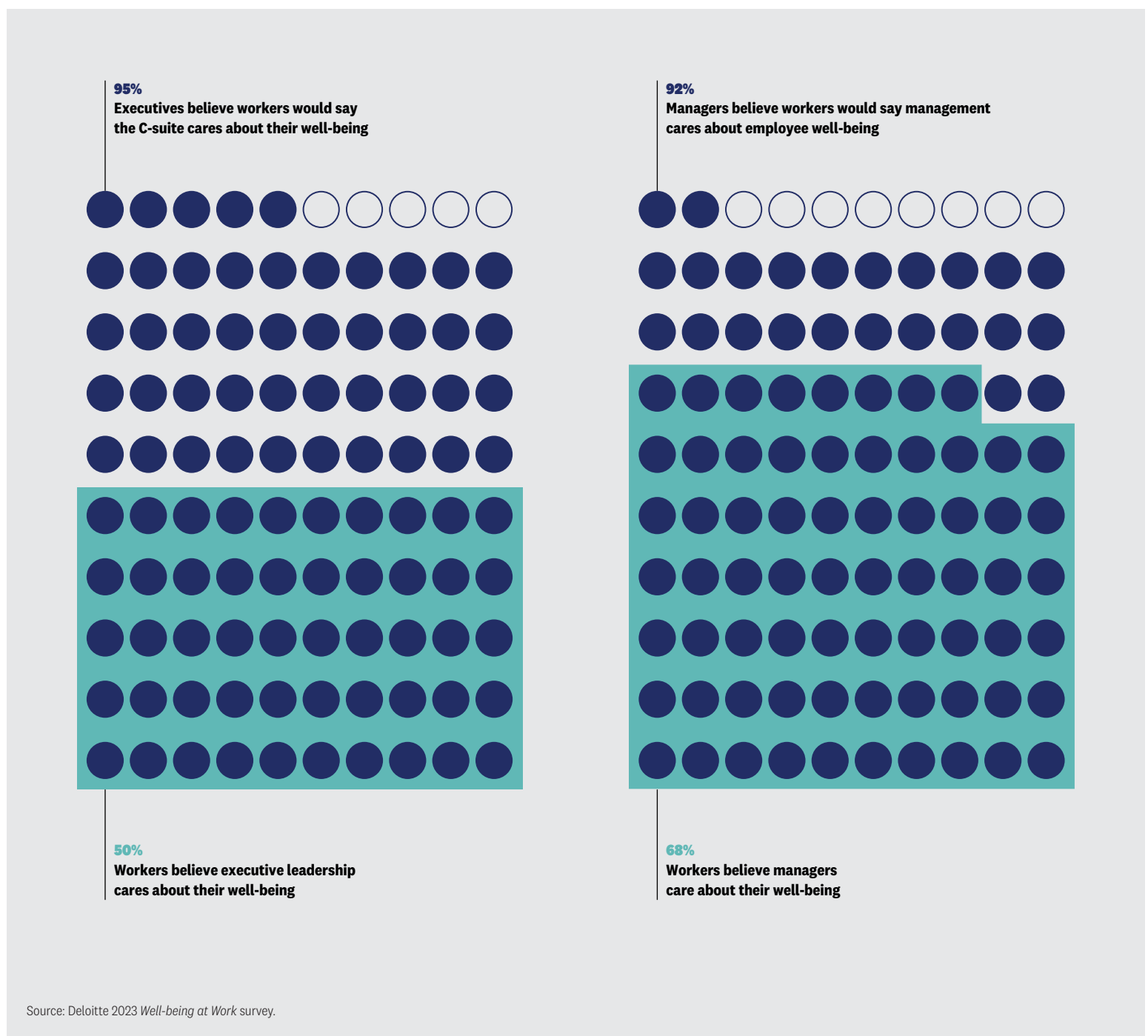
3. The modeling gap

Eighty-four percent of C-suite respondents agree that employees are more likely to be healthy if their executives are healthy, and 72% say they "always" or "often" share information about their own well-being with their employees. However, just 16% of workers say they see this level of transparency from their leaders (figure 3).

FIG 3: The modeling gap: Leaders are less transparent about their own well-being than they think they are

72%
C-suite respondents say they "always" or "often" share information about their own well-being with their employees

16%
Workers say they see this level of transparency from their leaders

Source: Deloitte 2023 *Well-being at Work* survey.
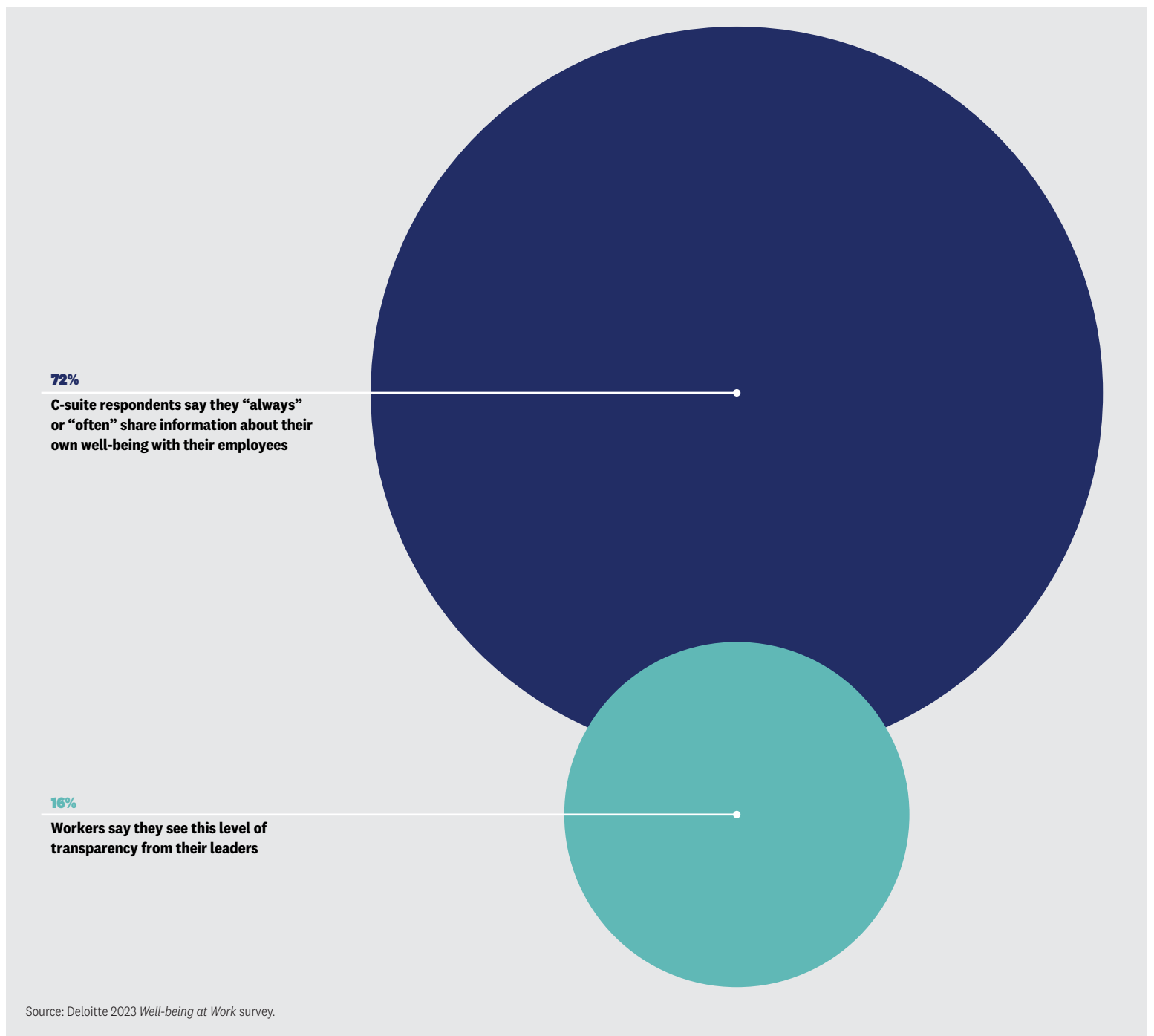
4. The satisfaction gap

The lack of progress on well-being metrics comes despite the fact that a majority of employees—70%—say their organizations offer well-being benefits, and 80% of those respondents say they use them. But these benefits alone aren't enough, as 60% of employees say they only use "some" or "a few" of the available benefits—largely because those benefits aren't aligned with employees' actual needs (51%) or because the organization doesn't effectively communicate the availability of well-being benefits (24%). And while just 43% of employees are "very" or "somewhat" satisfied with their well-being benefits, 90% of the C-suite believes they are—and just 2% of leaders suspect that employees might be dissatisfied (figure 4).

FIG 4: The satisfaction gap: Well-being benefits aren't as "beneficial" as leaders think

How leaders *think* workers feel — How workers feel

90% | 43% "Very" or "somewhat" satisfied
35% Neutral
8%
2% | 23% Dissatisfied

Note: Percentages may not add up to 100% due to rounding.
Source: Deloitte 2023 *Well-being at Work* survey.
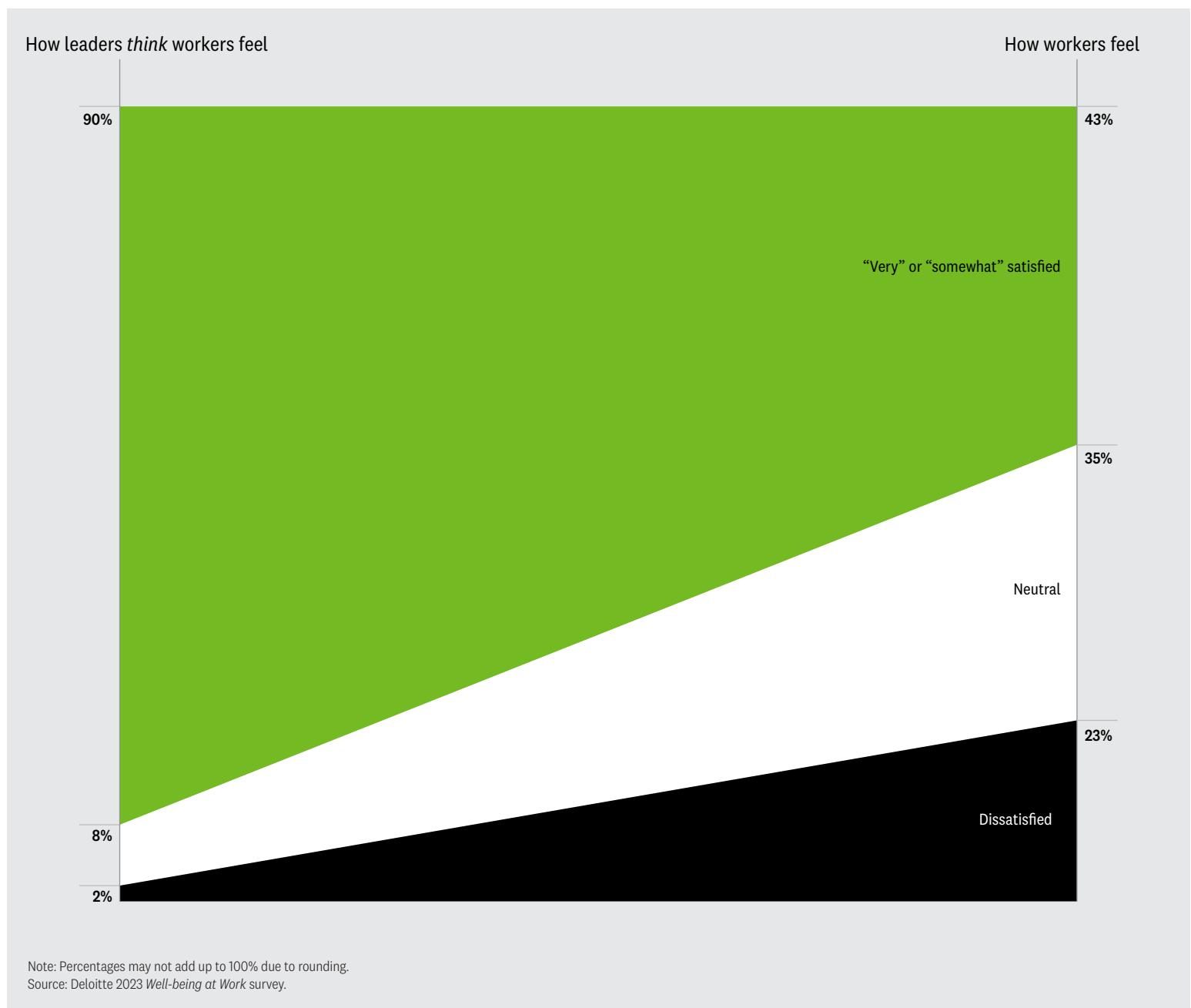
5. The priority gap

There is also a notable disconnect between employees and leaders with respect to how well they believe their company is prioritizing human sustainability (creating value for workers and society) as a whole, particularly related to how organizations are—or aren't—establishing it as core value. A majority of the executives surveyed (89%) say their company is advancing human sustainability in some capacity—for example, giving workers opportunities to develop skills and progress their careers or adopting practices that support workforce health. However, just 41% of employees agree (figure 5).

FIG 5: The priority gap: Leaders and workers are at odds over how well organizations are prioritizing human sustainability

89% — Leaders

My company is advancing human sustainability

41%

80%

My company embeds human sustainability into its corporate purpose and culture

Workers — 36%

Source: Deloitte 2023 *Well-being at Work* survey.
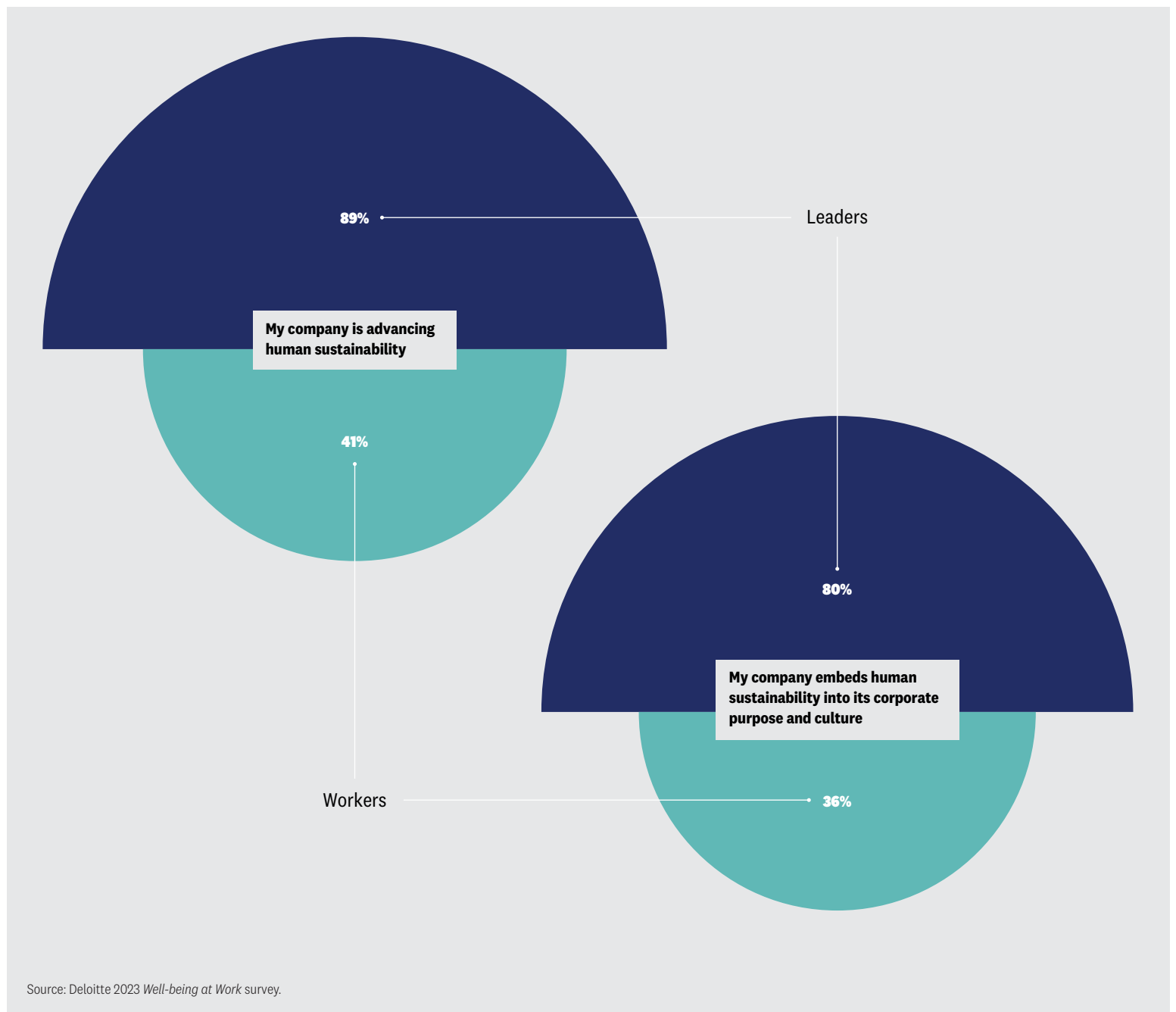
6. The action gap

Worker expectations are high for organizations to make progress on human sustainability initiatives, especially among millennial and Gen Z workers, who combined make up 67% of the workforce.[2] And while 94% of C-Suite respondents say their organization is taking at least one step toward doing so, there's a significant gap between employee expectations and how well leaders are responding to them (figure 6).

FIG 6: Most workers expect their employer to advance human sustainability, but companies are falling short

● **Workers who expect this**   ● **C-suite executives who do this**

Give workers opportunities to develop their skills and progress their careers	75% / 44%
Adopt new standards and practices that support workforce health	74% / 45%
Help employees feel connected to a sense of purpose and belonging	67% / 43%
Ensure employees and their families are thriving by focusing on their whole-person health, safety, and well-being	66% / 44%
Support the well-being of our suppliers and the local communities where we operate	62% / 39%
Shape the future of health in coalition with others or through private-public partnerships and alliances	60% / 39%

Source: Deloitte 2023 *Well-being at Work* survey.

Jen Fisher
workwell@deloitte.com

Jen Fisher is Deloitte US's human sustainability leader and coauthor of the book *Work Better Together: How to Cultivate Strong Relationships to Maximize Well-Being and Boost Bottom Lines.*

Jay Bhatt
jaybhatt@deloitte.com

Dr. Jay Bhatt is a physician executive, primary care physician, and managing director of the Deloitte Center for Health Solutions and the Deloitte Health Equity Institute.

Amy Fields
amfields@deloitte.com

Amy Fields is the chief of staff and communications strategist for human sustainability at Deloitte US.

Bridging the gaps

Leaders should take action to bridge the gaps and realign with the reality of their workers' well-being status, challenges, and opportunities. If they don't, they may see more of their best talent —including their fellow leaders—disengage or choose to leave for organizations that are making better progress toward workplace well-being.

As a starting point, here are six considerations for leaders looking to address the six leader/worker disconnects our research identified:

- Measure well-being and publicly report organizational well-being metrics. You can't improve what you don't measure.
- Make leaders more accountable by tying bonuses to achieving human sustainability goals.
- Increase transparency about leader well-being and model well-being behaviors. Create open lines of communication to share well-being information and benefits.
- Empower managers with training and resources, and ensure they have a clear window into workforce well-being metrics so they can help the organization achieve its well-being commitments—for example, aligning policies and workloads with well-being behaviors or helping the organization shift toward a culture of greater transparency.
- Shift to a broader, long-term approach that goes beyond the walls of an organization by embracing human sustainability and prioritizing human outcomes—like employees' physical, mental, social, and financial well-being—that have far-reaching impacts.
- Appoint a leader who's responsible for advancing human sustainability and connecting the dots across DEI, sustainability, purpose, and well-being efforts in your organization while also keeping in mind the cultural nuances of the employee population. Having someone own this responsibility can help ensure that human sustainability remains a priority for the organization and becomes embedded across functions rather than siloed as a departmental initiative. It can also demonstrate to workers who hold expectations for their organizations to make progress on worker well-being that the organization is fostering a long-term commitment to action—and to making work *work* for humans. ●

METHODOLOGY

Research findings are based on a survey conducted by Deloitte and Workplace Intelligence, a research agency focused on work-related research issues, in four countries: the United States (57% of respondents), the United Kingdom (14%), Canada (14%), and Australia (14%). The survey was fielded between March 3 and March 14, 2023, and it targeted executives, managers, and employees who were working full-time and were between 18 and 76 years old. In total, 3,150 people were surveyed: 1,050 C-suite leaders, 1,050 managers, and 1,050 employees.

Respondents were invited to participate via email and were provided with a small monetary incentive for doing so. All respondents passed a double opt-in process and completed an average of 300 profiling data points prior to taking part in this survey.

3

Being human in a digital world: Questions to guide the internet's evolution

With growing calls to halt AI development and widespread cynicism over the metaverse, we need a framework for visionary businesses, regulators, and society to help shape the future of an internet that enhances, rather than supplants, our humanity.

By **Duleesha Kulasooriya, Michelle Khoo,** *and* **Michelle Tan**

Photo illustration by **Matt Lennert; Adobe Stock**

The year 2022 was when science fiction became reality. Cryptocurrencies rose and fell. Leaps in augmented reality and virtual reality technology propelled the metaverse forward, fueled by an interest in virtual work and living due to COVID-19 restrictions. Artificial intelligence ingested massive amounts of data from the internet and started creating art. By the end of the year, OpenAI's ChatGPT was able to engage in meaningful conversations, hinting at its potential to conduct and augment knowledge work.

These remarkable developments mark the dawn of the next evolution of the internet. It's no longer a library—a collection of writings indexed for searchability. It's no longer a platform—a collection of content from its billions of users. It's a brain filled with memories consisting of these writings and user content. It learns from them and can apply what it has learned to create.

As a species, we need to think through the potential existential effects of the next evolution of the internet. As these technologies change the way we create, relate, see the world, and move through it, we can collectively agree that it should amplify who we are as human beings, better equip us at work, and enhance how we live. The question is, what will it take to ensure that the internet evolves to be more human-centric than techno-centric?

A more immersive, instantaneous, and intelligent internet is inevitable

The next evolution of the internet will inevitably include a highly immersive metaverse powered by AI, with near-instantaneous interactions made possible through advances in connectivity.

This is inevitable for two reasons. The first is generational gravity. Increasingly, the youth are spending more time in virtual, immersive worlds and using AI tools. Roblox, a popular metaverse gaming platform among young people, has 65.5 million daily active users worldwide, an increase of 25% year on year.[1] Other early metaverse platforms such as Fortnite, Zepeto, and Sandbox also boast millions of users. The generative AI tool ChatGPT has outpaced the growth of any prior technology and accumulated 100 million users in two months,[2] with the majority of its users between the ages of 25 and 34.[3] A United Nations report also found that 93% of youth have a positive perception of AI and robots, with 80% interacting with AI multiple times a day.[4] As these youth become active consumers, by 2030, the notion of living in these intelligent virtual worlds will come naturally to them. For the younger generation, these interconnected "phygital" worlds—a blend of physical and digital—will become the norm that they gravitate toward in both work and life, not just in the realm of games. Their demand for these experiences will shape the evolution of the internet.

The second reason is technological gravity. A large volume of capital from Big Tech firms and investors is flowing into metaverse and AI technologies. At the time of writing this article, Microsoft is in the process of acquiring Activision Blizzard for US$70 billion and has made a multibillion-dollar investment in OpenAI;[5] Meta (formerly Facebook) spent US$10 billion on the metaverse in 2021;[6] and SoftBank invested US$150 million in Zepeto, one of Asia's most popular metaverse platforms.[7] In 2022, the trend continued, with a US$65 billion metaverse market,[8] while global funding for AI amounted to US$48 billion.[9] By 2025, 5G networks will likely cover one-third of the world's population, which will provide the technical infrastructure to enable low-latency connections and support an instantaneous metaverse.[10] With these large investments, the next-generation internet is already in the process of being built and will connect millions of users simultaneously in persistent, immersive worlds that bridge the physical and digital.

Toward a human-centered next internet

An immersive and intelligent internet is inevitable, but a human-centered one is not. Businesses, regulators, and society at large should confront key questions related to its development today to ensure that the internet and associated technologies elevate us as human beings.

When game-changing AI tools such as OpenAI's ChatGPT and Google's Bard were introduced, many users were initially amazed by their capabilities. This amazement quickly turned to fear about their roles and relevance in a world where AI can perform so many types of tasks.[11] These concerns, among others, prompted top AI industry experts to sign a petition calling for a temporary halt to the development of AI that is more powerful than OpenAI's most advanced system, GPT-4.[12]

The metaverse is prompting concerns as well.[13] Virtual humans and interactions in the virtual space can be novel and convenient, but they can also be dehumanizing and unhealthy if not designed well. Concerns around safety are shaping up to be a key component of the discourse around the metaverse. For example, India's upcoming digital regulatory framework, Digital India Act, has explicitly mentioned that it will investigate crimes in the metaverse that spread misinformation or incite violence.[14]

If the next evolution of the internet is being shaped by technologies such as generative AI and the metaverse, will it prioritize efficiency and incentives over authenticity, diversity, and safety? How can we ensure that it aligns with our values, identities, and self-worth, amplifying and augmenting human endeavors? As we transition into this new digital landscape, organizations that prioritize their ability to cultivate more sustainable growth models will recognize that it is crucial to look beyond today's bottom line and consider the impact of these technologies on humanity.

We should ask the right questions as we navigate this new reality, and we should start now. We put forward a framework to start questioning what the next evolution of the internet should

An immersive and intelligent internet is inevitable, but a human-centered one is not.

consider to ensure its human centricity. After all, if the future internet can present all the answers, asking questions may be the most human thing to do.

Balancing three inherent polarities

Businesses, governments, and individuals are all key participants in this important debate about our collective future. To ensure that the next internet is more human-centered, all three stakeholder groups should continually and fundamentally question how it's being designed by seeking equilibrium between three polarities:

1. Businesses will need to balance products and services that are both directed and empowering. Technology should help us choose without choosing for us, so that we can retain our sense of autonomy.

2. Regulators will need to balance personal responsibility with control. Governments have a role to play in keeping the internet safe, but excessive control would not only create expensive bureaucracies but could also stifle the creativity and expression that are fundamental to being human.

3. Society will have to grapple with meaning vs. utility. The saying "the journey is the destination" implies inherent value in the pursuit of a goal that may be greater than the goal itself. As technology makes reaching a destination easier, we may miss out on some of that inherent value.

To more clearly visualize the tension between these tradeoffs, we can turn to polarity maps, a framework originally developed in 1975 by organizational consultant Barry Johnson.[15] The maps, which look like infinity symbols, visualize opposing forces in a system that are constantly in flux but, when in balance, complement each other. A simple example of two opposing poles is inhaling versus exhaling; you cannot have one without the other, and in an ideal state, both are in balance.[16] When they're out of balance (for example, if you hold your breath for a long time)

the greater the pressure builds to shift to the opposite "pole"—in this case, exhaling.

We can apply polarity thinking to better understand seemingly paradoxical relationships (for example, individual vs. collective, change vs. stability, short-term vs. long-term) as a "foreground-background" relationship. When either end of the polarity is emphasized to excess, the system will respond by necessitating a move to the opposite end. Achieving the equilibrium between the two ends of a polarity is a dynamic process, which prioritizes experiencing the benefits of both seemingly paradoxical sides at the same time. Rather than an "either/or" choice, polarity thinking requires "both/and" thinking. Imagine it as an infinite loop of tradeoffs.

For example, Web3, or the decentralized internet, was initially at the "responsibility" end of the responsibility/control polarity, with an emphasis on self-governance. But as more retail consumers became involved, the need for control in the form of regulation—the opposite of self-governance—became apparent. As regulation increases, the pressure for autonomy may rise again, and so on. When using polarity thinking, a solution could look at reaping both the benefits of control (ensuring trust and safety, for example) and responsibility (autonomy and self-governance), shifting away from either/or thinking.

For businesses: The polarity between directing and empowering customers and society

A polarity that businesses will have to grapple with is the degree to which they direct versus empower consumer behavior (figure 1). Business models on today's internet rely heavily on leveraging user data to push highly personalized content to maximize scroll time. Through opaque algorithms, internet companies steer our attention toward products we enjoy. How many times have you seen an ad on Facebook for something you wanted but weren't searching for? While this could be convenient, choice is also taken away in the process to decide what content we want to see. Highly personalized virtual worlds also lead to the danger of creating echo chambers that only show things that affirm what one knows, without challenging one's worldview.

FIG 1: Experiences on the next internet should be ...

Directed and Empowering

Positive effects when experiences are directed

+ Interfaces are clear and simple to use.

+ Experience is under control and can be designed for accessibility.

– Creativity is stifled and the space for individuals to exercise choices is restricted.

– Users end up feeling manipulated due to lack of choice.

Potential drawbacks when directed experiences are overemphasized

Positive effects when experiences are empowering

+ Users can think and decide for themselves.

+ Creativity is encouraged, which could result in new use cases that couldn't have been designed for.

– Overloading users with choices could cause decision fatigue.

– Some users struggle to adapt due to a lack of guidance.

Potential drawbacks when empowerment is overemphasized

Source: Deloitte analysis.

FIG 2: Governance of the next internet should rely on ...

Responsibility and Regulation

Positive effects when relying on individual and collective responsibility

+ Companies have more leeway to experiment with quicker innovation cycles.

+ Self-regulation is led by an industry that knows its sector best.

– Abuse of trust could lead to harm.

– Harms caused may not be appropriately addressed without authority.

Potential drawbacks from an overreliance on responsibility

Positive effects when relying on regulation

+ Rights that are too important to leave to personal discretion are preserved.

+ A safe environment is created for all.

– Businesses struggle to innovate and thrive.

– Overstandardized virtual environments are boring and lack creativity.

Potential drawbacks from an overreliance on regulation

Source: Deloitte analysis.

Underlying this tension are business models that tech companies profit from today. Currently, these models broadly fall into two categories: an advertising-based business model (where profit is made from attention and business-to-consumer advertising) or a subscription-based business model (where businesses subscribe to other service providers or consumers subscribe to platforms for an ad-free experience). These business models ultimately drive how users experience the current web.

Hence, in thinking through how experiences could be on the next iteration of the internet, emergent business models would be a key determinant. If successful business models could be developed as an alternative to the two models above, such as those where economic rents are shared based on the value of the input to the collective, it could reshape incentives in a way that emphasizes human centricity (for example, community and authenticity).

Early alternative prototypes are already emerging: Fundrs, developed by AllianceBlock, is one such platform that revolutionizes the funding process by harnessing the principles of participatory capitalism on a decentralized platform.[17] Unlike traditional funding models, Fundrs empowers its community to validate, rate, and govern funding initiatives for both blockchain-based and traditional startups, thus democratizing the investment process. This innovative approach facilitates collective decision-making and active community participation, marking a shift from centralized business models.

These questions on business models will be crucial for determining how users experience the next internet—whether it may be filled with advertisements, payments, games, or even something beyond what we currently know to exist.

For regulators: The polarity between whether to regulate or entrust responsibility to businesses and society

Regulators constantly face the dilemma of whether to step in to ensure that rights are respected and constituents are protected or to hold back to allow innovation to flourish and empower society to take responsibility and make its own decisions (figure 2). The risk of harm is exacerbated with the metaverse. Its immersive audio-visual capabilities could make cyberbullying and sexual harassment on the internet more visceral. Its persistent and engaging nature could heighten cyberaddiction. Its gamified environment makes minors particularly vulnerable. However, overregulation of these spaces could stifle innovation and the creation of good products, and some degree of responsibility and self-regulation from society and businesses could create a more vibrant innovation ecosystem.

As the pace of disruption speeds up exponentially, it calls for a quickened pace of regulation, whether that be imposed by regulatory bodies or through self-regulation by tech companies. For example, several high-profile cryptocurrency crashes such as FTX and SEC lawsuits against Binance and Coinbase have prompted debate on the adequacy of regulations over such assets.[18] Tensions on regulating our internet today should prompt reflection on the appropriate level of regulation and responsibility needed for tomorrow's internet.

For society and users of the (next) internet: The polarity between meaning and utility

A polarity that society and users of the next internet will have to grapple with is between meaning and utility (figure 3). As futurist Gerd Leonhard points out in his book *Technology vs. Humanity: The Coming Clash between Man and Machine*, technology makes us prone to"wormholing"; it gets us to our goal quickly, while forgetting that process is part of the goal.[19] One example is modern-day dating: Love in an age of technology consists of endless, mindless swiping to find a life partner. And in this process, we lose out on certain processes of courtship, such as the spontaneity of asking someone out without knowing much about them or even getting to know someone through reading their nonverbal cues. The internet is very good at getting us the results we want (utility, such as going from point A to point B), but we stand to lose some elements of humanness when we forego the process of getting there (meaning).

There are trade-offs that need to be made between meaning and utility, and internet users and society at large will have to grapple with the boundaries they want to set. As we move toward a more immersive internet, the allure of convenience and the temptation to avoid the messiness of human relationships by replacing them with virtual placebos will grow stronger. The question lies in whether we are willing to resist the temptation to do so and choose to retain some element of complex and multifaceted human relationships.

In China, lonely urbanites have been finding solace in an AI-powered chatbot XiaoIce, which is trained on an empathetic computing framework. Of XiaoIce's 660 million users, some users have formed such strong emotional bonds with the chatbot that they feel as if they are in a real romantic relationship. One user commented that XiaoIce was better at satisfying their emotional needs than real human beings because it was much more responsive.[20] Some may argue that this breeds more unrealistic

expectations for real-life relationships, while others may take a positive view of AI satisfying our emotional needs, especially if it can do so better than other humans.

What does it mean to be human amid these tensions?

In light of the three polarities that businesses, regulators, and society have to grapple with as the internet evolves, it becomes crucial to consider what it means to be human amid these challenges. How can businesses balance the push and pull of providing directed offers or experiences while also empowering humans to chart their own course? What is the right balance of individual or industry self-regulation versus government regulation? How can we preserve meaning while working to increase utility?

As we think about the inherent humanness that needs to be protected, enabled, and amplified in the next evolution of the internet, society, businesses, and regulators need to weigh their decisions based on what it means to be human. To create a useful definition of humanness, we analyzed several traits that define us as human beings and distilled them down to four

core traits that broadly encapsulate who we are. These core traits are fundamental to the development of an internet that promotes human well-being, serving as a frame of reference that allows us to ask the right questions about how to preserve our humanity while employing new and increasingly sophisticated technologies on a more immersive, instantaneous, and intelligent internet.

Humans as dreamers

In each human lies a dreamer, thinking beyond the status quo, with a desire to create new things. In many ways, the next internet is primed for dreamers. In particular, the metaverse offers humans the capacity to overcome physical limitations, where the virtual world becomes a blank canvas for limitless possibilities. It offers creators new options to generate new works and new ways to reach and engage audiences.

At the same time, the metaverse and new technologies such as generative AI could supplant our motivation to make our dreams a reality—to create. As AI begins to create art, write thoughtful blog posts, and code, the outputs could be so mesmerizing and

FIG 3: The next internet should serve users in deriving ...

Meaning	and	Utility
Positive effects when meaning is a priority		**Positive effects when utility is a priority**
+ Users have access to new, resonant experiences that otherwise can't exist in the real world. + Users have better access to meaningful real-world experiences.		+ Tasks can be accomplished more efficiently. + More time can be allocated to higher-level human activities.
– Some real-world experiences don't translate well to digital and feel diluted or less authentic. – Some real-world traditions diminish or are lost.		– An overemphasis on optimizing outcomes leads to a neglect of process. – Overreliant users struggle to cope when technology fails.
Potential drawbacks when meaning is overemphasized		**Potential drawbacks when utility is overemphasized**

Source: Deloitte analysis.

> As we think about the inherent humanness that needs to be protected, enabled, and amplified in the next evolution of the internet, society, businesses, and regulators need to weigh their decisions based on what it means to be human.

effortless that humans lose their audience to AI-generated products, along with their incentive to create. Between meaning and utility, the way we balance the two will shape how the internet supports or supplants our tendency to be creators. If only utility is valued, we might make more choices to rely on technology to create content, thereby reducing the opportunity for humans to create. Yet if we solely focused on meaning without using these technologies for utility, we could be underutilizing these technologies for human flourishing.

As the next evolution of the internet inches closer, society, businesses, and regulators will need to think through the following questions if they want to elevate our humanity as dreamers.

How can we ensure the next evolution of the internet balances utility and meaning, supporting rather than supplanting human creativity?

Society and users
- Can we design the next internet with a greater balance between meaning and utility? While users come in search of utility, can they be nudged to stay and explore meaning?
- Does the next internet replace the human quest for meaning with consumption? Will our attention be satiated by consuming more rather than seeking more meaning?
- Does this discourage artists and creators from honing their craft because there is no incentive to go above the fray of good amateurs armed with good technology?

Businesses
Does the business model or technology design …
- … allow creators to earn sustainable income streams and share value and income risk collectively?
- … reduce humans to instruments or data points to drive profit and growth?

Regulators
When regulating the next internet:
- Are the interests of creators and consumers balanced with the interests of capital providers like investors and businesses?
- Are digital assets and metaverse services sufficiently interoperable to curb monopolistic tendencies?
- In a world where AI can assist with many human tasks at a lower cost, are the incentives distributed fairly between human creators and AI? Will income inequality worsen?

Humans as storytellers

Apart from our natural tendency to create new worlds and ideas for the future, it's also second nature for us to use stories to make sense of our past, present, and future. Storytelling is as old as mankind and can be found across almost all cultures. More than an art form, stories are internal narratives that help us both make sense of the chaotic world and relate to one another. Stories pass on tradition, identity, and community from generation to generation. They're a fundamental part of humans as social creatures since childhood. In this very human activity, we share relative and beautifully diverse experiences that differ from person to person, culture to culture.

While storytelling is universal, how we tell stories evolves with the media we have.[21] With the printing press came stories in the form of novels. Motion picture cameras led to the rise of feature films. Television led to the rise of sitcoms. Today, storytelling is primarily accessed on social media platforms, with content filtered by opaque algorithms. This begs the question of whether meaning will increasingly be made for us by algorithms that impose meaning on us—possibly flawed, bigoted, or culturally biased meaning. We risk losing not only individual perspective but cultural or subcultural perspective as well.

For instance, over 80% of content watched on Netflix is driven by algorithmic recommendations. Despite Netflix's efforts to design its algorithms thoughtfully, one example of a good cultural film falling through an algorithmic crack was Chung Mong-hong's Taiwanese film "A Sun," which won the most prestigious movie award at the Toronto International Film Festival but never garnered the popularity to enter Netflix's algorithm-generated feedback loop.[22] While it could be argued that the outcome may not be different in a world without algorithms, the responsibility that algorithm engineers now shoulder is a heavy one.

As we've seen in the social media era, a more dystopian alternative outcome can emerge where algorithms exacerbate existing biases, spread narratives regardless of the truth, and create echo chambers that marginalize minority groups and prevent us from hearing the stories of those different from us. How the internet evolves depends on the degree to which it directs or empowers where our attention lies.

As the next internet inches closer, society, businesses, and regulators will need to think through the questions if they want to elevate our humanity as storytellers.

How can we guide the next evolution of the internet to preserve diversity in storytelling, prevent algorithmic biases, and empower individuals to tell their unique perspectives and stories?

Society and users
- Does technology determine everything we see, or do humans have the power to choose and curate our stories?
- Are there valid stories from specific groups that are systemically buried because of the invisible hand of technology and commercial interests?

Businesses
Does the business model or technology design …
- … take in user and stakeholder inputs on whose stories are heard and whose are valid?
- … diminish authentic human culture with digital simulations?

Regulators
When regulating the next internet:
- Are there sufficient governance mechanisms to prevent echo chambers and the spread of mistruths, while preserving freedom of expression?

Humans as social and moral beings

Humans are social beings, biologically hardwired for interpersonal connections. To be able to relate to one another, humans rely on shared beliefs, values, customs, and behaviors. Cooperation also helps us collectively survive and thrive as a species.[23] Further, morality is central to human nature, and we are guided by an internal compass.[24] To ensure alignment of our personal belief systems with others in our community, discourse is a necessary, but often messy, process to find convergence on ethical principles and behaviors.

As the internet incorporates more autonomous elements, we would have to increasingly consider what, if any, moral values are encoded in the internet we interface with. In the social media era, we have witnessed the perils of not holding tech companies accountable, such as in the cases of election rigging, mental health, and antivaxxers.[25] In this next evolution of the internet, generative AI could potentially amplify misinformation, given how readily accessible the tools are. For example, AI-generated images of former US President Donald Trump being arrested,

created using the popular image generation tool Midjourney, left many puzzled about the veracity of the image.[26] Beyond doctored images, videos of AI-generated virtual humans, such as K-pop group ETERN!TY, can be so realistic that people cannot distinguish them from real human beings.[27] Apart from the ethical issues that could arise from deepfakes, it raises new questions about what it means for us to be social beings. Could we feel just as socially connected to AI-generated humans, who appear real and can even satisfy our emotional needs, the way we feel with XiaoIce?[28]

As the next internet inches closer, society, businesses, and regulators will need to think through these questions if they want to elevate our humanity as social and moral beings.

As we advance into the next internet, how can we effectively balance the need for regulation and decentralized control to ensure the safeguarding of our inherent social norms and moral values?

Society and users
- How might the next internet affect the dynamics of human relationships, and could it lead to a significant shift toward machine-oriented relationships?
- Does the next internet abdicate moral decisions to robots and autonomous systems, and what kind of moral codes are encoded into platforms we interface with?

Businesses
Does the business model or technology design …
- … provide users with a level of choice such that human beings are not governed or directed by technologies like AI and the Internet of Things?
- … involve a representative group of stakeholders in the governance of the business or specific technologies?

Regulators
When regulating the next internet:
- Is inclusion baked into the design or is it an afterthought?
- Is civic space to resolve clashes in values and beliefs preserved?
- Are important moral debates and democratic processes overtaken or oversimplified by algorithms and virtual townhalls?
- How much of an "intent to mislead" is considered malicious when tools for creating photorealistic images and videos are accessible to the general public?

This transformative period demands more than mere answers from institutions; it requires a collective dialogue centered on our shared human experience within this evolving technological landscape.

Humans as physical beings

Will our virtual selves be an extension of our physical selves, or will the internet be a form of escape from the physical world? As more of our lives are spent online, our relationships with our physical environment and our physical bodies will evolve.

Apart from technologies that augment our external world, those designed to have an impact on the individual's body and physical, physiological, and psychological functions are increasingly commonplace.[29] Today, many wearable technologies can already measure aspects from heart-rate variability to emotional responses, thereby opening windows into our behaviors, habits, and interactions, and even our patterns of thought that we ourselves are often not fully aware of. When these data points are combined with AI, individualized feedback and advice can be provided to aid both productivity and creativity, hence demonstrating technology's ability to enable us to be more connected to our physical bodies and thrive.

Another way the next internet can support us as physical beings is exemplified by Singapore's National University Health System, which is pioneering the use of mixed-reality technology in surgery and hospital care.[30] This allows surgeons to superimpose three-dimensional patient scans onto the patient during an operation with the use of holographic visors, thereby enabling them to operate precisely by seeing blood vessels and tumors that are not visible to the naked eye. By doing so, surgeons can perform safer procedures, enable improved outcomes, and ultimately provide better patient care.

On the other hand, people will have to grapple with how they prioritize resources between enhancing their physical or digital environments and focusing on spending their time between their physical and digital friends, family, customers, and colleagues. Likewise, companies and governments will face the same challenge of where to place their investments. The fear of a "Ready Player One" future haunts us, where the virtual world takes precedence over the physical, and our physical habitat is left to deteriorate.[31] As the internet increasingly blends into our physical world, digital fatigue is likely to be of concern. Businesses and society, which have shifted their focus heavily toward digital interfaces, may be prompted to rethink how they position themselves in this new internet.

As the next internet inches closer, society, businesses, and regulators will need to think through the following questions if they want to elevate us as physical beings.

How can we harness the potential of the next evolution of the internet to enrich our physical lives and experiences, while fully engaging with and enhancing our digital identities in a balanced, beneficial way?

Society and users
- Does the next internet seek to minimize human flaws just to make a better fit with technology?
- Does digital convenience and efficiency lead to the deterioration of our physical and mental health?
- How can the internet and its technologies bring better awareness to our internal workings to nudge us toward human flourishing?

Businesses
Does the business model or technology design …
- … build in and look after the interests of the voiceless, such as children, the marginalized, and the environment?
- … guard against irresistible incentives for users to prioritize their digital identities, relationships, or environments to the detriment of their physical ones?

Regulators
When regulating the next internet:
- Are there enough ground-up initiatives to create more human and lovable[32] physical spaces in a future where digital and physical experiences become even more blended?
- Does the design of virtual spaces prioritize efficiency and incentives over authenticity, diversity, and safety?
- Do people have the right to disconnect, given the incentives to be "always on," in a persistent metaverse?

Act now to build an internet for humans

The next evolution of the internet is already underway, and it's developing at an exponential pace. We stand at a critical crossroads where we need to collectively determine what it means to be human in the age of the more immersive, instantaneous, and intelligent internet that humankind has built. This transformative period demands more than mere answers from institutions; it requires a collective dialogue centered on our shared human experience within this evolving technological landscape. Asking the right questions will be as important as exploring the right answers in our path to designing an internet that is not only technologically brilliant but also deeply human-centric. ●

The rise of growth-oriented resilience roles

An emerging category of roles dedicated to organizational resilience is putting growth front and center.

By **Tim Murphy** *and* **Bill Marquard**

Data science partnership by **Narasimham Mulakaluri**

Illustrations by **Manya Kuzemchenko**

Catalyzed in part by the COVID-19 pandemic, the demand for specialized resilience talent has skyrocketed—with resilience-related job postings up 405% since 2020, according to our analysis. COVID-19, coupled with a more interconnected and digital environment, meant businesses needed to seek out specialized talent to help the organization quickly respond, recover, and thrive within a new and ambiguous environment.[1] But when additional disruptions—supply chain fissures, climate events, and geopolitical instability—quickly followed, an already ambiguous mandate grew in both scope and complexity.[2]
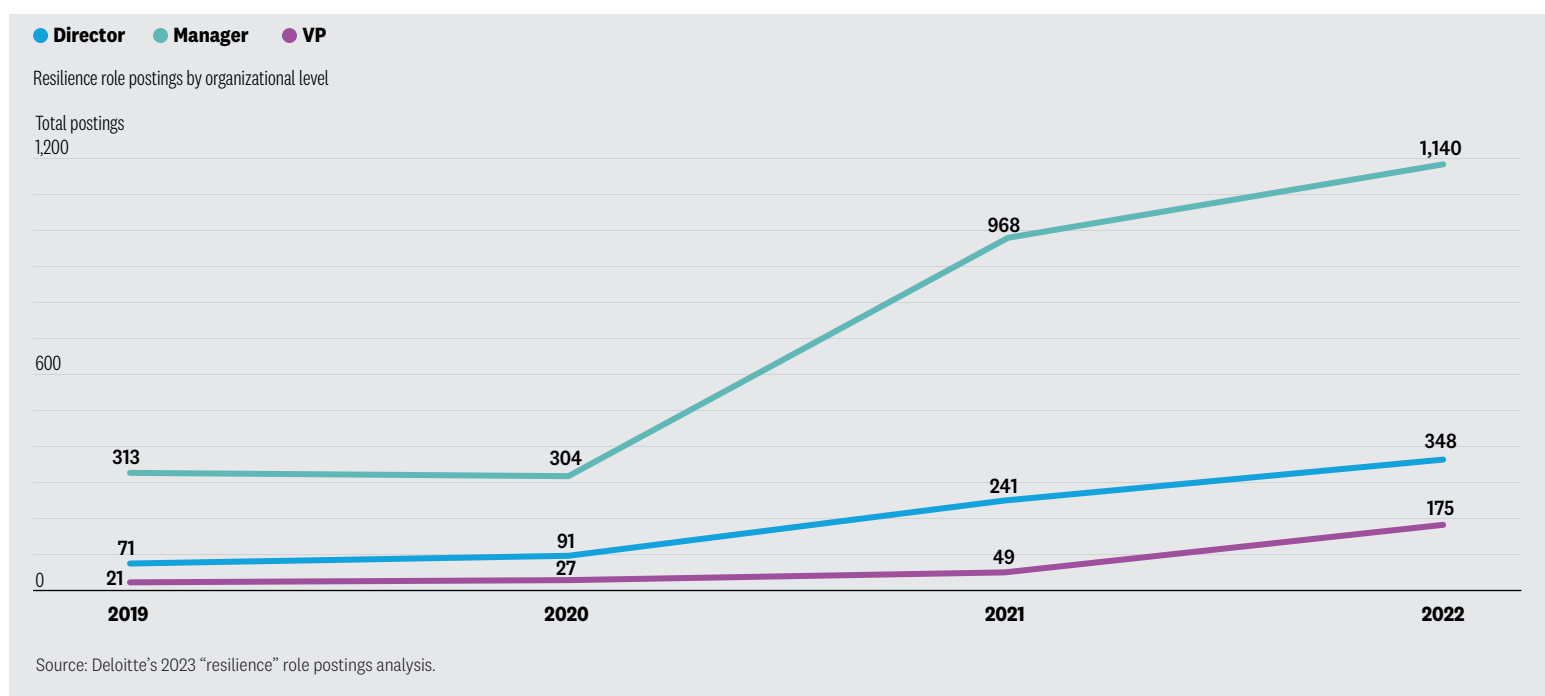
To better understand how resilience roles have evolved in light of continuing and diversifying pressures, and what kinds of skills and expertise organizations are now pursuing to lead their resilience efforts, we conducted a deep dive into publicly available job postings. Interestingly, we found that resilience roles are stretching beyond the survival and adaptation skills necessary to respond to the disruptions caused by the global pandemic. These roles are now expanding to encompass responsibilities dedicated to organizational growth and longevity—at least at the director level. In essence, while resilience is represented in many leadership roles, the nature of resilience responsibilities varies as you ascend the leadership ladder, and it hasn't yet reached the C-suite in a meaningful way.

Resilience doesn't just mean maintaining status quo

In our analysis, we looked at almost 4,000 publicly available global job postings from 2019 to 2022 that cover a wide array of industries in both the public and private sector—with 60 unique industries represented—and we found that there were four times as many roles with "resilience" in the job title by 2022.[3] This growth permeates multiple levels of the organization, as manager-level resilience roles increased by 364%, directors by 490%, and vice presidents by 833% (figure 1).

FIG 1: Increasing demand for resilience talent

Source: Deloitte's 2023 "resilience" role postings analysis.

In some respects, organizations seem to be following an expected path in designing their resilience roles. This is especially true for resilience managers and vice presidents. For instance, our roles-based research shows that, in 2022, the top five skills and backgrounds cited in "VP of resilience" role postings were financial risk management, systems design and implementation, business strategy, public relations, and cybersecurity. The profile of a resilience manager looks similar as their role postings maintain the same top five skills (though in a slightly different order of priority).

On the surface, these may feel directionally correct. Resilience is about protecting the bottom line (financial risk management), standing up processes to react swiftly to crisis and disruption (systems design and implementation), integrating resilience into strategy (business strategy), managing public perception during crisis (public relations), and, historically, protecting against cyber breaches and vulnerabilities (cybersecurity).[4] It also seems appropriate that downstream managers would align to the priorities at the VP level.

But there's more to the story. In the middle of the organizational leadership structure, there's an emerging category of director-level resilience roles focused on business development and sales, two hallmarks of growth (figure 2). Specifically, unlike their VPs above or the managers below them, resilience directors are asked to focus on business management, general sales,
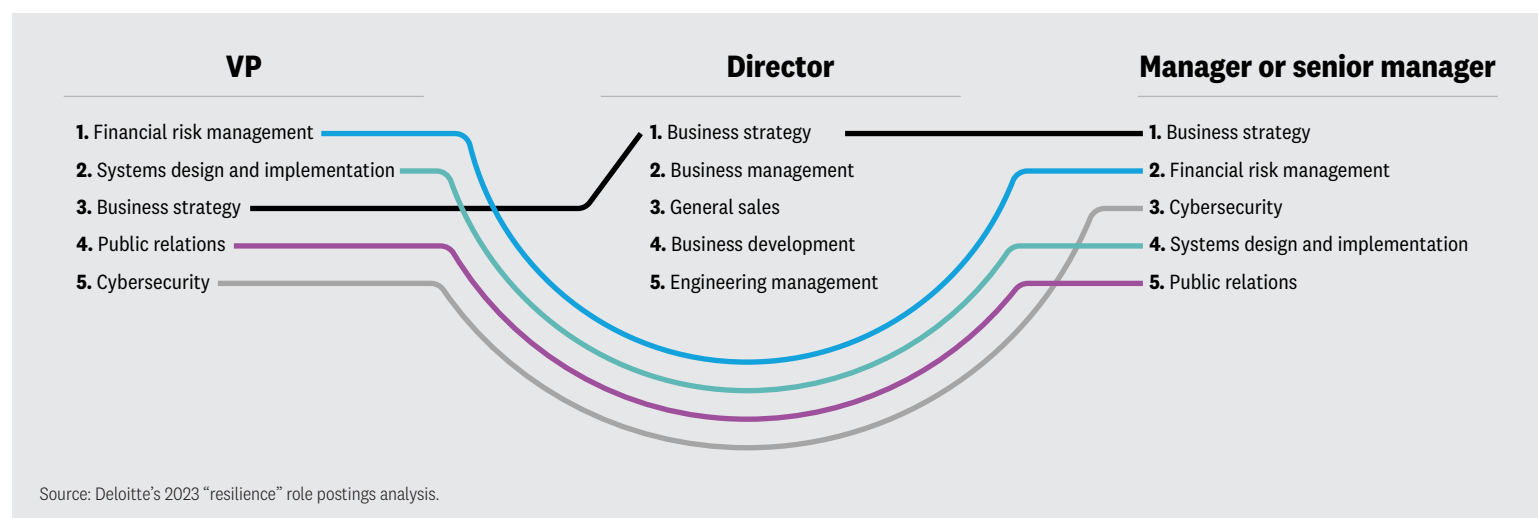
business development, and engineering management.[5] In other words, while VP and manager positions with resilience responsibility remain focused on protection-based functions, such as financial risk management and cybersecurity, an increasing number of director-level roles focus on looking up and out to ensure an organization's future prosperity.

This category of growth-focused resilience leaders is a relatively new phenomenon. As shown in figure 3, with the exception of business strategy, the top skills required for a director of resilience in 2022 were not even in the top 10 skills required for other resilience roles prior to the pandemic in 2019. Back then, the director profile was nearly identical to its VP and manager peers, with business strategy, financial risk management, cybersecurity, systems design and implementation, and public relations all in the top 10. And job postings seeking directors with skills related to general sales backgrounds were as low as the 36th cited skill in the resilience category just four years ago.

This stands in stark contrast to the levels of leadership directly above and below directors. For VPs and managers of resilience, our research found that the top five resilience-related skills that organizations were looking for in 2022 were also in the top 10 most sought-after skills prior to COVID-19.

The general language used to describe the resilience director role is also shifting to include more growth- and

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FIG 2: Emergent roles: Growth-focused resilience leaders

VP	Director	Manager or senior manager
1. Financial risk management	1. Business strategy	1. Business strategy
2. Systems design and implementation	2. Business management	2. Financial risk management
3. Business strategy	3. General sales	3. Cybersecurity
4. Public relations	4. Business development	4. Systems design and implementation
5. Cybersecurity	5. Engineering management	5. Public relations

Source: Deloitte's 2023 "resilience" role postings analysis.

FIG 3: Evolving skill sets for resilience directors

Skills ranking by total appearances in role postings
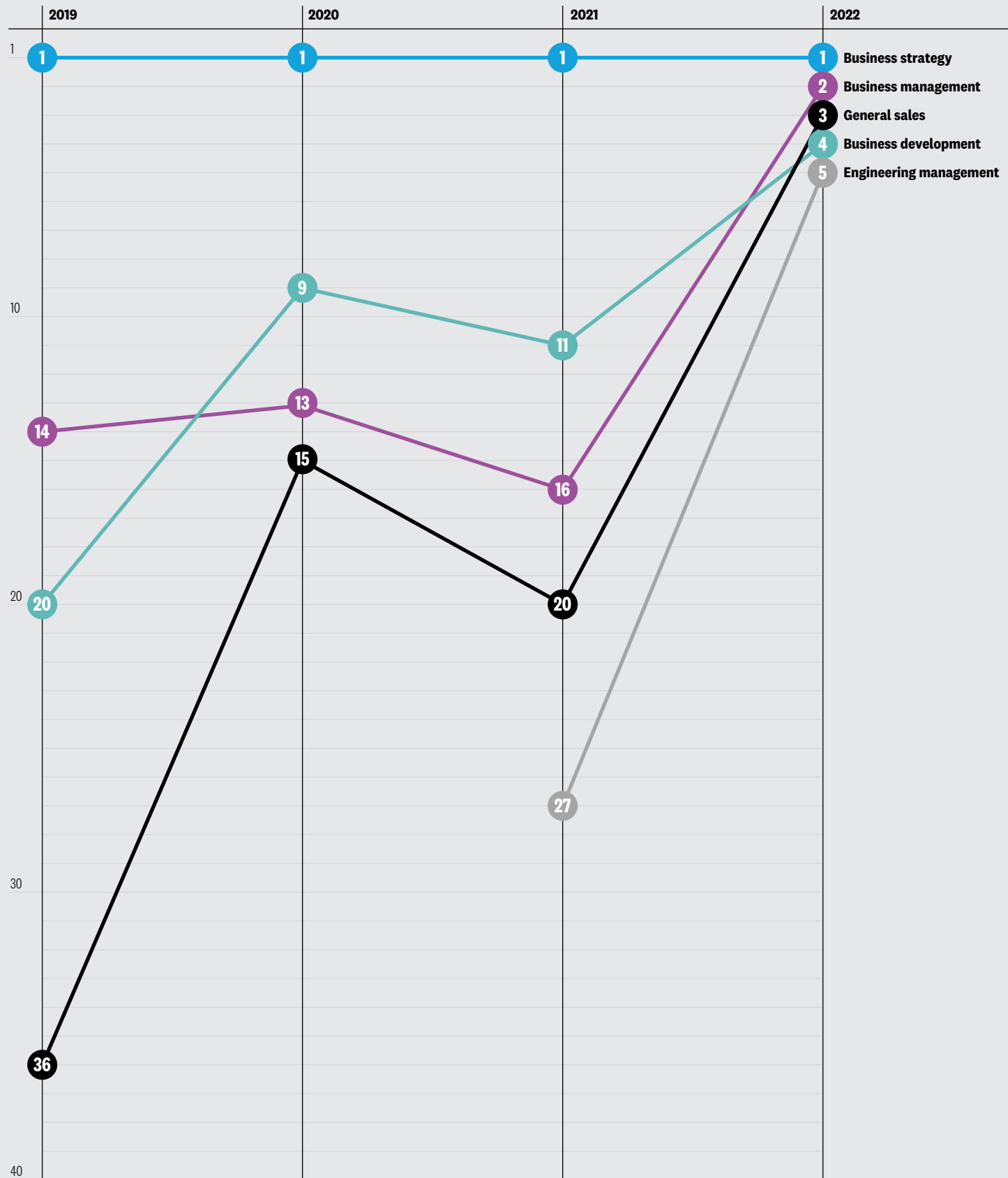
Source: Deloitte's 2023 "resilience" role postings analysis.

innovation-oriented descriptions. For instance, the appearance of the word "growth" has nearly doubled in director role descriptions since 2019 (up from 31% in 2019 to 61% in 2022), while words like "crisis" and "mitigation" decreased by more than 50% over the same time period (figure 4). Manager and VP roles did not follow a similar trend.
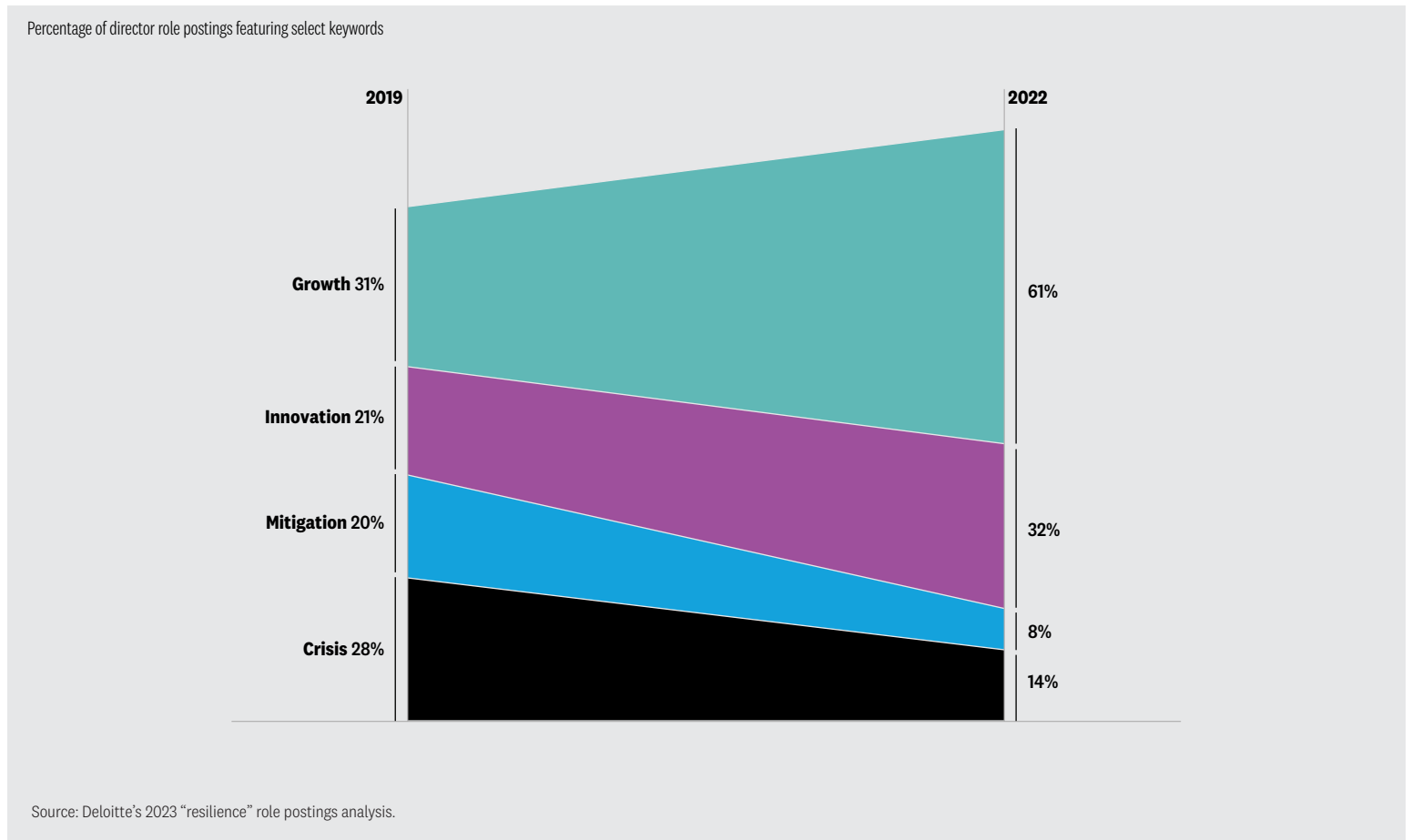
Supporting growth by design

This redefinition of director-level resilience roles only, while leaving VP and manager roles focused on protection-oriented responsibilities, may be due to organizational leaders recognizing the need to get ahead of future disruptions but still needing to commit operational resources (such as managers) to addressing more near-term issues facing the business. However, organizations may be unintentionally boxing in growth-oriented resilience directors and not providing directors with the requisite managerial support to execute upon their growth mandates. Possibly compounding the issue, the onslaught of disruptions may make it difficult for leaders to commit to a more future-oriented strategy while wrestling with near-term threats.

In an interview with Deloitte, a general manager of a German telecommunications company told us that a lot of this near-term pressure is due to how the organization incentivizes employee work and outcomes for resilience: "They just don't have a culture of innovation and planning for the future. … Firms are very myopic. Especially as you start going down the ladders of leadership, a lot of it is very execution-oriented. It's all targeted toward the year-end and the bonuses, and the incentives for showing you met your goals."[6]

It could help to create consensus on resilience metrics and growth-oriented KPIs. Resilience is often more difficult to measure than something like a sales team hitting its targets. When it comes to prevention and preparing for uncertainty, it can be difficult to quantify how an intervention prevented a potential event from happening (or not happening). And when resilience KPIs do exist, they're usually focused on more reactive metrics for financial (for example, cash flow during crisis) and operational (for example, supplier health) performance.[7]

Despite these issues, executives could still have an opportunity to establish more proactive resilience metrics, although it may mean coming to consensus on where the organization can benefit most from building more resilient growth. For instance,

FIG 4: More "growth," less "crisis" and "mitigation" for resilience directors

Percentage of director role postings featuring select keywords

2019 — 2022

Growth 31% → 61%
Innovation 21% → 32%
Mitigation 20% → 8%
Crisis 28% → 14%

Source: Deloitte's 2023 "resilience" role postings analysis.

is a shift from lean manufacturing to a more diversified field of suppliers necessary? Should the organization expand into new markets to ensure a more resilient consumer base? One chief digital officer for a consumer packaged goods company in France explains in Deloitte's report, *One size doesn't fit all: Four postures towards resilience*, how resilience metrics can act as an innovation catalyst that demonstrates how effectively the organization is meeting new market needs:[8] "How fast the company can innovate is easy to measure. You look at the share of growth coming from new products and new service launches. If that KPI is high—or it's growing—that's a good sign."

The growth in resilience-oriented roles also has yet to permeate the C-suite, according to our research. Type "chief resilience officer" into any search engine and several headlines alluding to the "rise of the chief resilience officer" will likely pop up. But our analysis shows this may be premature or possibly inaccurate. While organizations are seeking VPs, directors, and managers of resilience, the demand for chief resilience officers is essentially nonexistent. In our data set in 2019, there were nine role postings for a chief resilience officer. By 2022, there were 14. Meanwhile, 175 resilience-related VP roles were posted in the same period.

It's plausible this difference may be due to more executive-level roles not being publicly posted and instead left to the efforts of recruiters. However, if we contrast the chief resilience officer role with another emerging executive role, such as chief sustainability officer, we see a completely different story. In 2019, there were 115 chief sustainability roles among the postings we analyzed. By 2022, that number increased 2.5 times to 286.

Without C-suite representation, resilience could be left without a voice at the executive table—removing an opportunity to share a consistent enterprisewide vision. The *Global Resilience Report*, authored by Deloitte Global, highlights the impact of this leadership void, as only one-third of leaders describe resilience within their business as "a strategic priority with executive sponsorship and end-to-end capabilities."[9] Closely related, four out of five leaders in the report believe their organization should create a chief resilience officer role within the next five years.

Some industries are getting a head start on building their resilience talent. While professional services initially led the charge, other industries including financial services, retail, and the public sector have recently increased their pursuit of resilience talent.[10] And in terms of chief resilience officers, the public sector is establishing itself as an early mover (though still, a small number are being pursued). For instance, the state of Rhode Island recently opened a search for a chief resilience officer to design a "comprehensive climate-preparedness strategy."[11] Given the relatively small job market for chief resilience officers at the moment, there may be no better time to seek executive-level leadership for resilience—especially as organizations look to balance reactionary measures with more growth-oriented initiatives.

Finding the growth throughline

It can be tempting to be hyper-focused on the short term when navigating uncertainty, making investments in the skills and capabilities necessary to protect assets and ensure the organization's survival during disruption. But that can unintentionally force organizations to "lead through the rearview mirror" and handcuff their ability to grow through and beyond disruption. If leaders want to reframe resilience through a more growth-oriented lens, they can start by identifying the areas where they want to excel in the future. For example, if a business wants to be a leader in addressing climate change, the resilience strategy can go beyond simply preparing for climate events (such as a plant closing because of a flood) and, instead, begin hiring talent that understands how to rethink product innovation through a more climate-conscious lens.

By putting growth at the forefront of resilience, leaders can turn disruption into transformational opportunities. ●


RESEARCH METHODOLOGY

To understand how organizations are pursuing resilience talent, we analyzed publicly available role postings that cover a wide array of industries in both the public and private sector (60 unique industries were represented).[12] From this data set, we limited our analysis to roles with "resilience" in the job title and categorized these roles into different levels of the organization (for example, chief resilience officers, vice presidents of resilience, directors of resilience, and managers of resilience).

To benchmark what these roles looked like prior to the pandemic, we opened our sample to include postings from 2019 to 2022, the last full year of data.

Finally, we leveraged a skills and background taxonomy, with more than 32,000 different skills categorizations represented within the database, to see which types of expertise were most often pursued through the years. For example, experience with financial risk modeling would be categorized as "financial risk management."
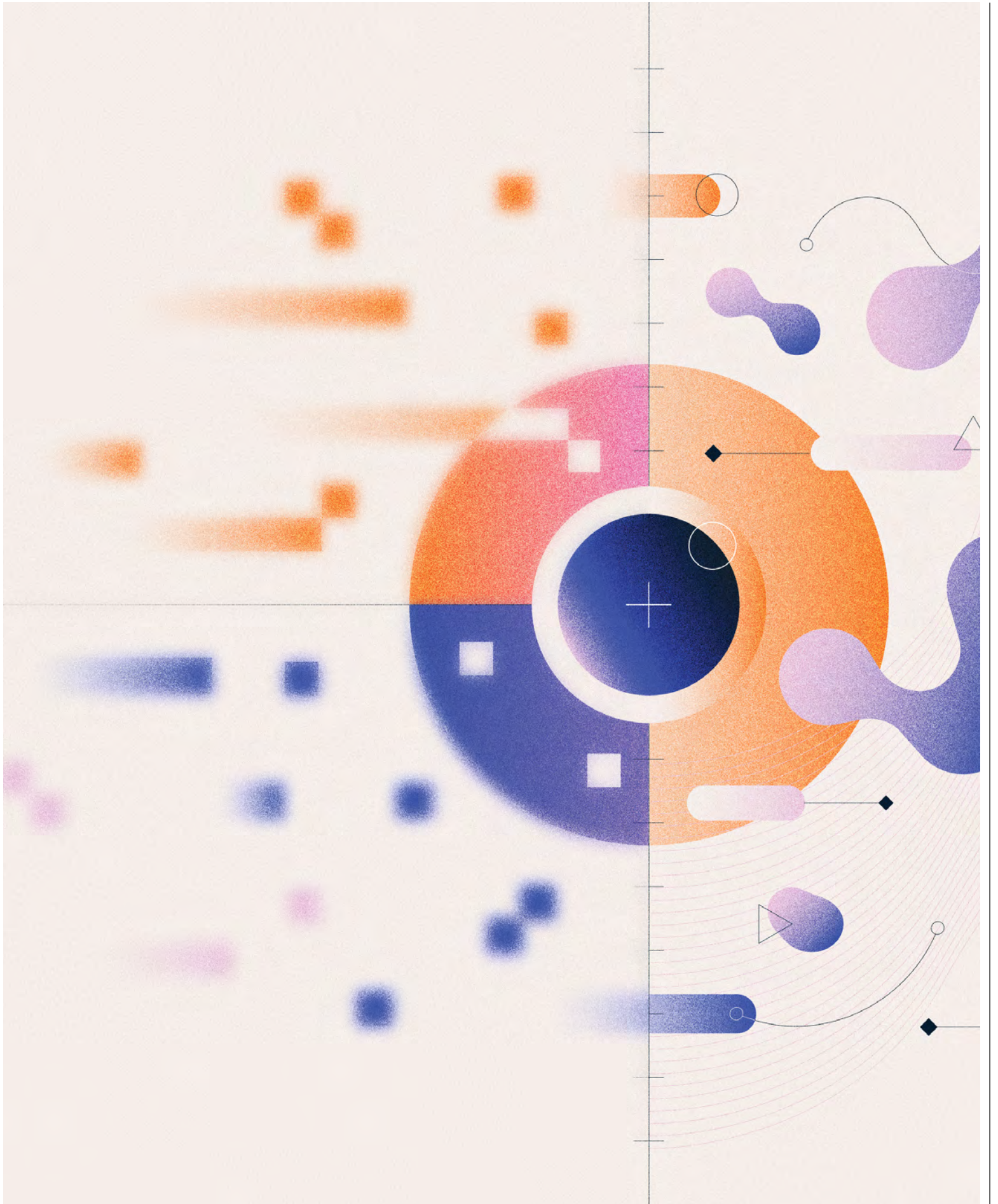
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The rise of growth-oriented resilience roles

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5. Insights derived from ranking the total number of roles that cited each of these specific skills and backgrounds.
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What's up next in
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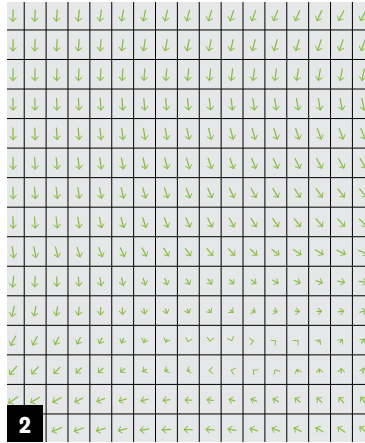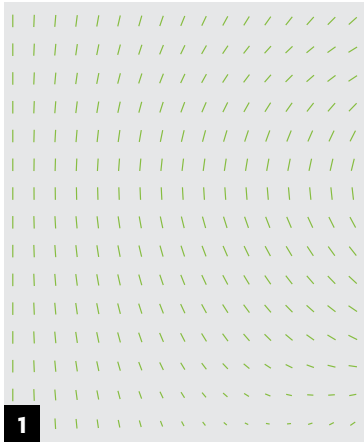
- I was asked to interpret the idea of what it means to make decisions in today's business landscape, and the complex set of considerations that now shape those decisions.

- My initial thought was of some sort of domino effect [1], and then that became more of a linear butterfly effect [2] because each decision and outcome is sequential and causes change over time. This resulted in a flowing pattern that showed gradual change.

- However, this wasn't quite right because it showed a linear process, whereas I needed to show more of a decision-making calculus.
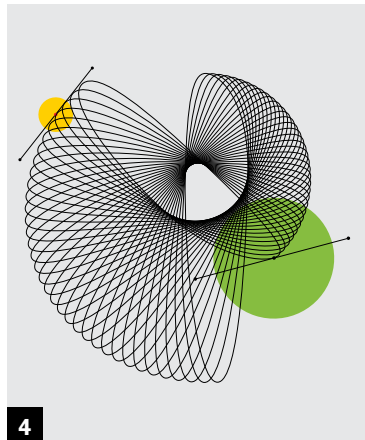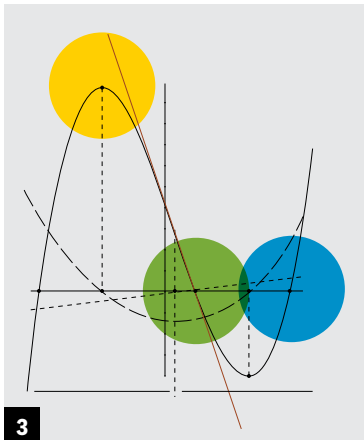
- Since calculus is the study of how things are changing and is used to determine where change will happen and at what rate, I was inspired to introduce elements from a mathmatical graph. I started with an interpretation of a cubic graph highlighting turning and inflection points [3].

- If we can calculate the future effect of our decisions, it could simplify and remove some of the guesswork. I created a kinetic object with many curves—or decision paths—and then pinpointed two turning points [4].
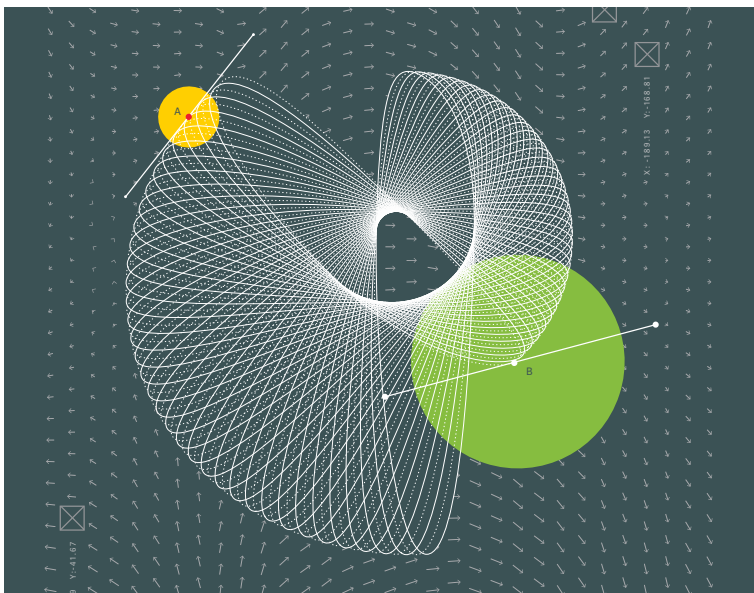
- A colleague pointed out that the arrows had the appearance of wind currents or the external forces of disruption. And then it just clicked. The combination of directional arrows and the curved spiral structure seemed to effectively represent the real-life challenge of making decisions when multiple factors could influence the outcomes. ●